

TMI-10-033
April 21, 2010

ENCLOSURE 1

FORM NIS-1 (Back)

- 8. Examination Dates: November 16, 2007 to January 24, 2010
- 9. Inspection Interval from: April 20, 2001 to April 19, 2012, 3rd Interval, 3rd Period for IWB, IWC, IWD, IWF and 1st Interval, 3rd Period for IWE and IWL
- 10. Applicable Editions of Section XI: Section XI 1995 w/ Addenda 1996 for IWB, IWC, IWD, and IWF
Section XI 1992 Edition with Addenda 1992 for IWE and IWL
 Applicable Code Cases: N-416-3, N-460, N-491-2, N-496-2, N-498-4, N-504-2, N-513-2, N-522, N-523-2, N-526, N-533-1, N-537, N-545, N-548, N-588-2, N-583, N-586-1, N-593, N-600, N-613-1, N-616, N-619, N-624, N-638-1, N-643, N-648-1, N-649, N-651, N-652, N-661, N-685, N-686, N-695, N-696, N-700, N-706, N-722, N-729-1.
- 11. Date/Revision of Inspection Plan: July 7, 2008, Revision 7
- 12. Abstract of Examinations and Tests. Include a list of examinations and a statement concerning status of work required for the Inspection Plan.
 See Enclosure 1, Tab 2 for replacement steam generator eddy current examinations and Enclosure 1, Tabs 3 through 6 for all other examinations. Approximately 83% (1266) of the total number of examinations required to be completed during the interval have been completed.
- 13. Abstract of Results of Examinations and Tests.
 See Enclosure 1, Tab 2 for OTSG eddy current examinations. See Enclosure 1, Tabs 3 through 5 for other components.
- 14. Abstract of Corrective Measure.
 See Enclosure 1, Tab 2 for OTSG eddy current examinations. See Enclosure 1, Tab 6 for other components.

We certify that a) the statements made in this report are correct, b) the examinations and test meet the Inspection Plan as required by the ASME Code, Section XI, and c) corrective measures taken conform to the rules of the ASME Code, Section XI.

Certification of Authorization No. (if applicable) N/A Expiration Date N/A

Date 4/15/2010 Signed Exelon Nuclear By Dore Hanif
Owner

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Pennsylvania and employed by H.S.B.I. & I. Company of CT of Hartford, Connecticut have inspected the components described in this Owner's Report during the period November 16, 2005 to January 24, 2010, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

[Signature] Commissions NB5478 A.N.I.
Inspector's Signature National Board, State, Province, and Endorsements

Date April 16, 2010

Enclosure 1, Tab 1
Owner: Exelon Nuclear, 200 Exelon Way, Kennett Square, PA
Plant: Three Mile Island Nuclear Generating Station, Route 441 South Middletown, PA
Plant Unit: 1
Owner Certificate of Authorization: NA
Commercial Service Date: September 2, 1974
National Board number for Unit: Reactor Vessel N-109

Page 1 of 1

Cycle 17 Refueling (T1R18) Inservice Inspection (ISI) Summary Report

Enclosure 1 Table of Contents

| <u>Enclosure Number / Tab Number</u> | <u>Subject</u> |
|---|--|
| Enclosure 1, Tab 1 | Form NIS-1 Owner's Data Report |
| Enclosure 1, Tab 2 | Steam Generator Eddy Current Examinations |
| Enclosure 1, Tab 3 | NIS-1, Tab 3, Terms and Definitions |
| Enclosure 1, Tab 4 | NIS-1, Tab 4, Class 1 and 2 Component Examinations |
| Enclosure 1, Tab 5 | NIS-1, Tab 5, Class 1 and 2 System Pressure Tests |
| Enclosure 1, Tab 6 | NIS-1, Tab 6, Conditions Noted and Corrective Actions |
| Enclosure 2 | Enclosure 3, NIS-2 Reports – Documentation of Repairs/Replacements |

The ASME Code and TMI Technical Specifications required eddy current examinations were completed at the Areva fabrication facility in Chalon France. A full-length examination on 100% of the tubing was performed using techniques that are expected to be employed during future inservice inspections. All recorded bobbin coil indications were characterized using the array probe technology. The examinations did not identify any indications of tube wall degradation.

The ASME Code requires the results of the examinations be reported on a Form NIS-1 within 90 days of the completion of the outage. The following information satisfies the reporting criteria of both the TMI-1 Technical Specifications and the ASME Code.

a. The scope of the examinations performed on each SG.

The examinations were performed as a pre-service examination. The examinations included a pre-service examination of 100% of the 15,597 tubes in each SG. The examinations included 100% of the length of each tube. There were no obstructions or scanning limitations.

b. Active degradation mechanisms found.

The examinations did not reveal any active degradation mechanisms.

c. Nondestructive examination techniques utilized for each degradation mechanism.

The examinations were performed using bobbin/array combination probes (X-Probes) to examine 100 percent of the tubing. The specific techniques used for various potential damage mechanisms are shown in Table 2-1.

All of the bobbin data were analyzed full length. The array data were analyzed for specific areas which included: 3 inches above and below the upper and the lower tube sheet transitions (includes expansion transitions) and all anomalies detected by the bobbin coil. In addition, the array probe data were evaluated for the area from 3 inches outside the tube sheet transition to the corresponding tube end for approximately 7.9% of the tubes, including the first and last tubes in each calibration group.

Figures 1 through 8 show the data analyzed for each technique.

d. Location, orientation (if linear), and measured sizes (if available) of service induced indications.

There were no service induced indications recorded. The recorded indications were limited to manufacturing anomalies. Table 2-2 is a summary of the recorded indications. Figures 9 and 10 show the locations of the indications.

e. Number of tubes plugged during the inspections outage for each active degradation mechanism.

There were no tubes plugged during this inspection outage.

f. Total number and percentage of tubes plugged to date.

There are currently no tubes (0%) plugged in either SG.

g. The results of the condition monitoring, including the results of tube pulls and in-situ testing.

There was no previous degradation and no degradation recorded during this inspection. Therefore no condition monitoring was performed. No tubes were pulled and no in-situ pressure testing was performed.

h. The effective plugging percentage for all plugging in each OTSG.

There are currently no plugs or sleeves installed in either SG. Therefore, the effective plugging percentage is zero.

Table 2-1
Inspection Techniques Targeting Potential Damage Mechanisms and Conditions

| Damage mechanism or condition | Location | Inspection Technique | TMI-1 PSI ETSS | EPRI ETSS (includes information for integrity assessment) |
|-------------------------------|---------------------------|----------------------|----------------------|--|
| Thinning | TSP, top of tubesheet | Bobbin | 1 | 96001.1 rev 11 |
| Wear | TSP | Bobbin | 1 | 96004.1 rev 12 |
| Pitting | Freespan | Bobbin | 1 | 96005.1 rev 9 |
| | | X-Probe | 2 | 24998.1 rev 1 |
| IGA/ODSCC | Entire tube length | Bobbin | 1 | 96007.1 rev 12 |
| | | X-Probe | 2 | 20400.1 rev 5 20402.1 rev 5 20403.1 rev 5 |
| PWSCC | TSP, expansion transition | X-Probe | | 20500.1 rev 4 20501.1 rev 4 20502.1 rev 4 |
| Fabrication Flaws | Entire tube length | Bobbin | 1 | 96005.2 rev 9 |
| | | X-Probe | 2 | 24998.1 rev 1 |
| Fabrication Deposits | Freespan | Bobbin | 1 | N/A |
| Foreign Objects | Freespan, TSP | Bobbin | 1 | N/A |
| | | X-Probe | 2 | N/A |
| Tube or Tie Rod Proximity | Freespan | Bobbin | 1 | N/A |
| Ding/Bulge | Freespan, TSP | Bobbin | 1 | N/A |
| MBM | Freespan | Bobbin | 1 | 96010.1 rev 7 |
| | | X-Probe | 2 | N/A |

**Table 2-2
 Indications Recorded During PSI Examinations**

| Probe | Indication | # Tubes | # Entries | Max Voltage | Comments |
|----------------------|------------|---------|-----------|-------------|--|
| SG "A" 510 Bobbin | BLG | 8 | 8 | 163.3 | One indication was large amplitude and coded a GMD on the array probe. The remaining seven indications were 20.4 volts or less. |
| | DNG | 612 | 622 | 1.04 | |
| | MBM | 26 | 27 | 0.56 | |
| SG "A" 510 Array | GMD | 1 | 1 | | One indication was recorded and correlated to a tubesheet drilling anomaly that had previously been determined to be acceptable. |
| | MBM | 21 | 22 | | These indications were screened by bobbin coil and confirmed by the array probe. |
| | NDF | 622 | 634 | | Array probe examination of bobbin coil indications. |
| SG "B" 510 Bobbin | BLG | 60 | 63 | 18.7 | |
| | DNG | 324 | 378 | 4.62 | |
| | MBM | 26 | 27 | 0.47 | |
| | NQI | 4 | 4 | | The array probe did not identify any degradation in the areas of the NQIs. The indications are attributed to the relationship between the expansion transition and the tubesheet face. |
| | SSA | 1 | 1 | | Determined to be non-flaw like. Attributed to conductive condition on the tube outside surface. |
| 510 Array | MBM | 22 | 23 | | These indications were screened by bobbin coil and confirmed by the array probe. |
| | NDF | 388 | 449 | | Array probe examination of bobbin coil indications. |
| | SSA | 1 | 1 | | Determined to be non-flaw like. |

BLG – Bulge – Localized tube diameter increase.

DNG – Ding – Localized tube diameter decrease.

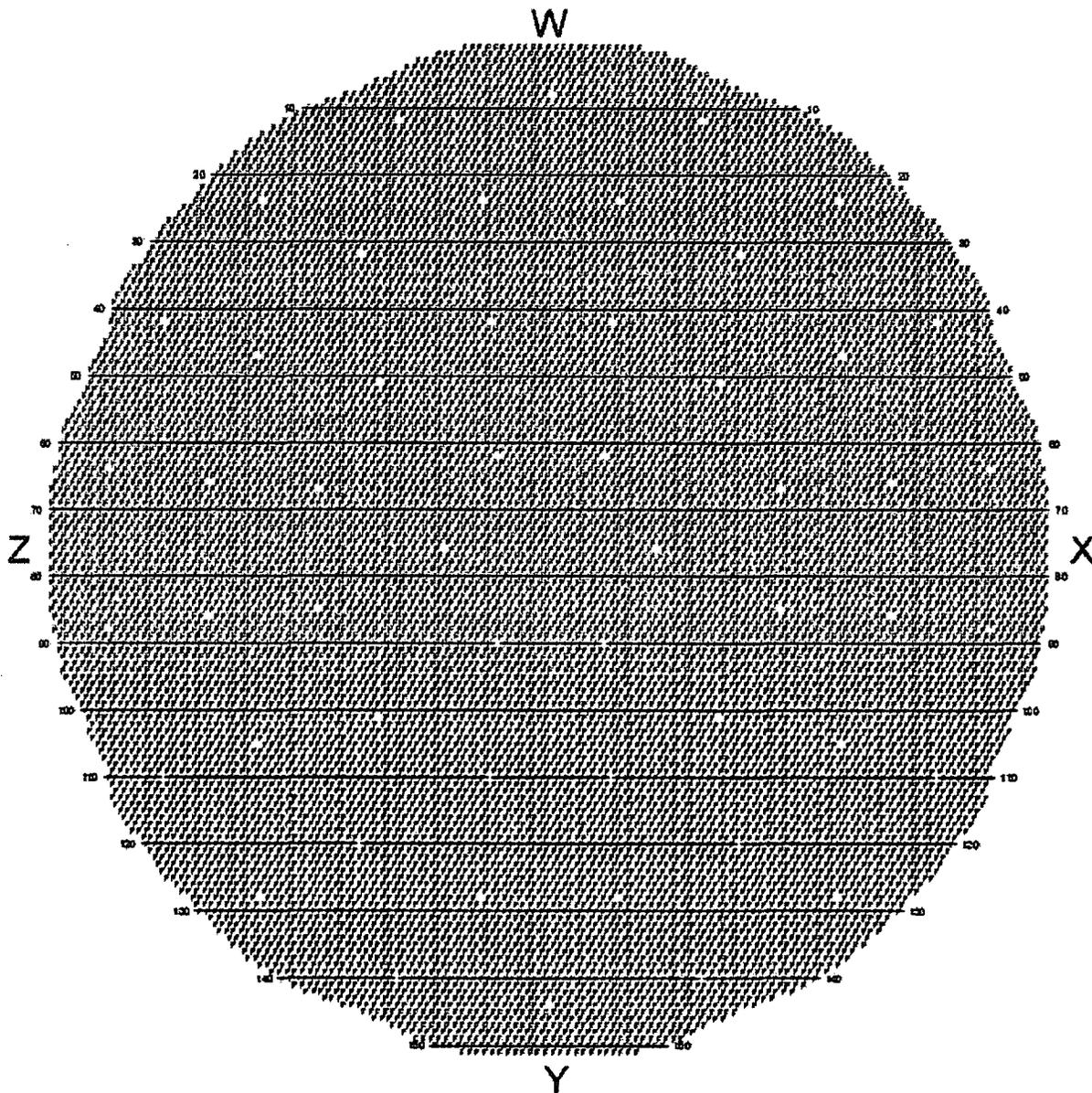
MBM – Manufacturing Burnish Mark - A shallow volumetric signal from manual buffing of the tube outside surface.

GMD - Geometric Distortion- a localized non-nominal condition not meeting the criteria of a dent or ding.

NDF – No Defect Found – Code used to show array of bobbin indication was examined with array probe with no recordable condition.

NQI – Non Quantifiable Indication – Represents a bobbin coil indication that shows preliminary evidence of a potential defect and requires an X-probe diagnostic examination.

SSA – Secondary Side Anomaly – A non-flaw low frequency response reported during the X-Probe examination.



**TMI Unit 1 Repl
PSI 06/2009
Tubes Examined
with 510 Bobbin**

S/G A
PRIMARY FACE
INLET
TOTAL TUBES: 15597
TUBES SELECTED: 15597
OUT OF SERVICE (#): 0

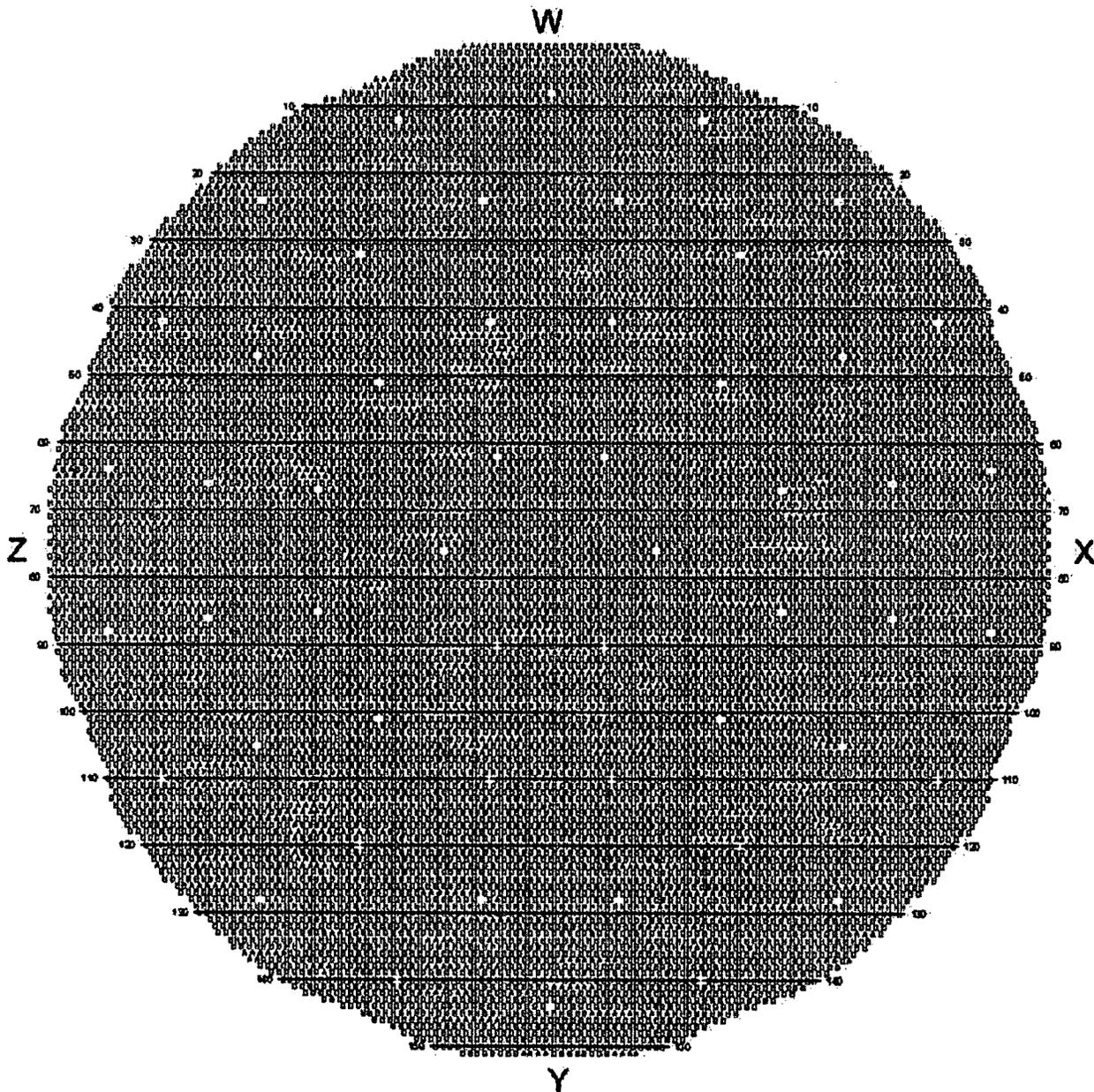
| GROUP | TUBES |
|--------------|-------|
| F F/L Bobbin | 15597 |

SCALE: 0.066538 X
Fri Jul 03 11:05:52 2009

TMI Unit 1 Repl: SG A MET AREVA
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Figure 1

Enclosure 1, Tab 2, Steam Generator Eddy Current Examinations
Owner: Exelon Nuclear, 200 Exelon Way, Kennett Square, PA
Plant: Three Mile Island Nuclear Generating Station, Route 441 South Middletown, PA
Plant Unit: 1, Owner Certificate of Authorization: N/A
Commercial Service Date: September 2, 1974, National Board number for Unit: Reactor Vessel N-109

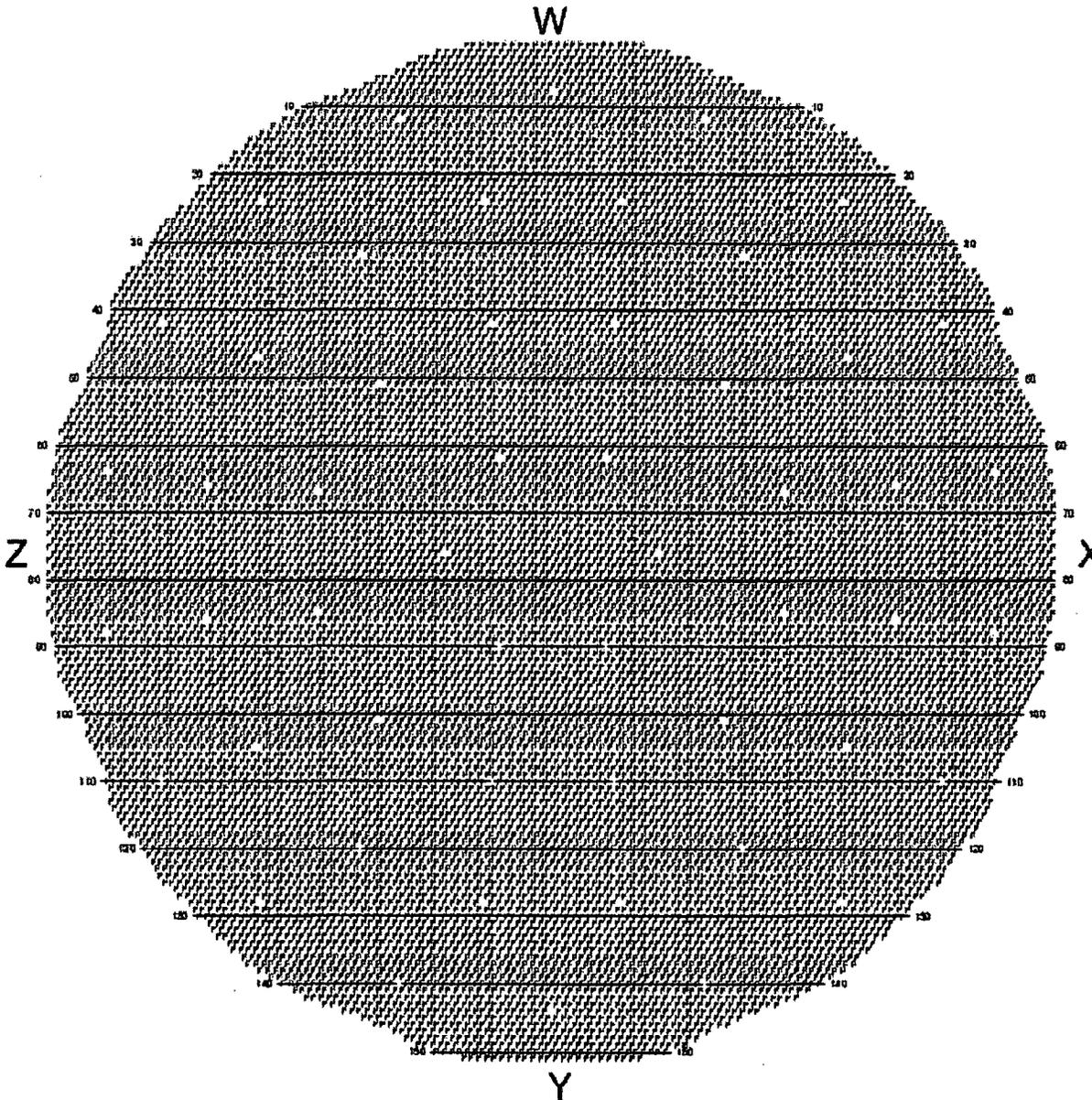


**TMI Unit 1 Repl
PS1 06/2009
Tubes Examined
with 510 Array**

| | |
|---------------------|-------|
| S/G A | |
| PRIMARY FACE | |
| INLET | |
| TOTAL TUBES: | 15587 |
| TUBES SELECTED: | 15587 |
| OUT OF SERVICE (#): | 0 |
| GROUP | |
| A UTE to UTS-3 | 1147 |
| B UTS+3 to UTS-3 | 14450 |

SCALE: 0.068887 X
Tue Jul 21 10:56:59 2009

Figure 2



**TMI Unit 1 Repl
PSI 06/2009
Tubes Examined
with 510 Bobbin**

AREVA - FEA/S map module Version 6.0

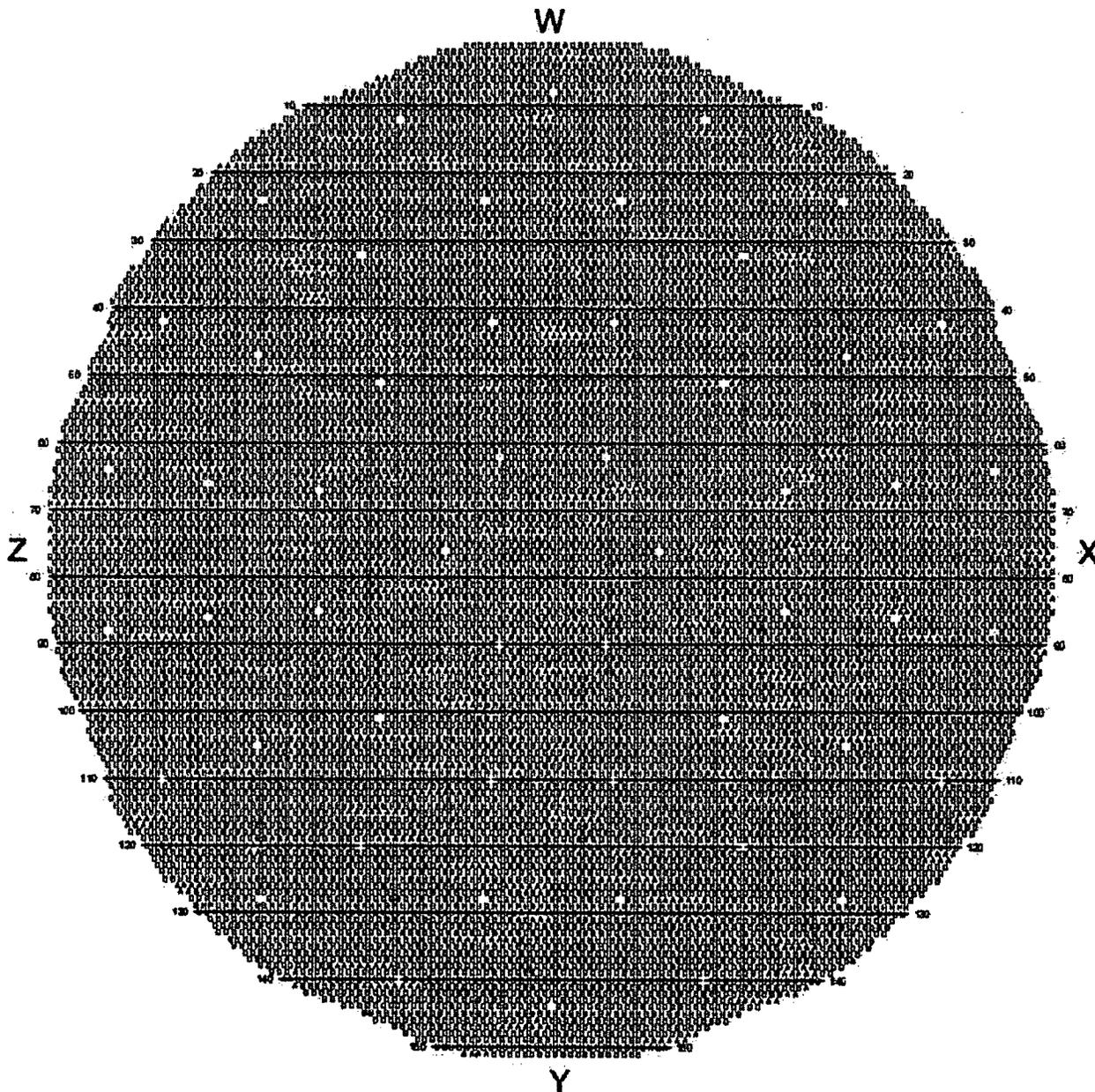
| | |
|----------------------------|--------------|
| S/G B | |
| PRIMARY FACE | |
| INLET | |
| TOTAL TUBES: | 15597 |
| TUBES SELECTED: | 15597 |
| OUT OF SERVICE (#): | 0 |

| GROUP | TUBES |
|---------------------|--------------|
| F F/L Bobbin | 15597 |

Figure 5

Enclosure 1, Tab 2, Steam Generator Eddy Current Examinations
 Owner: Exelon Nuclear, 200 Exelon Way, Kennett Square, PA
 Plant: Three Mile Island Nuclear Generating Station, Route 441 South Middletown, PA
 Plant Unit: 1, Owner Certificate of Authorization: NA
 Commercial Service Date: September 2, 1974, National Board number for Unit: Reactor Vessel N-109

SCALE: 0.066538 X
Mon Jul 06 14:53:25 2009
TMI Unit 1 Repl SGRINLET AREVA
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 for any other purpose whatsoever to which AREVA NP has not
 will be returned to AREVA NP.



**TMI Unit 1 Repl
PS1 06/2009
Tubes Examined
with 510 Array**

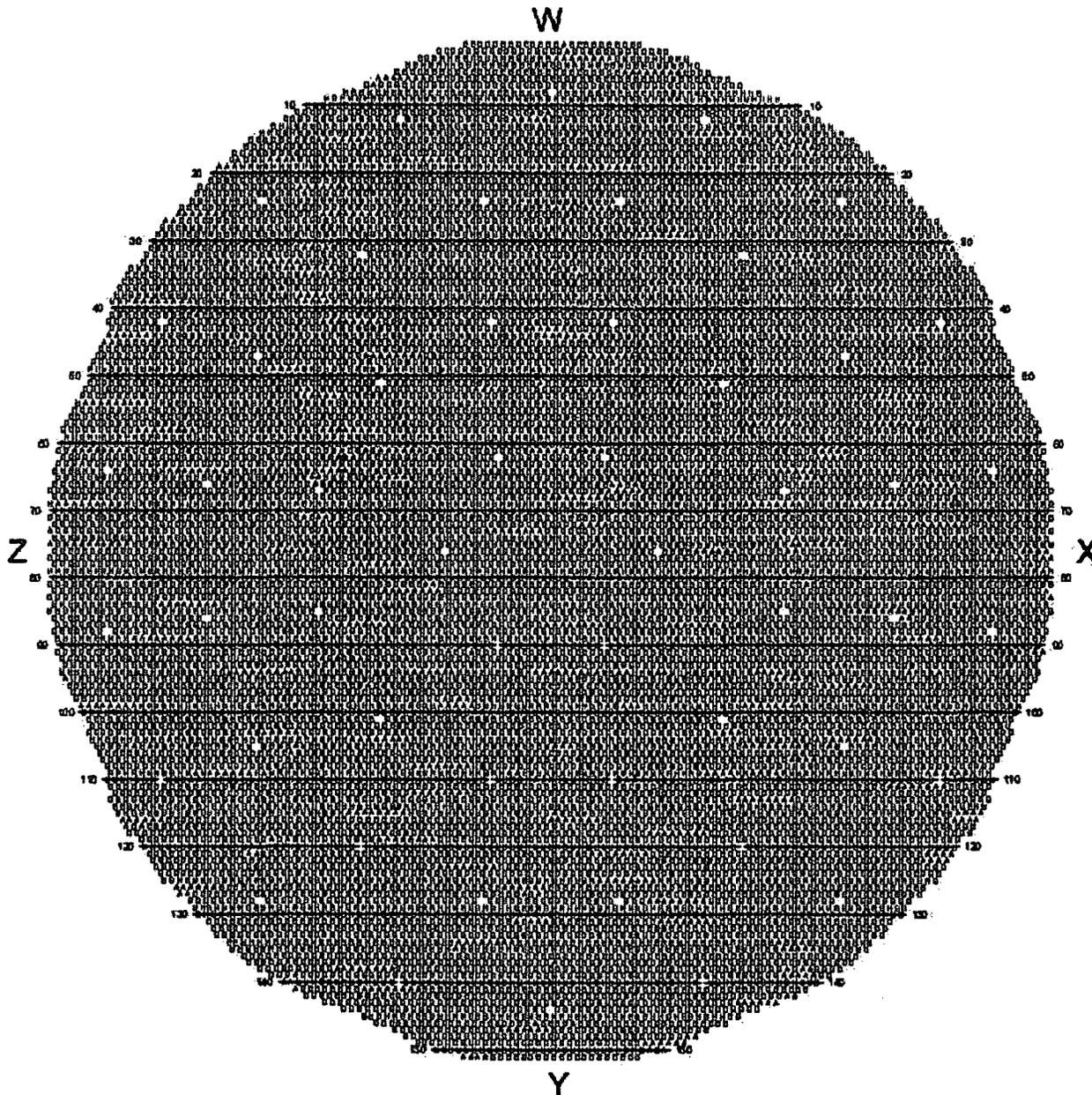
ASDA-7261-00-000-00-00-00

| | |
|----------------------------|--------------|
| SG 8 | |
| PRIMARY FACE | |
| INLET | |
| TOTAL TUBES: | 15597 |
| TUBES SELECTED: | 15597 |
| OUT OF SERVICE (#): | 0 |
| GROUP | |
| A UTE to UTS-3 | 1121 |
| B UTS+3 to UTS-3 | 14476 |

Figure 6

Enclosure 1, Tab 2, Steam Generator Eddy Current Examinations
 Owner: Exelon Nuclear, 200 Exelon Way, Kennett Square, PA
 Plant: Three Mile Island Nuclear Generating Station, Route 441 South Middletown, PA
 Plant Unit: 1, Owner Certificate of Authorization: NA
 Commercial Service Date: September 2, 1974, National Board number for Unit: Reactor Vessel N-109

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Tue Jul 21 10:59:32 2009
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**TMI Unit 1 Repl
PS1 06/2009
Tubes Examined
with 510 Array**

APVA-7260-00-000-1-000-03

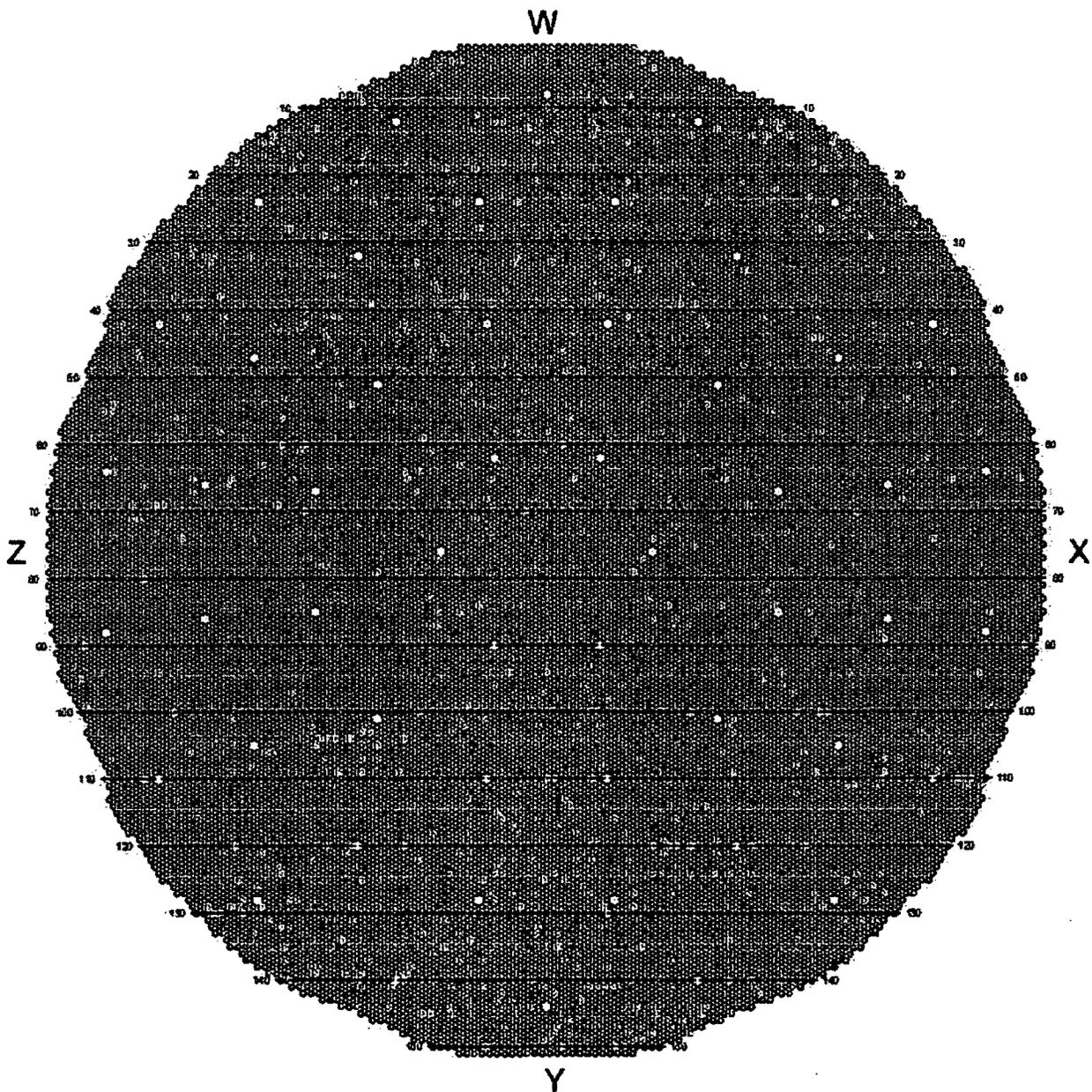
| | |
|---------------------|-------|
| S/G B | |
| PRIMARY FACE | |
| INLET | |
| TOTAL TUBES: | 15597 |
| TUBES SELECTED: | 18667 |
| OUT OF SERVICE (#): | 0 |

| GROUP | TUBES |
|------------------|-------|
| A LTE to LTS+3 | 1109 |
| B LTS+3 to LTS-3 | 14488 |

Figure 7

Enclosure 1, Tab 2, Steam Generator Eddy Current Examinations
 Owner: Exelon Nuclear, 200 Exelon Way, Kennett Square, PA
 Plant: Three Mile Island Nuclear Generating Station, Route 441 South Middletown, PA
 Plant Unit: 1, Owner Certificate of Authorization: NA
 Commercial Service Date: September 2, 1974, National Board number for Unit: Reactor Vessel N-109

SCALE: 0.069887 X
 Tue Jul 21 11:01:12 2009
APVA-7260-00-000-1-000-03
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**TMI Unit 1 Repl
PSI 06/2009
Tube Anomalies
Detected by
Bobbin**

| | |
|---------------------|-------|
| SIG A | |
| PRIMARY FACE | |
| INLET | |
| TOTAL TUBES: | 15387 |
| TUBES SELECTED: | 644 |
| OUT OF SERVICE (#): | 0 |

| GROUP | TUBES |
|-------|-------|
| B BLG | 8 |
| D DNG | 612 |
| M MBM | 28 |

SCALE: 0.066887 X
Mon Jul 13 12:25:02 2009

THE USE OF THIS SCALE IS LIMITED TO THE PRESENT REPORT AND SHOULD NOT BE USED FOR ANY OTHER PURPOSES. THE SCALE IS NOT TO BE USED FOR ANY OTHER PURPOSES. THE SCALE IS NOT TO BE USED FOR ANY OTHER PURPOSES.

Figure 9

Enclosure 1, Tab 2, Steam Generator Eddy Current Examinations
 Owner: Exelon Nuclear, 200 Exelon Way, Kennett Square, PA
 Plant: Three Mile Island Nuclear Generating Station, Route 441 South Middletown, PA
 Plant Unit: 1, Owner Certificate of Authorization: NA
 Commercial Service Date: September 2, 1974, National Board number for Unit: Reactor Vessel N-109

TERMS AND DEFINITIONS (EXCLUDING OTSG EDDY CURRENT)

1. Explanation of Columnar Information
 - A. **Identification** – Provides the component identification.
 - B. **Component** – Provides a description of the component.
 - C. **Basis** – Provides the basis for the examination as described below:
 - i. **PSI** indicates a preservice examination
 - ii. **SU** indicates a required Section XI follow-up examination
 - iii. **XI** indicates a Section XI inservice examination
 - D. **Coverage** – Provides the obtained examination coverage.
 - E. **NDE Method** – Provides examination method as indicated below:
 - i. **VT-1** - Visual examination technique defined in ASME Section XI
 - ii. **VT-2** - Visual examination technique defined in ASME Section XI
 - iii. **VT-3** - Visual examination technique defined in ASME Section XI
 - iv. **UT** - Ultrasonic examination
 - v. **PT** - Dye penetrant examination
 - vi. **MT** - Magnetic particle examination
 - vii. **UT-E** - A UT examination note to define that the Risk Informed ISI (RISI) UT examination extent is to be applied
 - viii. **UT-WT** - A UT examination note that defines that a RISI wall thickness examination is to be performed
 - ix. **BMV** - Bare metal visual examination
 - x. **FT** - Snubber functional test
 - xi. **RT** - Radiographic examination
 - xii. **ET** - Eddy current examination
 - xiii. **EVT** - Enhanced visual examination
 - F. **Exam Date** – Provides the date of the examination.
 - G. **Code Coverage** – Provides a percentage of the required examination area/volume actually examined.
 - H. **Results** – Provides examination disposition results.
 - I. **Drawing** - Provides the component drawing associated with the examination.
 - J. **Item Numbers** – Provides the ASME Section XI Item Number associated with the examination.
 - K. **Cat. Number** – Provides the ASME Section XI Category Number associated with the Examination.

Enclosure 1, Tab 4, Examinations Performed
 Owner: Exelon Nuclear, 200 Exelon Way, Kennett Square, PA
 Plant: Three Mile Island Nuclear Generating Station, Route 441 South Middletown, PA
 Plant Unit: 1

Owner Certificate of Authorization: NA
 Commercial Service Date: September 2, 1974
 National Board number for Unit: Reactor Vessel N-109

| Identification | Component | Basis | % Coverage | % Coverage | % Coverage | NDE Method | NDE Method | NDE Method | Exam Date | Exam Date | Exam Date | Results | Drawing | Item Numbers | Cat. Number |
|----------------|-----------|-------|------------|------------|------------|------------|------------|------------|------------|------------|-----------|------------|---------------|--------------|-------------|
| 06-00759-W-01 | WELD | PSI | 100 | | | UT-E | | | 1/9/2010 | | | Acceptable | 1D-ISI-RC-001 | R1.20 | R-A |
| 06-00759-W-02 | WELD | PSI | 100 | | | UT-E | | | 1/7/2010 | | | Acceptable | 1D-ISI-RC-001 | R1.20 | R-A |
| 06-00759-W-03 | WELD | PSI | 100 | | | UT-E | | | 1/8/2009 | | | Acceptable | 1D-ISI-RC-003 | R1.20 | R-A |
| 06-00759-W-04 | WELD | PSI | 100 | | | UT-E | | | 12/31/2009 | | | Acceptable | 1D-ISI-RC-003 | R1.20 | R-A |
| 06-00759-W-45 | WELD | PSI | 100 | | | UT-E | | | 1/2/2010 | | | Acceptable | 1D-ISI-RC-001 | R1.20 | R-A |
| 06-00759-W-46 | WELD | PSI | 100 | | | UT-E | | | 1/2/2010 | | | Acceptable | 1D-ISI-RC-001 | R1.20 | R-A |
| 06-00759-W-47 | WELD | PSI | 100 | | | UT-E | | | 1/3/2010 | | | Acceptable | 1D-ISI-RC-003 | R1.20 | R-A |
| 06-00759-W-48 | WELD | PSI | 100 | | | UT-E | | | 1/3/2010 | | | Acceptable | 1D-ISI-RC-003 | R1.20 | R-A |
| 07-00576-W-15 | WELD | PSI | 100 | 100 | | UT-E | MT | | 10/7/2009 | 10/6/2009 | | Acceptable | 1D-ISI-RC-001 | R1.20 | R-A |
| 07-00576-W-16 | WELD | PSI | 100 | 100 | | UT-E | MT | | 10/7/2009 | 10/6/2009 | | Acceptable | 1D-ISI-RC-001 | R1.20 | R-A |
| 07-00576-W-17 | WELD | PSI | 96.4 | 100 | | UT-E | MT | | 10/7/2009 | 10/6/2009 | | Acceptable | 1D-ISI-RC-001 | R1.20 | R-A |
| 07-00576-W-18 | WELD | PSI | 100 | 100 | | UT-E | MT | | 10/7/2009 | 10/6/2009 | | Acceptable | 1D-ISI-RC-001 | R1.20 | R-A |
| 07-00576-W-19 | WELD | PSI | 100 | 100 | | UT-E | MT | | 10/7/2009 | 10/26/2009 | | Acceptable | 1D-ISI-RC-001 | R1.20 | R-A |
| 07-00576-W-26 | WELD | PSI | 100 | 100 | | UT-E | MT | | 10/7/2006 | 10/6/2009 | | Acceptable | 1D-ISI-RC-001 | R1.20 | R-A |
| 07-00576-W-27 | WELD | PSI | 100 | 100 | | UT-E | MT | | 10/7/2009 | 10/6/2009 | | Acceptable | 1D-ISI-RC-001 | R1.20 | R-A |
| 07-00576-W-30 | WELD | PSI | 100 | 100 | | UT-E | MT | | 10/8/2009 | 10/6/2009 | | Acceptable | 1D-ISI-RC-003 | R1.20 | R-A |
| 07-00576-W-31 | WELD | PSI | 100 | 100 | | UT-E | MT | | 10/8/2009 | 10/6/2009 | | Acceptable | 1D-ISI-RC-003 | R1.20 | R-A |
| 07-00576-W-32 | WELD | PSI | 96.4 | 100 | | UT-E | MT | | 10/8/2009 | 10/6/2009 | | Acceptable | 1D-ISI-RC-003 | R1.20 | R-A |
| 07-00576-W-33 | WELD | PSI | 100 | 100 | | UT-E | MT | | 10/8/2009 | 10/6/2009 | | Acceptable | 1D-ISI-RC-003 | R1.20 | R-A |
| 07-00576-W-34 | WELD | PSI | 100 | 100 | | UT-E | MT | | 10/8/2009 | 10/6/2009 | | Acceptable | 1D-ISI-RC-003 | R1.20 | R-A |
| 07-00576-W-41 | WELD | PSI | 100 | 100 | | UT-E | MT | | 10/8/2009 | 10/6/2009 | | Acceptable | 1D-ISI-RC-003 | R1.20 | R-A |
| 07-00576-W-42 | WELD | PSI | 100 | 100 | | UT-E | MT | | 10/8/2009 | 10/6/2009 | | Acceptable | 1D-ISI-RC-003 | R1.20 | R-A |
| BS0021SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 2/15/2008 | | | Acceptable | 1D-ISI-BS-002 | F1.20 | F-A |
| BS0021SUPPORT | SUPPORT | XI | 100 | | | VT-3 | | | 6/8/2009 | | | Acceptable | 1D-ISI-BS-002 | F1.20 | F-A |

Enclosure 1, Tab 4, Examinations Performed
 Owner: Exelon Nuclear, 200 Exelon Way, Kennett Square, PA
 Plant: Three Mile Island Nuclear Generating Station, Route 441 South Middletown, PA
 Plant Unit: 1
 Owner Certificate of Authorization: NA
 Commercial Service Date: September 2, 1974
 National Board number for Unit: Reactor Vessel N-109

| Identification | Component | Basis | % Coverage | % Coverage | % Coverage | NDE Method | NDE Method | NDE Method | Exam Date | Exam Date | Exam Date | Results | Drawing | Item Numbers | Cat. Number |
|----------------|-----------|-------|------------|------------|------------|------------|------------|------------|------------|-----------|-----------|------------|---------------|--------------|-------------|
| BS0021WELD | WELD | XI | 100 | | | UT-E | | | 10/19/2009 | | | Acceptable | 1D-ISI-BS-001 | R1.20 | R-A |
| BS0022WELD | WELD | XI | 100 | | | UT-E | | | 10/19/2009 | | | Acceptable | 1D-ISI-BS-001 | R1.20 | R-A |
| BS0037WELD | WELD | XI | 100 | | | UT-E | | | 10/12/2009 | | | Acceptable | 1D-ISI-BS-001 | R1.20 | R-A |
| CF0004SUPPORT | SUPPORT | XI | 100 | | | VT-3 | | | 11/4/2009 | | | Acceptable | 1D-ISI-CF-002 | F1.10 | F-A |
| CF0004SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 1/13/2009 | | | Acceptable | 1D-ISI-CF-002 | F1.10 | F-A |
| CF0005SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 1/13/2010 | | | Acceptable | 1D-ISI-CF-002 | F1.10 | F-A |
| CF0006SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 1/5/2010 | | | Acceptable | 1D-ISI-CF-002 | F1.10 | F-A |
| CF0007SUPPORT | SUPPORT | XI | 100 | | | VT-3 | | | 10/31/2009 | | | Acceptable | 1D-ISI-CF-002 | F1.10 | F-A |
| CF0007SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | FT | | 1/11/2020 | | | Acceptable | 1D-ISI-CF-002 | F1.10 | F-A |
| CF0008SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 1/11/2010 | | | Acceptable | 1D-ISI-CF-002 | F1.10 | F-A |
| CF0011SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 1/13/2010 | | | Acceptable | 1D-ISI-CF-001 | F1.10 | F-A |
| CF0012SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 1/5/2010 | | | Acceptable | 1D-ISI-CF-001 | F1.10 | F-A |
| CF0013SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 1/5/2010 | | | Acceptable | 1D-ISI-CF-001 | F1.10 | F-A |
| CF0014SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | FT | | 1/13/2010 | | | Acceptable | 1D-ISI-DH-002 | F1.10 | F-A |
| CF0015SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 1/13/2010 | | | Acceptable | 1D-ISI-CF-001 | F1.10 | F-A |
| CF0016ASUPPORT | SUPPORT | PSI | 100 | | | VT-3 | FT | | 1/13/2010 | | | Acceptable | 1D-ISI-FD-001 | F1.10 | F-A |
| CF0016SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | FT | | 1/13/2009 | | | Acceptable | 1D-ISI-CF-001 | F1.10 | F-A |
| CF0091WAWELD | WELD | XI | 100 | | | PT | | | 11/3/2009 | | | Acceptable | 1D-ISI-CF-002 | B10.20 | B-K |
| CF0092WAWELD | WELD | XI | 100 | | | PT | | | 11/3/2009 | | | Acceptable | 1D-ISI-CF-002 | B10.20 | B-K |
| CF0093WAWELD | WELD | XI | 100 | | | PT | | | 11/3/2009 | | | Acceptable | 1D-ISI-CF-002 | B10.20 | B-K |
| CF0094WAWELD | WELD | XI | 100 | | | PT | | | 11/3/2009 | | | Acceptable | 1D-ISI-CF-002 | B10.20 | B-K |
| CF0095WELD | WELD | PSI | 100 | | | UT-E | | | 1/4/2009 | | | Acceptable | 1D-ISI-CF-001 | R1.20 | R-A |
| CF0096WELD | WELD | PSI | 100 | | | UT-E | | | 1/4/2009 | | | Acceptable | 1D-ISI-CF-001 | R1.20 | R-A |
| CF0097WELD | WELD | PSI | 100 | | | UT-E | | | 1/4/2010 | | | Acceptable | 1D-ISI-CF-001 | R1.20 | R-A |

Enclosure 1, Tab 4, Examinations Performed
 Owner: Exelon Nuclear, 200 Exelon Way, Kennett Square, PA
 Plant: Three Mile Island Nuclear Generating Station, Route 441 South Middletown, PA
 Plant Unit: 1

Owner Certificate of Authorization: NA
 Commercial Service Date: September 2, 1974
 National Board number for Unit: Reactor Vessel N-109

| Identification | Component | Basis | % Coverage | % Coverage | % Coverage | NDE Method | NDE Method | NDE Method | Exam Date | Exam Date | Exam Date | Results | Drawing | Item Numbers | Cal Number |
|---------------------|-----------|-------|------------|------------|------------|------------|------------|------------|------------|-----------|-----------|------------|---------------|--------------|------------|
| CF0098WELD | WELD | PSI | 100 | | | UT-E | | | 1/4/2010 | | | Acceptable | 1D-ISI-CF-001 | R1.20 | R-A |
| CFV0005ABOLT | BOLT | XI | 100 | | | VT-1 | | | 11/14/2009 | | | Acceptable | 1D-ISI-CF-001 | B7.70 | B-G-2 |
| CFV0005ABOLT | BOLT | PSI | 100 | | | VT-1 | | | 1/5/2010 | | | Acceptable | 1D-ISI-CF-001 | B7.70 | B-G-2 |
| CFV0005AINTER | INTER | XI | 100 | | | VT-3 | | | 11/14/2009 | | | Acceptable | 1D-ISI-CF-001 | B12.50 | B-M-2 |
| CFV0005BBOLT | BOLT | PSI | 100 | | | VT-1 | | | 1/6/2010 | | | Acceptable | 1D-ISI-CF-002 | B7.70 | B-G-2 |
| DH0008SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 1/13/2010 | | | Acceptable | 1D-ISI-DH-003 | F1.20 | F-A |
| DH0009SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 1/13/2010 | | | Acceptable | 1D-ISI-DH-003 | F1.20 | F-A |
| DH0011SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | FT | | 11/14/2009 | | | Acceptable | 1D-ISI-DH-003 | F1.20 | F-A |
| DH0021SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | FT | | 11/6/2009 | | | Acceptable | 1D-ISI-DH-002 | F1.20 | F-A |
| DH0023SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | FT | | 11/11/2009 | | | Acceptable | 1D-ISI-DH-002 | F1.20 | F-A |
| DH0024SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | FT | | 11/11/2009 | | | Acceptable | 1D-ISI-DH-002 | F1.20 | F-A |
| DH0053WELD | WELD | XI | 100 | | | UT-WT | | | 10/21/2009 | | | Acceptable | 1D-ISI-DH-004 | R1.13 | R-A |
| DH0075WELD | WELD | XI | 100 | | | UT-E | | | 10/23/2009 | | | Acceptable | 1D-ISI-DH-004 | R1.20 | R-A |
| DH0160WAWELD | WELD | XI | 100 | | | PT | | | 10/20/2009 | | | Acceptable | 1D-ISI-DH-005 | C3.20 | C-C |
| DH0223WAWELD | WELD | XI | 100 | | | PT | | | 10/15/2009 | | | Acceptable | 1D-ISI-DH-023 | C3.20 | C-C |
| DH0414WAWELD | WELD | XI | 100 | | | PT | | | 10/13/2009 | | | Acceptable | 1D-ISI-DH-024 | C3.20 | C-C |
| DH0415WAWELD | WELD | XI | 100 | | | PT | | | 10/13/2009 | | | Acceptable | 1D-ISI-DH-024 | C3.20 | C-C |
| DH0416WAWELD | WELD | XI | 100 | | | PT | | | 10/13/2009 | | | Acceptable | 1D-ISI-DH-024 | C3.20 | C-C |
| DHC0001BDH0403BWELD | WELD | XI | 100 | | | PT | | | 10/15/2009 | | | Acceptable | 1D-ISI-DH-025 | C2.32/C2.31 | C-B |
| DHH0116SUPPORT | SUPPORT | XI | 100 | | | VT-3 | | | 6/8/2009 | | | Acceptable | 1D-ISI-DH-009 | F1.20 | F-A |
| DHH0125ASUPPORT | SUPPORT | XI | 100 | | | VT-3 | | | 10/12/2009 | | | Acceptable | 1D-ISI-DH-007 | F1.20 | F-A |
| DHH0126SUPPORT | SUPPORT | XI | 100 | | | VT-3 | | | 10/12/2009 | | | Acceptable | 1D-ISI-DH-007 | F1.20 | F-A |
| DHH0132SUPPORT | SUPPORT | XI | 100 | | | VT-3 | | | 9/13/2009 | | | Acceptable | 1D-ISI-DH-006 | F1.20 | F-A |
| DHH0133SUPPORT | SUPPORT | XI | 100 | | | VT-3 | | | 10/23/2009 | | | Acceptable | 1D-ISI-DH-004 | F1.20 | F-A |

Enclosure 1, Tab 4, Examinations Performed
 Owner: Exelon Nuclear, 200 Exelon Way, Kennett Square, PA
 Plant: Three Mile Island Nuclear Generating Station, Route 441 South Middletown, PA
 Plant Unit: 1

Owner Certificate of Authorization: NA
 Commercial Service Date: September 2, 1974
 National Board number for Unit: Reactor Vessel N-109

| Identification | Component | Basis | % Coverage | % Coverage | % Coverage | NDE Method | NDE Method | NDE Method | Exam Date | Exam Date | Exam Date | Results | Drawing | Item Numbers | Cat. Number |
|-----------------|-----------|-------|------------|------------|------------|------------|------------|------------|------------|-----------|-----------|------------|---------------|--------------|-------------|
| DHH0181SUPPORT | SUPPORT | XI | 100 | | | VT-3 | | | 6/8/2009 | | | Acceptable | 1D-ISI-DH-020 | F1.20 | F-A |
| DHH0188SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 4/29/2008 | | | Acceptable | 1D-ISI-DH-019 | F1.20 | F-A |
| DHP0001ASUPPORT | SUPPORT | XI | 100 | | | VT-3 | | | 6/29/2009 | | | Acceptable | 1D-ISI-DH-021 | F1.40 | F-A |
| EF0004SUPPORT | SUPPORT | XI | 100 | | | VT-3 | | | 10/31/2009 | | | Acceptable | 1D-ISI-EF-002 | F1.20 | F-A |
| EF0010SUPPORT | SUPPORT | SU | 100 | | | VT-3 | | | 10/30/2009 | | | Acceptable | 1D-ISI-EF-002 | F1.20 | F-A |
| EF0011SUPPORT | SUPPORT | XI | 100 | | | VT-3 | | | 12/7/2009 | | | Acceptable | 1D-ISI-EF-002 | F1.20 | F-A |
| EF0012SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 1/10/2010 | | | Acceptable | 1D-ISI-EF-002 | F1.20 | F-A |
| EF0020SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 1/9/2010 | | | Acceptable | 1D-ISI-EF-001 | F1.20 | F-A |
| EF0021SUPPORT | SUPPORT | SU | 100 | | | VT-3 | | | 11/14/2009 | | | Recordable | 1D-ISI-EF-001 | F1.20 | F-A |
| EF0021SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 12/29/2009 | | | Acceptable | 1D-ISI-EF-001 | F1.20 | F-A |
| EF0022SUPPORT | SUPPORT | SU | 100 | | | VT-3 | | | 11/14/2009 | | | Recordable | 1D-ISI-EF-001 | F1.20 | F-A |
| EF0022SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 12/29/2009 | | | Acceptable | 1D-ISI-EF-001 | F1.20 | F-A |
| EF0023SUPPORT | SUPPORT | SU | 100 | | | VT-3 | | | 10/31/2009 | | | Recordable | 1D-ISI-EF-001 | F1.20 | F-A |
| EF0023SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 1/9/2010 | | | Acceptable | 1D-ISI-EF-001 | F1.20 | F-A |
| EF0024SUPPORT | SUPPORT | SU | 100 | | | VT-3 | | | 11/2/2009 | | | Recordable | 1D-ISI-EF-001 | F1.20 | F-A |
| EF0024SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 12/29/2009 | | | Acceptable | 1D-ISI-EF-001 | F1.20 | F-A |
| EF0025SUPPORT | SUPPORT | SU | 100 | | | VT-3 | | | 10/31/2009 | | | Recordable | 1D-ISI-EF-001 | F1.20 | F-A |
| EF0025SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 12/30/2009 | | | Acceptable | 1D-ISI-EF-001 | F1.20 | F-A |
| EF0026SUPPORT | SUPPORT | SU | 100 | | | VT-3 | | | 11/2/2009 | | | Recordable | 1D-ISI-EF-001 | F1.20 | F-A |
| EF0026SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 1/11/2010 | | | Acceptable | 1D-ISI-EF-001 | F1.20 | F-A |
| EF0076SUPPORT | SUPPORT | XI | 100 | | | VT-3 | | | 10/29/2009 | | | Acceptable | 1D-ISI-EF-004 | F1.20 | F-A |
| EF0112SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 1/1/2010 | | | Acceptable | 1D-ISI-EF-001 | F1.20 | F-A |
| EF0113SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | FT | | 12/30/2009 | | | Acceptable | 1D-ISI-EF-001 | F1.20 | F-A |
| EF0114SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 12/30/2009 | | | Acceptable | 1D-ISI-EF-001 | F1.20 | F-A |

Enclosure 1, Tab 4, Examinations Performed
 Owner: Exelon Nuclear, 200 Exelon Way, Kennett Square, PA
 Plant: Three Mile Island Nuclear Generating Station, Route 441 South Middletown, PA
 Plant Unit: 1

Owner Certificate of Authorization: NA
 Commercial Service Date: September 2, 1974
 National Board number for Unit: Reactor Vessel N-109

| Identification | Component | Basis | % Coverage | % Coverage | % Coverage | NDE Method | NDE Method | NDE Method | Exam Date | Exam Date | Exam Date | Results | Drawing | Item Numbers | Cat Number |
|----------------|-----------|-------|------------|------------|------------|------------|------------|------------|------------|-----------|-----------|------------|-------------------|--------------|------------|
| EF0115ASUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 12/30/2009 | | | Acceptable | 1D-ISI- EF-002 | F1.20 | F-A |
| EF0115SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 12/30/2009 | | | Acceptable | 1D-ISI- EF-002 | F1.20 | F-A |
| FW0091SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 1/13/2010 | | | Acceptable | 1D-ISI- FW-002 | F1.20 | F-A |
| FW0092SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 1/13/2010 | | | Acceptable | 1D-ISI- FW-002 | F1.20 | F-A |
| FW0093SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 1/13/2010 | | | Acceptable | 1D-ISI- FW-002 | F1.20 | F-A |
| FW0094SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 1/13/2010 | | | Acceptable | 1D-ISI- FW-002 | F1.20 | F-A |
| FW0101SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 1/11/2010 | | | Acceptable | 1D-ISI- FW-001 | F1.20 | F-A |
| FW0105SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 1/13/2010 | | | Acceptable | 1D-ISI- FW-001 | F1.20 | F-A |
| FW0106SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 1/14/2010 | | | Acceptable | 1D-ISI- FW-001 | F1.20 | F-A |
| FW0107SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 1/14/2010 | | | Acceptable | 1D-ISI- FW-001 | F1.20 | F-A |
| FW0110SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | FT | | 1/7/2010 | | | Acceptable | 1D-ISI- FW-002 | F1.20 | F-A |
| FW0112SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | FT | | 1/10/2010 | | | Acceptable | 1D-ISI- FW-001 | F1.20 | F-A |
| FW0113SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | FT | | 1/14/2010 | | | Acceptable | 1D-ISI- FW-001 | F1.20 | F-A |
| FW0114SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 1/4/2010 | | | Acceptable | 1D-ISI- FW-001 | F1.20 | F-A |
| FW0115SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 1/4/2010 | | | Acceptable | 1D-ISI- FW-001 | F1.20 | F-A |
| FW0214WAWELD | WELD | XI | 100 | | | MT | | | 11/9/2009 | | | Acceptable | 1D-ISI- FW-004 | C3.20 | C-C |
| FW0215WAWELD | WELD | XI | 100 | | | MT | | | 11/9/2009 | | | Acceptable | 1D-ISI- FW-004 | C3.20 | C-C |
| FW0216WAWELD | WELD | XI | 100 | | | MT | | | 11/9/2009 | | | Acceptable | 1D-ISI- FW-004 | C3.20 | C-C |
| FW0217WAWELD | WELD | XI | 100 | | | MT | | | 11/9/2009 | | | Acceptable | 1D-ISI- FW-004 | C3.20 | C-C |
| FW0218WAWELD | WELD | XI | 100 | | | MT | | | 11/9/2009 | | | Acceptable | 1D-ISI- FW-004 | C3.20 | C-C |
| FW0219WAWELD | WELD | XI | 100 | | | MT | | | 11/9/2009 | | | Acceptable | 1D-ISI- FW-004 | C3.20 | C-C |
| FW0220WAWELD | WELD | XI | 100 | | | MT | | | 11/9/2009 | | | Acceptable | 1D-ISI- FW-004 | C3.20 | C-C |
| FW0221WAWELD | WELD | XI | 100 | | | MT | | | 11/9/2009 | | | Acceptable | 1D-ISI- FW-004 | C3.20 | C-C |
| FW0222WAWELD | WELD | XI | 100 | | | MT | | | 11/9/2009 | | | Acceptable | 1D-ISI- FW-004 | C3.20 | C-C |

Enclosure 1, Tab 4, Examinations Performed
 Owner: Exelon Nuclear, 200 Exelon Way, Kennett Square, PA
 Plant: Three Mile Island Nuclear Generating Station, Route 441 South Middletown, PA
 Plant Unit: I

Owner Certificate of Authorization: NA
 Commercial Service Date: September 2, 1974
 National Board number for Unit: Reactor Vessel N-109

| Identification | Component | Base | % Coverage | % Coverage | % Coverage | NDE Method | NDE Method | NDE Method | Exam Date | Exam Date | Exam Date | Results | Drawing | Item Numbers | Cal. Number |
|----------------|-----------|------|------------|------------|------------|------------|------------|------------|------------|-----------|-----------|------------|---------------|--------------|-------------|
| FW0223WAWELD | WELD | XI | 100 | | | MT | | | 11/9/2009 | | | Acceptable | 1D-ISI-FW-004 | C3.20 | C-C |
| FW0224WAWELD | WELD | XI | 100 | | | MT | | | 11/9/2009 | | | Acceptable | 1D-ISI-FW-004 | C3.20 | C-C |
| FW0225WAWELD | WELD | XI | 100 | | | MT | | | 11/9/2009 | | | Acceptable | 1D-ISI-FW-004 | C3.20 | C-C |
| FW0254WAWELD | WELD | XI | 100 | | | MT | | | 11/5/2009 | | | Acceptable | 1D-ISI-XX-001 | C3.20 | C-C |
| FW0255WAWELD | WELD | XI | 100 | | | MT | | | 11/5/2009 | | | Acceptable | 1D-ISI-XX-001 | C3.20 | C-C |
| FW0256WAWELD | WELD | XI | 100 | | | MT | | | 11/5/2009 | | | Acceptable | 1D-ISI-XX-001 | C3.20 | C-C |
| FW0257WAWELD | WELD | XI | 100 | | | MT | | | 11/5/2009 | | | Acceptable | 1D-ISI-XX-001 | C3.20 | C-C |
| FW0258WAWELD | WELD | XI | 100 | | | MT | | | 11/5/2009 | | | Acceptable | 1D-ISI-XX-001 | C3.20 | C-C |
| FW0259WAWELD | WELD | XI | 100 | | | MT | | | 11/5/2009 | | | Acceptable | 1D-ISI-XX-001 | C3.20 | C-C |
| FW0260WAWELD | WELD | XI | 100 | | | MT | | | 11/9/2009 | | | Acceptable | 1D-ISI-XX-001 | C3.20 | C-C |
| FW0261WAWELD | WELD | XI | 100 | | | MT | | | 11/5/2009 | | | Acceptable | 1D-ISI-XX-001 | C3.20 | C-C |
| FW0262WAWELD | WELD | XI | 100 | | | MT | | | 11/5/2009 | | | Acceptable | 1D-ISI-XX-001 | C3.20 | C-C |
| FW0263WAWELD | WELD | XI | 100 | | | MT | | | 11/5/2009 | | | Acceptable | 1D-ISI-XX-001 | C3.20 | C-C |
| MS0183SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 1/18/2010 | | | Acceptable | 1D-ISI-MS-002 | F1.20 | F-A |
| MS0184SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 1/1/2010 | | | Acceptable | 1D-ISI-MS-002 | F1.20 | F-A |
| MS0198SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 1/5/2010 | | | Acceptable | 1D-ISI-MS-001 | F1.20 | F-A |
| MS0199SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 1/5/2010 | | | Acceptable | 1D-ISI-MS-001 | F1.20 | F-A |
| MS0201SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | FT | | 1/6/2010 | | | Acceptable | 1D-ISI-MS-001 | F1.20 | F-A |
| MS0211SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | FT | | 11/5/2009 | | | Acceptable | 1D-ISI-MS-002 | F1.20 | F-A |
| MS0212SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | FT | | 11/19/2009 | | | Acceptable | 1D-ISI-MS-002 | F1.20 | F-A |
| MS0217SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | FT | | 11/06/2009 | | | Acceptable | 1D-ISI-MS-003 | F1.20 | F-A |
| MS0219SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | FT | | 12/21/2009 | | | Acceptable | 1D-ISI-MS-003 | F1.40 | F-A |
| MS0220SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | FT | | 11/11/2009 | | | Acceptable | 1D-ISI-MS-003 | F1.40 | F-A |
| MS0223SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | FT | | 11/5/2009 | | | Acceptable | 1D-ISI-MS-004 | F1.20 | F-A |

Enclosure 1, Tab 4, Examinations Performed
 Owner: Exelon Nuclear, 200 Exelon Way, Kennett Square, PA
 Plant: Three Mile Island Nuclear Generating Station, Route 441 South Middletown, PA
 Plant Unit: 1

Owner Certificate of Authorization: NA
 Commercial Service Date: September 2, 1974
 National Board number for Unit: Reactor Vessel N-109

| Identification | Component | Basis | % Coverage | % Coverage | % Coverage | NDE Method | NDE Method | NDE Method | Exam Date | Exam Date | Exam Date | Results | Drawing | Item Numbers | Cat Number |
|----------------|-----------|-------|------------|------------|------------|------------|------------|------------|------------|-----------|-----------|------------|---------------|--------------|------------|
| MS0224SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | FT | | 11/18/2009 | | | Acceptable | 1D-ISI-MS-004 | F1.40 | F-A |
| MS0224WELD | WELD | XI | 100 | | | UT-E | | | 11/10/2009 | | | Acceptable | 1D-ISI-MS-005 | R1.11/R1.18 | R-A |
| MS0225WELD | WELD | XI | 100 | | | UT-E | | | 11/10/2009 | | | Acceptable | 1D-ISI-MS-005 | R1.11/R1.18 | R-A |
| MS0226SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | FT | | 12/21/2009 | | | Acceptable | 1D-ISI-MS-003 | F1.40 | F-A |
| MS0227SUPPORT | SUPPORT | XI | 100 | | | VT-3 | FT | | 10/29/2009 | | | Acceptable | 1D-ISI-MS-003 | F1.40 | F-A |
| MS0227WELD | WELD | XI | 100 | | | UT-E | | | 11/10/2009 | | | Acceptable | 1D-ISI-MS-005 | R1.11R1.18 | R-A |
| MS0228WELD | WELD | XI | 100 | | | UT-E | | | 11/10/2009 | | | Acceptable | 1D-ISI-MS-005 | R1.11R1.18 | R-A |
| MS0229SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | FT | | 11/9/2009 | | | Acceptable | 1D-ISI-MS-004 | F1.20 | F-A |
| MS0229WELD | WELD | XI | 100 | | | UT-E | | | 11/8/2009 | | | Acceptable | 1D-ISI-MS-005 | R1.11R1.18 | R-A |
| MS0232SUPPORT | SUPPORT | XI | 100 | | | VT-3 | | | 11/6/2009 | | | Acceptable | 1D-ISI-MS-006 | F1.20 | F-A |
| MS0233SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | FT | | 11/9/2009 | | | Acceptable | 1D-ISI-MS-006 | F1.20 | F-A |
| MS0243WELD | WELD | XI | 100 | | | UT-E | | | 11/11/2009 | | | Acceptable | 1D-ISI-MS-006 | R1.11/R1.18 | R-A |
| MS0244WELD | WELD | XI | 100 | | | UT-E | | | 11/7/2009 | | | Acceptable | 1D-ISI-MS-006 | R1.11/R1.18 | R-A |
| MS0247WELD | WELD | XI | 100 | | | UT-E | | | 11/14/2009 | | | Acceptable | 1D-ISI-MS-006 | R1.11/R1.18 | R-A |
| MS0289SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | FT | | 11/25/2009 | | | Acceptable | 1D-ISI-MS-004 | F1.40 | F-A |
| MS0292SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | FT | | 11/19/2009 | | | Acceptable | 1D-ISI-MS-001 | F1.20 | F-A |
| MU0042WELD | WELD | PSI | 100 | | | RT | | | 1/3/2010 | | | Acceptable | 1D-ISI-MU-033 | R1.11 | R-A |
| MU0135WELD | WELD | PSI | 100 | | | RT | | | 1/3/2010 | | | Acceptable | 1D-ISI-MU-034 | R1.11 | R-A |
| MU0139WELD | WELD | PSI | 100 | | | RT | | | 1/3/2010 | | | Acceptable | 1D-ISI-MU-034 | R1.11 | R-A |
| MU0556SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-022 | R1.20 | R-A |
| MU0557SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-022 | R1.20 | R-A |
| MU0558SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-022 | R1.20 | R-A |
| MU0558SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-022 | R1.20 | R-A |
| MU0560SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-022 | R1.20 | R-A |

Enclosure 1, Tab 4, Examinations Performed
 Owner: Exelon Nuclear, 200 Exelon Way, Kennett Square, PA
 Plant: Three Mile Island Nuclear Generating Station, Route 441 South Middletown, PA
 Plant Unit: 1

Owner Certificate of Authorization: NA
 Commercial Service Date: September 2, 1974
 National Board number for Unit: Reactor Vessel N-109

| Identification | Component | Basis | % Coverage | % Coverage | % Coverage | NDE Method | NDE Method | NDE Method | Exam Date | Exam Date | Exam Date | Results | Drawing | Item Numbers | Cat. Number |
|----------------|-----------|-------|------------|------------|------------|------------|------------|------------|-----------|-----------|-----------|------------|---------------|--------------|-------------|
| MU0561SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-022 | R1.20 | R-A |
| MU0562SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-022 | R1.20 | R-A |
| MU0563SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-022 | R1.20 | R-A |
| MU0564SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-022 | R1.20 | R-A |
| MU0565SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-022 | R1.20 | R-A |
| MU0566SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-022 | R1.20 | R-A |
| MU0567SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-022 | R1.20 | R-A |
| MU0568SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-022 | R1.20 | R-A |
| MU0569SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-022 | R1.20 | R-A |
| MU0570SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-022 | R1.20 | R-A |
| MU0571SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-022 | R1.20 | R-A |
| MU0572SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-022 | R1.20 | R-A |
| MU0573SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-022 | R1.20 | R-A |
| MU0574SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-022 | R1.20 | R-A |
| MU0575SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-022 | R1.20 | R-A |
| MU0576SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-022 | R1.20 | R-A |
| MU0577SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-022 | R1.20 | R-A |
| MU0578SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-022 | R1.20 | R-A |
| MU0579SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-022 | R1.20 | R-A |
| MU0580SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-022 | R1.20 | R-A |
| MU0581SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-022 | R1.20 | R-A |
| MU0582SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-022 | R1.20 | R-A |
| MU0583SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-022 | R1.20 | R-A |
| MU0584SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-022 | R1.20 | R-A |

Enclosure 1, Tab 4, Examinations Performed
 Owner: Exelon Nuclear, 200 Exelon Way, Kennett Square, PA
 Plant: Three Mile Island Nuclear Generating Station, Route 441 South Middletown, PA
 Plant Unit: 1

Owner Certificate of Authorization: NA
 Commercial Service Date: September 2, 1974
 National Board number for Unit: Reactor Vessel N-109

| Identification | Component | Basis | % Coverage | % Coverage | % Coverage | NDE Method | NDE Method | NDE Method | Exam Date | Exam Date | Exam Date | Results | Drawing | Item Numbers | Cat. Number |
|----------------|-----------|-------|------------|------------|------------|------------|------------|------------|-----------|-----------|-----------|------------|---------------|--------------|-------------|
| MU0585SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-022 | R1.20 | R-A |
| MU0586SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-022 | R1.20 | R-A |
| MU0587SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-022 | R1.20 | R-A |
| MU0589SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-023 | R1.20 | R-A |
| MU0590SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-023 | R1.20 | R-A |
| MU0591SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-023 | R1.20 | R-A |
| MU0592SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-023 | R1.20 | R-A |
| MU0593SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-023 | R1.20 | R-A |
| MU0594SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-023 | R1.20 | R-A |
| MU0595SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-023 | R1.20 | R-A |
| MU0596SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-023 | R1.20 | R-A |
| MU0597SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-023 | R1.20 | R-A |
| MU0598SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-023 | R1.20 | R-A |
| MU0599SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-023 | R1.20 | R-A |
| MU0600SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-023 | R1.20 | R-A |
| MU0601SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-023 | R1.20 | R-A |
| MU0602SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-023 | R1.20 | R-A |
| MU0603SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-023 | R1.20 | R-A |
| MU0604SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-023 | R1.20 | R-A |
| MU0605SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-023 | R1.20 | R-A |
| MU0606SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-023 | R1.20 | R-A |
| MU0607SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-023 | R1.20 | R-A |
| MU0608SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-023 | R1.20 | R-A |
| MU0609SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-023 | R1.20 | R-A |

Enclosure 1, Tab 4, Examinations Performed
 Owner: Exelon Nuclear, 200 Exelon Way, Kennett Square, PA
 Plant: Three Mile Island Nuclear Generating Station, Route 441 South Middletown, PA
 Plant Unit: 1

Owner Certificate of Authorization: NA
 Commercial Service Date: September 2, 1974
 National Board number for Unit: Reactor Vessel N-109

| Identification | Component | Basis | % Coverage | % Coverage | % Coverage | NDE Method | NDE Method | NDE Method | Exam Date | Exam Date | Exam Date | Results | Drawing | Item Numbers | Cal Number |
|---------------------|-----------|-------|------------|------------|------------|------------|------------|------------|------------|-----------|-----------|------------|---------------|--------------|------------|
| MU0610SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-023 | R1.20 | R-A |
| MU0613SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-023 | R1.20 | R-A |
| MU0614SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-023 | R1.20 | R-A |
| MU0631SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-024 | R1.20 | R-A |
| MU0632SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-024 | R1.20 | R-A |
| MU0633SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-024 | R1.20 | R-A |
| MU0634SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-024 | R1.20 | R-A |
| MU0635SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-024 | R1.20 | R-A |
| MU0636SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-024 | R1.20 | R-A |
| MU0637SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-025 | R1.20 | R-A |
| MU0638SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-025 | R1.20 | R-A |
| MU0900BMWELD | WELD | PSI | 100 | | | UT-E | | | 12/4/2009 | | | Acceptable | 1D-ISI-MU-033 | R1.11 | R-A |
| MU0901BMWELD | WELD | PSI | 50 | | | UT-E | | | 12/14/2009 | | | Acceptable | 1D-ISI-MU-033 | R1.11 | R-A |
| MU0902BMWELD | WELD | PSI | 100 | | | UT-E | | | 12/9/2009 | | | Acceptable | 1D-ISI-MU-033 | R1.11 | R-A |
| MU0903BMWELD | WELD | PSI | 50 | | | UT-E | | | 12/14/2009 | | | Acceptable | 1D-ISI-MU-033 | R1.11 | R-A |
| MU0907BMWELD | WELD | PSI | 50 | | | UT-E | | | 1/4/2010 | | | Acceptable | 1D-ISI-MU-034 | R1.11 | R-A |
| MU0908BMWELD | WELD | PSI | 100 | | | UT-E | | | 12/5/2009 | | | Acceptable | 1D-ISI-MU-034 | R1.11 | R-A |
| MU0952BMWELD | WELD | PSI | 50 | | | UT-E | | | 12/17/2009 | | | Acceptable | 1D-ISI-MU-034 | R1.11 | R-A |
| MU0953BMWELD | WELD | PSI | 100 | | | UT-E | | | 12/4/2009 | | | Acceptable | 1D-ISI-MU-034 | R1.11 | R-A |
| MUC0001AMU1036LWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-036 | 1.11/B2.70 | B-B |
| MUC0001AMU1037LWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-MU-036 | 1.11/B2.70 | B-B |
| MUE0004SUPPORT | SUPPORT | XI | 100 | | | VT-3 | | | 6/15/2009 | | | Acceptable | 1D-ISI-MU-035 | F1.20 | F-A |
| MUE0006SUPPORT | SUPPORT | XI | 100 | | | VT-3 | | | 7/13/2009 | | | Acceptable | 1D-ISI-MU-035 | F1.20 | F-A |
| MUE0008SUPPORT | SUPPORT | XI | 100 | | | VT-3 | | | 7/13/2009 | | | Acceptable | 1D-ISI-MU-035 | F1.20 | F-A |

Enclosure 1, Tab 4, Examinations Performed
 Owner: Exelon Nuclear, 200 Exelon Way, Kennett Square, PA
 Plant: Three Mile Island Nuclear Generating Station, Route 441 South Middletown, PA
 Plant Unit: 1

Owner Certificate of Authorization: NA
 Commercial Service Date: September 2, 1974
 National Board number for Unit: Reactor Vessel N-109

| Identification | Component | Basis | % Coverage | % Coverage | % Coverage | NDE Method | NDE Method | NDE Method | Exam Date | Exam Date | Exam Date | Results | Drawing | Item Numbers | Cat Number |
|-----------------|-----------|-------|------------|------------|------------|------------|------------|------------|------------|-----------|-----------|------------|---------------|--------------|------------|
| MUE0038SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | FT | | 1/6/2010 | | | Acceptable | 1D-ISI-MU-034 | F1.10 | F-A |
| MUE0039SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 1/6/2010 | | | Acceptable | 1D-ISI-MU-034 | F1.10 | F-A |
| MUE0043SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | FT | | 1/13/2010 | | | Acceptable | 1D-ISI-MU-033 | F1.10 | F-A |
| MUE0044SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 1/11/2010 | | | Acceptable | 1D-ISI-MU-033 | F1.10 | F-A |
| MUH0050SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 1/11/2010 | | | Acceptable | 1D-ISI-MU-034 | F1.10 | F-A |
| MUH0051SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 1/11/2010 | | | Acceptable | 1D-ISI-MU-034 | F1.10 | F-A |
| MUH0052SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 1/11/2010 | | | Acceptable | 1D-ISI-MU-034 | F1.10 | F-A |
| MUH0053SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 1/11/2010 | | | Acceptable | 1D-ISI-MU-034 | F1.10 | F-A |
| MUH0054SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 1/11/2010 | | | Acceptable | 1D-ISI-MU-034 | F1.10 | F-A |
| MUH0070SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 1/11/2010 | | | Acceptable | 1D-ISI-MU-034 | F1.10 | F-A |
| MUH0075SUPPORT | SUPPORT | XI | 100 | | | VT-3 | | | 7/13/2009 | | | Acceptable | 1D-ISI-MU-039 | F1.20 | F-A |
| MUH0085SUPPORT | SUPPORT | XI | 100 | | | VT-3 | | | 7/13/2009 | | | Acceptable | 1D-ISI-MU-039 | F1.20 | F-A |
| MUH0203SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 1/11/2010 | | | Acceptable | 1D-ISI-MU-033 | F1.10 | F-A |
| MUH0204SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 1/11/2010 | | | Acceptable | 1D-ISI-MU-033 | F1.10 | F-A |
| MUH0205SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 1/11/2010 | | | Acceptable | 1D-ISI-MU-033 | F1.10 | F-A |
| MUH0206SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 1/11/2010 | | | Acceptable | 1D-ISI-MU-033 | F1.10 | F-A |
| MUH0218SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 1/11/2010 | | | Acceptable | 1D-ISI-MU-033 | F1.10 | F-A |
| MUH0219SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 1/11/2010 | | | Acceptable | 1D-ISI-MU-033 | F1.10 | F-A |
| MUH0220SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 1/11/2010 | | | Acceptable | 1D-ISI-MU-033 | F1.10 | F-A |
| MUH0221SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 1/11/2010 | | | Acceptable | 1D-ISI-MU-033 | F1.10 | F-A |
| MUH0331SUPPORT | SUPPORT | XI | 100 | | | VT-3 | | | 6/25/2009 | | | Acceptable | 1D-ISI-MU-039 | F1.20 | F-A |
| MUP0001BSUPPORT | SUPPORT | XI | 100 | | | VT-3 | | | 10/29/2009 | | | Acceptable | 1D-ISI-MU-042 | F1.40 | F-A |
| RC0007SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | FT | | 10/30/2009 | | | Acceptable | 1D-ISI-RC-004 | F1.10 | F-A |
| RC0014SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | FT | | 1/13/2010 | | | Acceptable | 1D-ISI-RC-005 | F1.10 | F-A |

Enclosure 1, Tab 4, Examinations Performed
 Owner: Exelon Nuclear, 200 Exelon Way, Kennett Square, PA
 Plant: Three Mile Island Nuclear Generating Station, Route 441 South Middletown, PA
 Plant Unit: 1

Owner Certificate of Authorization: NA
 Commercial Service Date: September 2, 1974
 National Board number for Unit: Reactor Vessel N-109

| Identification | Component | Basis | % Coverage | % Coverage | % Coverage | NDE Method | NDE Method | NDE Method | Exam Date | Exam Date | Exam Date | Results | Drawing | Item Numbers | Cal. Number |
|----------------|-----------|-------|------------|------------|------------|------------|------------|------------|------------|------------|-----------|------------|---------------|---------------|-------------|
| RC0017SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | FT | | 10/31/2009 | | | Acceptable | 1D-ISI-RC-004 | F1.40 | F-A |
| RC0019SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | FT | | 10/31/2009 | | | Acceptable | 1D-ISI-RC-004 | F1.10 | F-A |
| RC0024BMWELD | WELD | AUG | 100 | 100 | | BMV | | | 11/27/2009 | 11/11/2009 | | Acceptable | 1D-ISI-RC-001 | R1.20/B15.215 | R-A |
| RC0043BMWELD | WELD | AUG | 100 | 100 | | BMV | | | 11/9/2009 | 11/27/2009 | | Acceptable | 1D-ISI-RC-001 | R1.20/B15.215 | R-A |
| RC0078BMWELD | WELD | AUG | 100 | 94 | | BMV | | | 11/10/2009 | 11/30/2009 | | Acceptable | 1D-ISI-RC-003 | R1.20/B15.215 | R-A |
| RC0097BMWELD | WELD | AUG | 100 | 100 | | BMV | | | 11/10/2009 | 12/1/2009 | | Acceptable | 1D-ISI-RC-003 | R1.20/B15.215 | R-A |
| RC0122BMWELD | WELD | AUG | 100 | 100 | | BMV | | | 11/6/2009 | 12/1/2009 | | Acceptable | 1D-ISI-RC-002 | R1.20/B15.215 | R-A |
| RC0134BMWELD | WELD | AUG | 100 | 100 | | BMV | | | 11/10/2009 | 11/20/2009 | | Acceptable | 1D-ISI-RC-001 | R1.20/B15.215 | R-A |
| RC0155BMWELD | WELD | AUG | 100 | 100 | | BMV | | | 11/6/2009 | 11/27/2009 | | Acceptable | 1D-ISI-RC-004 | R1.20/B15.215 | R-A |
| RC0160BMWELD | WELD | AUG | 100 | 100 | | BMV | | | 11/6/2009 | 11/26/2009 | | Acceptable | 1D-ISI-RC-004 | R1.20/B15.215 | R-A |
| RC0291BMWELD | WELD | AUG | 100 | | | BMV | | | 10/30/2009 | | | Acceptable | 1D-ISI-RC-005 | B15.180 | NA |
| RC0292BMWELD | WELD | AUG | 100 | | | BMV | | | 10/30/2009 | | | Acceptable | 1D-ISI-RC-005 | B15.180 | NA |
| RC0293BMWELD | WELD | AUG | 100 | | | BMV | | | 10/30/2009 | | | Acceptable | 1D-ISI-RC-005 | B15.180 | NA |
| RC0294BMWELD | WELD | AUG | 100 | | | BMV | | | 10/30/2009 | | | Acceptable | 1D-ISI-RC-005 | B15.180 | NA |
| RC0295BMWELD | WELD | AUG | 100 | | | BMV | | | 10/30/2009 | | | Acceptable | 1D-ISI-RC-005 | B15.180 | NA |
| RC0296BMWELD | WELD | AUG | 100 | | | BMV | | | 10/30/2009 | | | Acceptable | 1D-ISI-RC-005 | B15.180 | NA |
| RC0297BMWELD | WELD | AUG | 100 | | | BMV | | | 11/3/2009 | | | Acceptable | 1D-ISI-RC-005 | B15.180 | NA |
| RC0298BMWELD | WELD | AUG | 100 | | | BMV | | | 11/3/2009 | | | Acceptable | 1D-ISI-RC-005 | B15.180 | NA |
| RC0299BMWELD | WELD | AUG | 100 | | | BMV | | | 11/3/2009 | | | Acceptable | 1D-ISI-RC-005 | B15.180 | NA |
| RC0300BMWELD | WELD | AUG | 100 | | | BMV | | | 11/3/2009 | | | Acceptable | 1D-ISI-RC-005 | B15.180 | NA |
| RC0301BMWELD | WELD | AUG | 100 | | | BMV | | | 11/3/2009 | | | Acceptable | 1D-ISI-RC-005 | B15.180 | NA |
| RC0302BMWELD | WELD | AUG | 100 | | | BMV | | | 11/3/2009 | | | Acceptable | 1D-ISI-RC-005 | B15.180 | NA |
| RC0311BMWELD | WELD | AUG | 100 | | | BMV | | | 10/30/2009 | | | Acceptable | 1D-ISI-RC-005 | B15.180 | NA |
| RC0312BMWELD | WELD | AUG | 100 | | | BMV | | | 10/30/2009 | | | Acceptable | 1D-ISI-RC-005 | B15.180 | NA |

Enclosure 1, Tab 4, Examinations Performed
 Owner: Exelon Nuclear, 200 Exelon Way, Kennett Square, PA
 Plant: Three Mile Island Nuclear Generating Station, Route 441 South Middletown, PA
 Plant Unit: 1

Owner Certificate of Authorization: NA
 Commercial Service Date: September 2, 1974
 National Board number for Unit: Reactor Vessel N-109

| Identification | Component | Basis | % Coverage | % Coverage | % Coverage | NDE Method | NDE Method | NDE Method | Exam Date | Exam Date | Exam Date | Results | Drawing | Item Numbers | Cal. Number |
|---------------------------|-----------|-------|------------|------------|------------|------------|------------|------------|------------|-----------|-----------|------------|---------------|--------------|-------------|
| RC0348SWWELD | WELD | AUG | 100 | | | BMV | | | 11/2/2009 | | | Acceptable | 1D-ISI-RC-012 | B15.140 | NA |
| RC0349BWELD | WELD | AUG | 100 | | | BMV | | | 10/30/2009 | | | Acceptable | 1D-ISI-RC-012 | B15.180 | NA |
| RC0350SWWELD | WELD | AUG | 100 | | | BMV | | | 11/2/2009 | | | Acceptable | 1D-ISI-RC-012 | B15.140 | NA |
| RCH0001ARCH1A1SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 12/15/2009 | | | Acceptable | 1D-ISI-RC-008 | F1.40 | F-A |
| RCH0001ARCH1A2SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 12/17/2009 | | | Acceptable | 1D-ISI-RC-008 | F1.40 | F-A |
| RCH0001ARCH1A3SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 12/17/2009 | | | Acceptable | 1D-ISI-RC-008 | F1.40 | F-A |
| RCH0001ARCH1A4SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 12/17/2009 | | | Acceptable | 1D-ISI-RC-008 | F1.40 | F-A |
| RCH0001ARCH1A5SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 12/22/2009 | | | Acceptable | 1D-ISI-RC-008 | F1.40 | F-A |
| RCH0001BRCH1B1SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 12/30/2009 | | | Acceptable | 1D-ISI-RC-009 | F1.40 | F-A |
| RCH0001BRCH1B2SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 12/18/2009 | | | Acceptable | 1D-ISI-RC-009 | F1.40 | F-A |
| RCH0001BRCH1B3SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 12/18/2009 | | | Acceptable | 1D-ISI-RC-009 | F1.40 | F-A |
| RCH0001BRCH1B4SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 12/18/2009 | | | Acceptable | 1D-ISI-RC-009 | F1.40 | F-A |
| RCH0001BRCH1B5SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 12/22/2009 | | | Acceptable | 1D-ISI-RC-009 | F1.40 | F-A |
| RCP0001ARC0257SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-RC-006 | R1.20 | R-A |
| RCP0001ARCP0001A10SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 12/30/2009 | | | Acceptable | 1D-ISI-RC-006 | F1.40 | F-A |
| RCP0001ARCP0001A11SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 12/30/2009 | | | Acceptable | 1D-ISI-RC-006 | F1.40 | F-A |
| RCP0001BRCP0001B10SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 12/30/2009 | | | Acceptable | 1D-ISI-RC-006 | F1.40 | F-A |
| RCP0001BRCP0001B11SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 12/30/2009 | | | Acceptable | 1D-ISI-RC-006 | F1.40 | F-A |
| RCP0001CRCP0001C10SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 12/30/2009 | | | Accepted | 1D-ISI-RC-007 | F1.40 | F-A |
| RCP0001CRCP0001C11SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 12/30/2009 | | | Acceptable | 1D-ISI-RC-007 | F1.40 | F-A |
| RCP0001DRCP0001D10SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 12/30/2009 | | | Acceptable | 1D-ISI-RC-007 | F1.40 | F-A |
| RCP0001DRCP0001D11SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 1/3/2010 | | | Acceptable | 1D-ISI-RC-007 | F1.40 | F-A |
| RCT0001INCORENOZZLES | WELD | AUG | 100 | | | BMV | | | 10/29/2009 | | | Acceptable | 1D-ISI-RC-010 | B15.80 | NA |
| RCT0001RH0001FFLANGE | FLANGE | XI | 96.54 | | | UT | | | 10/31/2009 | | | Acceptable | 1D-ISI-RC-010 | B6.40 | B-G-1 |

Enclosure 1, Tab 4, Examinations Performed
 Owner: Exelon Nuclear, 200 Exelon Way, Kennett Square, PA
 Plant: Three Mile Island Nuclear Generating Station, Route 441 South Middletown, PA
 Plant Unit: 1

Owner Certificate of Authorization: NA
 Commercial Service Date: September 2, 1974
 National Board number for Unit: Reactor Vessel N-109

| Identification | Component | Basis | % Coverage | % Coverage | % Coverage | NDE Method | NDE Method | NDE Method | Exam Date | Exam Date | Exam Date | Results | Drawing | Item Numbers | Cat. Number |
|----------------------|-----------|-------|------------|------------|------------|------------|------------|------------|------------|------------|-----------|------------|---------------|--------------|-------------|
| RCT0001RH0001M&QBOLT | BOLT | XI | 100 | 100 | | UT | VT-1 | | 11/12/2009 | 11/18/2009 | | Acceptable | 1D-ISI-RC-010 | B6.30/B6.10 | B-G-1 |
| RCT0001RH0001WBOLT | BOLT | XI | 100 | | | | VT-1 | | | 11/18/2009 | | Acceptable | 1D-ISI-RC-010 | B6.50 | B-G-1 |
| RCT0001RH0002FFLANGE | FLANGE | XI | 96.54 | | | | UT | | | 10/31/2009 | | Acceptable | 1D-ISI-RC-010 | B6.40 | B-G-1 |
| RCT0001RH0002M&QBOLT | BOLT | XI | 100 | 100 | | UT | VT-1 | | 11/12/2009 | 11/18/2009 | | Acceptable | 1D-ISI-RC-010 | B6.30/B6.10 | B-G-1 |
| RCT0001RH0002WBOLT | BOLT | XI | 100 | | | | VT-1 | | | 11/18/2009 | | Acceptable | 1D-ISI-RC-010 | B6.50 | B-G-1 |
| RCT0001RH0003FFLANGE | FLANGE | XI | 96.54 | | | | UT | | | 10/31/2009 | | Acceptable | 1D-ISI-RC-010 | B6.40 | B-G-1 |
| RCT0001RH0003M&QBOLT | BOLT | XI | 100 | 100 | | UT | VT-1 | | 11/12/2009 | 11/18/2009 | | Acceptable | 1D-ISI-RC-010 | B6.30/B6.10 | B-G-1 |
| RCT0001RH0003WBOLT | BOLT | XI | 100 | | | | VT-1 | | | 11/18/2009 | | Acceptable | 1D-ISI-RC-010 | B6.50 | B-G-1 |
| RCT0001RH0004FFLANGE | FLANGE | XI | 96.54 | | | | UT | | | 10/31/2009 | | Acceptable | 1D-ISI-RC-010 | B6.40 | B-G-1 |
| RCT0001RH0004M&QBOLT | BOLT | XI | 100 | 100 | | UT | VT-1 | | 11/12/2009 | 11/18/2009 | | Acceptable | 1D-ISI-RC-010 | B6.30/B6.10 | B-G-1 |
| RCT0001RH0004WBOLT | BOLT | XI | 100 | | | | VT-1 | | | 11/18/2009 | | Acceptable | 1D-ISI-RC-010 | B6.50 | B-G-1 |
| RCT0001RH0005FFLANGE | FLANGE | XI | 96.54 | | | | UT | | | 10/31/2009 | | Acceptable | 1D-ISI-RC-010 | B6.40 | B-G-1 |
| RCT0001RH0005M&QBOLT | BOLT | XI | 100 | 100 | | UT | VT-1 | | 11/12/2009 | 11/18/2009 | | Acceptable | 1D-ISI-RC-010 | B6.30/B6.10 | B-G-1 |
| RCT0001RH0005WBOLT | BOLT | XI | 100 | | | | VT-1 | | | 11/18/2009 | | Acceptable | 1D-ISI-RC-010 | B6.50 | B-G-1 |
| RCT0001RH0006FFLANGE | FLANGE | XI | 96.54 | | | | UT | | | 10/31/2009 | | Acceptable | 1D-ISI-RC-010 | B6.40 | B-G-1 |
| RCT0001RH0006M&QBOLT | BOLT | XI | 100 | 100 | | UT | VT-1 | | 11/12/2009 | 11/18/2009 | | Acceptable | 1D-ISI-RC-010 | B6.30/B6.10 | B-G-1 |
| RCT0001RH0006WBOLT | BOLT | XI | 100 | | | | VT-1 | | | 11/18/2009 | | Acceptable | 1D-ISI-RC-010 | B6.50 | B-G-1 |
| RCT0001RH0007FFLANGE | FLANGE | XI | 96.54 | | | | UT | | | 10/31/2009 | | Acceptable | 1D-ISI-RC-010 | B6.40 | B-G-1 |
| RCT0001RH0007M&QBOLT | BOLT | XI | 100 | 100 | | UT | VT-1 | | 11/11/2009 | 11/18/2009 | | Acceptable | 1D-ISI-RC-010 | B6.30/B6.10 | B-G-1 |
| RCT0001RH0007WBOLT | BOLT | XI | 100 | | | | VT-1 | | | 11/18/2009 | | Acceptable | 1D-ISI-RC-010 | B6.50 | B-G-1 |
| RCT0001RH0008FFLANGE | FLANGE | XI | 96.54 | | | | UT | | | 10/31/2009 | | Acceptable | 1D-ISI-RC-010 | B6.40 | B-G-1 |
| RCT0001RH0008M&QBOLT | BOLT | XI | 100 | 100 | | UT | VT-1 | | 11/11/2009 | 11/18/2009 | | Acceptable | 1D-ISI-RC-010 | B6.30/B6.10 | B-G-1 |
| RCT0001RH0008WBOLT | BOLT | XI | 100 | | | | VT-1 | | | 11/18/2009 | | Acceptable | 1D-ISI-RC-010 | B6.50 | B-G-1 |
| RCT0001RH0009FFLANGE | FLANGE | XI | 96.54 | | | | UT | | | 10/31/2009 | | Acceptable | 1D-ISI-RC-010 | B6.40 | B-G-1 |

Enclosure 1, Tab 4, Examinations Performed
 Owner: Exelon Nuclear, 200 Exelon Way, Kennett Square, PA
 Plant: Three Mile Island Nuclear Generating Station, Route 441 South Middletown, PA
 Plant Unit: 1

Owner Certificate of Authorization: NA
 Commercial Service Date: September 2, 1974
 National Board number for Unit: Reactor Vessel N-109

| Identification | Component | Basis | % Coverage | % Coverage | % Coverage | NDE Method | NDE Method | NDE Method | Exam Date | Exam Date | Exam Date | Results | Drawing | Item Numbers | Cat. Number |
|----------------------|-----------|-------|------------|------------|------------|------------|------------|------------|------------|------------|-----------|------------|---------------|--------------|-------------|
| RCT0001RH0009M&QBOLT | BOLT | XI | 100 | 100 | | UT | VT-1 | | 11/11/2009 | 11/18/2009 | | Acceptable | 1D-ISI-RC-010 | B6.30/B6.10 | B-G-1 |
| RCT0001RH0009WBOLT | BOLT | XI | 100 | | | | VT-1 | | 11/18/2009 | | | Acceptable | 1D-ISI-RC-010 | B6.50 | B-G-1 |
| RCT0001RH0010FFLANGE | FLANGE | XI | 96.54 | | | UT | | | 10/31/2009 | | | Acceptable | 1D-ISI-RC-010 | B6.40 | B-G-1 |
| RCT0001RH0010M&QBOLT | BOLT | XI | 100 | 100 | | UT | VT-1 | | 11/11/2009 | 11/18/2009 | | Acceptable | 1D-ISI-RC-010 | B6.30/B6.10 | B-G-1 |
| RCT0001RH0010WBOLT | BOLT | XI | 100 | | | | VT-1 | | 11/18/2009 | | | Acceptable | 1D-ISI-RC-010 | B6.50 | B-G-1 |
| RCT0001RH0011FFLANGE | FLANGE | XI | 96.54 | | | UT | | | 10/31/2009 | | | Acceptable | 1D-ISI-RC-010 | B6.40 | B-G-1 |
| RCT0001RH0011M&QBOLT | BOLT | XI | 100 | 100 | | UT | VT-1 | | 11/11/2009 | 11/18/2009 | | Acceptable | 1D-ISI-RC-010 | B6.30/B6.10 | B-G-1 |
| RCT0001RH0011WBOLT | BOLT | XI | 100 | | | | VT-1 | | 11/18/2009 | | | Acceptable | 1D-ISI-RC-010 | B6.50 | B-G-1 |
| RCT0001RH0012FFLANGE | FLANGE | XI | 96.54 | | | UT | | | 10/31/2009 | | | Acceptable | 1D-ISI-RC-010 | B6.40 | B-G-1 |
| RCT0001RH0012M&QBOLT | BOLT | XI | 100 | 100 | | UT | VT-1 | | 11/11/2009 | 11/18/2009 | | Acceptable | 1D-ISI-RC-010 | B6.30/B6.10 | B-G-1 |
| RCT0001RH0012WBOLT | BOLT | XI | 100 | | | | VT-1 | | 11/18/2009 | | | Acceptable | 1D-ISI-RC-010 | B6.50 | B-G-1 |
| RCT0001RH0013FFLANGE | FLANGE | XI | 96.54 | | | UT | | | 10/31/2009 | | | Acceptable | 1D-ISI-RC-010 | B6.40 | B-G-1 |
| RCT0001RH0013M&QBOLT | BOLT | XI | 100 | 100 | | UT | VT-1 | | 11/13/2009 | 11/18/2009 | | Acceptable | 1D-ISI-RC-010 | B6.30/B6.10 | B-G-1 |
| RCT0001RH0013WBOLT | BOLT | XI | 100 | | | | VT-1 | | 11/18/2009 | | | Acceptable | 1D-ISI-RC-010 | B6.50 | B-G-1 |
| RCT0001RH0014FFLANGE | FLANGE | XI | 96.54 | | | UT | | | 10/31/2009 | | | Acceptable | 1D-ISI-RC-010 | B6.40 | B-G-1 |
| RCT0001RH0014M&QBOLT | BOLT | XI | 100 | 100 | | UT | VT-1 | | 11/13/2009 | 11/18/2009 | | Acceptable | 1D-ISI-RC-010 | B6.30/B6.10 | B-G-1 |
| RCT0001RH0014WBOLT | BOLT | XI | 100 | | | | VT-1 | | 11/18/2009 | | | Acceptable | 1D-ISI-RC-010 | B6.50 | B-G-1 |
| RCT0001RH0015FFLANGE | FLANGE | XI | 92.58 | | | UT | | | 10/31/2009 | | | Acceptable | 1D-ISI-RC-010 | B6.40 | B-G-1 |
| RCT0001RH0015M&QBOLT | BOLT | XI | 100 | 100 | | UT | VT-1 | | 11/13/2009 | 11/18/2009 | | Acceptable | 1D-ISI-RC-010 | B6.30/B6.10 | B-G-1 |
| RCT0001RH0015WBOLT | BOLT | XI | 100 | | | | VT-1 | | 11/18/2009 | | | Acceptable | 1D-ISI-RC-010 | B6.50 | B-G-1 |
| RCT0001RH0016FFLANGE | FLANGE | XI | 96.54 | | | UT | | | 10/31/2009 | | | Acceptable | 1D-ISI-RC-010 | B6.40 | B-G-1 |
| RCT0001RH0016M&QBOLT | BOLT | XI | 100 | 100 | | UT | VT-1 | | 11/13/2009 | 11/18/2009 | | Acceptable | 1D-ISI-RC-010 | B6.30/B6.10 | B-G-1 |
| RCT0001RH0016WBOLT | BOLT | XI | 100 | | | | VT-1 | | 11/18/2009 | | | Acceptable | 1D-ISI-RC-010 | B6.50 | B-G-1 |
| RCT0001RH0017FFLANGE | FLANGE | XI | 96.54 | | | UT | | | 10/31/2009 | | | Acceptable | 1D-ISI-RC-010 | B6.40 | B-G-1 |

Enclosure 1, Tab 4, Examinations Performed
 Owner: Exelon Nuclear, 200 Exelon Way, Kennett Square, PA
 Plant: Three Mile Island Nuclear Generating Station, Route 441 South Middletown, PA
 Plant Unit: 1

Owner Certificate of Authorization: NA
 Commercial Service Date: September 2, 1974
 National Board number for Unit: Reactor Vessel N-109

| Identification | Component | Basis | % Coverage | % Coverage | % Coverage | NDE Method | NDE Method | NDE Method | Exam Date | Exam Date | Exam Date | Results | Drawing | Item Numbers | Cal. Number |
|-----------------------|-----------|-------|------------|------------|------------|------------|------------|------------|------------|------------|-----------|------------|---------------|---------------|-------------|
| RCT0001RH0017M&QBOLT | BOLT | XI | 100 | 100 | | UT | VT-1 | | 11/13/2009 | 11/18/2009 | | Acceptable | 1D-ISI-RC-010 | B6.30/B6.10 | B-G-1 |
| RCT0001RH0017WBOLT | BOLT | XI | 100 | | | | VT-1 | | 11/18/2009 | | | Acceptable | 1D-ISI-RC-010 | B6.50 | B-G-1 |
| RCT0001RH0018FFLANGE | FLANGE | XI | 96.54 | | | | UT | | 10/31/2009 | | | Acceptable | 1D-ISI-RC-010 | B6.40 | B-G-1 |
| RCT0001RH0018M&QBOLT | BOLT | XI | 100 | 100 | | UT | VT-1 | | 11/13/2009 | 11/18/2009 | | Acceptable | 1D-ISI-RC-010 | B6.30/B6.10 | B-G-1 |
| RCT0001RH0018WBOLT | BOLT | XI | 100 | | | | VT-1 | | 11/18/2009 | | | Acceptable | 1D-ISI-RC-010 | B6.50 | B-G-1 |
| RCT0001RH0019FFLANGE | FLANGE | XI | 96.54 | | | | UT | | 10/31/2009 | | | Acceptable | 1D-ISI-RC-010 | B6.40 | B-G-1 |
| RCT0001RH0019M&QBOLT | BOLT | XI | 100 | 100 | | UT | VT-1 | | 11/11/2009 | 11/18/2009 | | Acceptable | 1D-ISI-RC-010 | B6.30/B6.10 | B-G-1 |
| RCT0001RH0019WBOLT | BOLT | XI | 100 | | | | VT-1 | | 11/18/2009 | | | Acceptable | 1D-ISI-RC-010 | B6.50 | B-G-1 |
| RCT0001RH0020FFLANGE | FLANGE | XI | 96.54 | | | | UT | | 10/31/2009 | | | Acceptable | 1D-ISI-RC-010 | B6.40 | B-G-1 |
| RCT0001RH0020M&QBOLT | BOLT | XI | 100 | 100 | | UT | VT-1 | | 11/11/2009 | 11/18/2009 | | Acceptable | 1D-ISI-RC-010 | B6.30/B6.10 | B-G-1 |
| RCT0001RH0020WBOLT | BOLT | XI | 100 | | | | VT-1 | | 11/18/2009 | | | Acceptable | 1D-ISI-RC-010 | B6.50 | B-G-1 |
| RCT0001RV0009BMWELD | WELD | XI | 100 | 100 | 100 | UT | ET | PT | 12/3/2009 | 12/4/2009 | 12/4/09 | Acceptable | 1D-ISI-RC-010 | R1.20B15.95 | R-A |
| RCT0001RV0009BMWELD | WELD | PSI | 100 | 100 | 100 | ET | PT | UT | 12/31/2009 | 12/31/2009 | 12/30/09 | Acceptable | 1D-ISI-RC-010 | R1.20/B15.95 | R-A |
| RCT0001RV0010BMWELD | WELD | XI | 96 | 100 | 100 | UT-E | PT | ET | 11/24/2009 | 11/24/2009 | 11/24/09 | Acceptable | 1D-ISI-RC-010 | R1.20B15.95 | R-A |
| RCT0001RV0010BMWELD | WELD | PSI | 100 | 100 | 100 | PT | UT-E | ET | 12/23/2009 | 12/23/2009 | 12/23/09 | Acceptable | 1D-ISI-RC-010 | R1.20/B15.95 | R-A |
| RCT0002PR0008BTFLANGE | FLANGE | PSI | 100 | | | | VT-1 | | 12/3/2009 | | | Acceptable | 1D-ISI-RC-005 | B7.20 | B-G-2 |
| RCT0002PR0009BMWELD | WELD | AUG | 100 | | | | BMV | | 10/30/2009 | | | Acceptable | 1D-ISI-RC-012 | R1.15/B15.150 | R-A |
| SG-325-LPMBLTNG | BOLTING | PSI | 100 | | | | VT-1 | | 7/8/2009 | | | Acceptable | 1D-ISI-RC-008 | B7.30 | B-G-2 |
| SG-325-R/D-028A | WELD | PSI | 100 | | | | EVT | | 6/18/2009 | | | Acceptable | 1D-ISI-RC-008 | B3.140 | B-D |
| SG-325-R/D-028B | WELD | PSI | 100 | | | | | | 6/18/2009 | | | Acceptable | 1D-ISI-RC-008 | B3.140 | B-D |
| SG-325-R/D-035 | WELD | PSI | 100 | | | | EVT | | 6/19/2009 | | | Acceptable | 1D-ISI-RC-008 | B3.140 | B-D |
| SG-325-S/C-001 | WELD | PSI | 100 | | | | | | 6/19/2009 | | | Acceptable | 1D-ISI-RC-008 | B10.10 | B-K |
| SG-325-S/C-002 | WELD | PSI | 97.4 | | | | UT | | 7/7/2009 | | | Acceptable | 1D-ISI-RC-008 | B2.31 | B-B |
| SG-325-S/C-003 | WELD | PSI | 97.8 | | | | UT | | 7/7/2009 | | | Acceptable | 1D-ISI-RC-008 | B2.40 | B-B |

Enclosure 1, Tab 4, Examinations Performed
 Owner: Exelon Nuclear, 200 Exelon Way, Kennett Square, PA
 Plant: Three Mile Island Nuclear Generating Station, Route 441 South Middletown, PA
 Plant Unit: 1

Owner Certificate of Authorization: NA
 Commercial Service Date: September 2, 1974
 National Board number for Unit: Reactor Vessel N-109

| Identification | Component | Basis | % Coverage | % Coverage | % Coverage | NDE Method | NDE Method | NDE Method | Exam Date | Exam Date | Exam Date | Results | Drawing | Item Numbers | Cat. Number |
|--------------------------------|-----------|-------|------------|------------|------------|------------|------------|------------|-----------|-----------|-----------|------------|---------------|--------------|-------------|
| SG-325-S/C-004 | WELD | PSI | 98.1 | | | UT | | | 7/3/2009 | | | Acceptable | 1D-ISI-RC-008 | C1.30 | C-A |
| SG-325-S/C-008 | WELD | PSI | 99.8 | | | UT | | | 7/2/2009 | | | Acceptable | 1D-ISI-RC-008 | C1.30 | C-A |
| SG-325-S/C-009 | WELD | PSI | 97 | | | UT | | | 7/4/2009 | | | Acceptable | 1D-ISI-RC-008 | B2.40 | B-B |
| SG-325-S/C-010 | WELD | PSI | 100 | | | UT | | | 7/4/2009 | | | Acceptable | 1D-ISI-RC-008 | B2.31 | B-B |
| SG-325-S/C-011 | WELD | PSI | 90.1 | | | UT | | | 6/24/2009 | | | Acceptable | 1D-ISI-RC-008 | B2.31 | B-B |
| SG-325-S/C-015A | WELD | PSI | 100 | 100 | | UT-E | MT | | 7/4/2009 | 6/19/2009 | | Acceptable | 1D-ISI-RC-001 | R1.20 | R-A |
| SG-325-S/C-015B | WELD | PSI | 100 | 100 | | UT-E | MT | | 7/4/2009 | 6/18/2009 | | Acceptable | 1D-ISI-RC-001 | R1.20 | R-A |
| SG-325-S/C-016A | WELD | PSI | 100 | 100 | | UT-E | MT | | 7/4/2009 | 6/19/2009 | | Acceptable | 1D-ISI-RC-001 | R1.20 | R-A |
| SG-325-S/C-016B | WELD | PSI | 100 | 100 | | UT-E | MT | | 7/4/2009 | 6/18/2009 | | Acceptable | 1D-ISI-RC-001 | R1.20 | R-A |
| SG-325-S/T-003A | WELD | PSI | 100 | | | UT | | | 6/17/2009 | | | Acceptable | 1D-ISI-RC-008 | C2.21 | C-B |
| SG-325-S/T-003B | WELD | PSI | 100 | | | UT | | | 6/20/2009 | | | Acceptable | 1D-ISI-RC-008 | C2.21 | C-B |
| SG-325-UPIBLTNG | BOLTING | PSI | 100 | | | VT-1 | | | 7/8/2009 | | | Acceptable | 1D-ISI-RC-008 | B7.30 | B-G-2 |
| SG-325-UPMBLTNG | BOLTING | PSI | 100 | | | VT-1 | | | 7/8/2009 | | | Acceptable | 1D-ISI-RC-008 | B7.30 | B-G-2 |
| SG-326-LPMBLTNG | BOLTING | PSI | 100 | | | VT-1 | | | 7/8/2009 | | | Acceptable | 1D-ISI-RC-009 | B7.30 | B-G-2 |
| SG-326-R/D-028C (198° Azimuth) | WELD | PSI | 100 | | | EVT | | | 6/27/2009 | | | Acceptable | 1D-ISI-RC-009 | B3.140 | B-D |
| SG-326-R/D-028D (337° Azimuth) | WELD | PSI | 100 | | | EVT | | | 6/27/2009 | | | Acceptable | 1D-ISI-RC-009 | B3.140 | B-D |
| SG-326-R/D-035 | WELD | PSI | 100 | | | EVT | | | 6/27/2009 | | | Acceptable | 1D-ISI-RC-009 | B3.140 | B-D |
| SG-326-S/C-001 | WELD | PSI | 100 | | | MT | | | 6/25/2009 | | | Acceptable | 1D-ISI-RC-009 | B10.10 | B-K |
| SG-326-S/C-002 | WELD | PSI | 97.4 | | | UT | | | 7/2/2009 | | | Acceptable | 1D-ISI-RC-009 | B2.31 | B-B |
| SG-326-S/C-003 | WELD | PSI | 97.8 | | | UT | | | 7/2/2009 | | | Acceptable | 1D-ISI-RC-009 | B2.40 | B-B |
| SG-326-S/C-004 | WELD | PSI | 98.1 | | | UT | | | 7/3/2009 | | | Acceptable | 1D-ISI-RC-009 | C1.30 | C-A |
| SG-326-S/C-008 | WELD | PSI | 99.8 | | | UT | | | 6/29/2009 | | | Acceptable | 1D-ISI-RC-009 | C1.30 | C-A |
| SG-326-S/C-009 | WELD | PSI | 94.3 | | | UT | | | 7/2/2009 | | | Acceptable | 1D-ISI-RC-009 | B2.40 | B-B |
| SG-326-S/C-010 | WELD | PSI | 100 | | | UT | | | 7/2/2009 | | | Acceptable | 1D-ISI-RC-009 | B2.31 | B-B |

Enclosure 1, Tab 4, Examinations Performed
 Owner: Exelon Nuclear, 200 Exelon Way, Kennett Square, PA
 Plant: Three Mile Island Nuclear Generating Station, Route 441 South Middletown, PA
 Plant Unit: I

Owner Certificate of Authorization: NA
 Commercial Service Date: September 2, 1974
 National Board number for Unit: Reactor Vessel N-109

| Identification | Component | Basis | % Coverage | % Coverage | % Coverage | NDE Method | NDE Method | NDE Method | Exam Date | Exam Date | Exam Date | Results | Drawing | Item Numbers | Cat. Number |
|--------------------------------|-----------|-------|------------|------------|------------|------------|------------|------------|-----------|-----------|-----------|------------|---------------|-------------------------|-------------|
| SG-326-S/C-011 | WELD | PSI | 90.1 | | | UT | | | 7/3/2009 | | | Acceptable | 1D-ISI-RC-009 | B2.31 | B-B |
| SG-326-S/C-015C (198° Azimuth) | WELD | PSI | 100 | 100 | | UT-E | MT | | 6/25/2009 | 6/25/2009 | | Acceptable | 1D-ISI-RC-003 | R1.20 | R-A |
| SG-326-S/C-015D (337° Azimuth) | WELD | PSI | 100 | 100 | | UT-E | MT | | 7/4/2009 | 6/24/2009 | | Acceptable | 1D-ISI-RC-003 | R1.20 | R-A |
| SG-326-S/C-016C (198° Azimuth) | WELD | PSI | 100 | 100 | | UT-E | MT | | 7/4/2009 | 6/26/2009 | | Acceptable | 1D-ISI-RC-003 | R1.20 | R-A |
| SG-326-S/C-016D (337° Azimuth) | WELD | PSI | 100 | 100 | | UT-E | MT | | 7/4/2009 | 6/24/2009 | | Acceptable | 1D-ISI-RC-003 | R1.20 | R-A |
| SG-326-S/T-003C (28° Azimuth) | WELD | PSI | 100 | 100 | | UT | MT | | 6/24/2009 | 6/24/2009 | | Acceptable | 1D-ISI-RC-009 | C2.21 | C-B |
| SG-326-S/T-003D (151° Azimuth) | WELD | PSI | 100 | 100 | | UT | MT | | 6/24/2009 | 6/24/2009 | | Acceptable | 1D-ISI-RC-009 | C2.21 | C-B |
| SG-326-UPIBLTNG | BOLTING | PSI | 100 | | | VT-1 | | | 7/8/2009 | | | Acceptable | 1D-ISI-RC-009 | B7.30 | B-G-2 |
| SG-326-UPMBLTNG | BOLTING | PSI | 100 | | | VT-1 | | | 7/8/2009 | | | Acceptable | 1D-ISI-RC-009 | B7.30 | B-G-2 |
| SP0021BMWELD | WELD | AUG | 100 | | | | | | 11/2/2009 | | | Acceptable | 1D-ISI-RC-005 | R1.11/R1.15/ B15.150 | R-A |
| SP0062SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-RC-005 | R1.11 | R-A |
| SP0063SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-RC-005 | R1.11 | R-A |
| SP0064SWELD | WELD | XI | 100 | | | VT-2 | | | 1/20/2010 | | | Acceptable | 1D-ISI-RC-005 | R1.11 | R-A |
| SPSE0004SUPPORT | SUPPORT | XI | 100 | | | VT-3 | | | 6/29/2009 | | | Acceptable | 1D-ISI-BS-001 | F1.20 | F-A |
| SPSE0005SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 5/6/2008 | | | Acceptable | 1D-ISI-BS-001 | F1.20 | F-A |
| SPSE0011SUPPORT | SUPPORT | PSI | 100 | | | VT-3 | | | 1/6/2008 | | | Acceptable | 1D-ISI-BS-001 | F1.20 | F-A |

Enclosure 1, Tab 5, System Pressure Tests

1. OWNER: Exelon Nuclear
2. PLANT: Three Mile Island Nuclear Generating Station, Route 441 South, Middletown, Pennsylvania
3. PLANT UNIT: 1
4. OWNER CERTIFICATION OF AUTHORIZATION (if required): NONE
5. COMMERCIAL SERVICE DATE: 9/02/74
6. NATIONAL BOARD NUMBER FOR UNIT: Reactor Vessel N-109

CYCLE 17 AND OUTAGE T1R18

| IDENTIFICATION | Work Order | SYSTEM | NDE Method | EXAM DATE | REASON | REMARKS |
|----------------|------------|------------|------------|-------------|--------|--|
| 1300-6A | R2080313 | RB, IC, CA | VT-2 | 04/21/23009 | ISI | Minor surface corrosion identified on piping near valve RB-V-2A. No wall reduction observed. AR# A2222657 to clean and coat corroded area. |
| 1300-6F | R2071183 | SF | VT-2 | 04/01/2009 | ISI | None |
| OP-TM-211-261 | R2112838 | MU | VT-2 | 01/09/2010 | ISI | Packing leak on MU-V-12 acceptable. |
| OP-TM-211-251 | R2109101 | MU | VT-2 | 09/20/2009 | ISI | Packing leak on MU-V-64A acceptable |
| OP-TM-211-251 | R2111146 | MU | VT-2 | 10/26/2009 | ISI | None |
| OP-TM-211-251 | R2107715 | MU | VT-2 | 02/12/2008 | ISI | None |
| OP-TM-211-251 | R2108936 | MU | VT-2 | 08/31/2009 | ISI | Boron noted at valve MU-V-112 bonnet (acceptable). |
| OP-TM-211-262 | R2043724 | MU | VT-2 | 01/22/2010 | ISI | Packing leaks observed and acceptable. |
| OP-TM-212-215 | R2077941 | DH | VT-2 | 01/18/2010 | ISI | Acceptable. Minor mechanical joint leakage previously accepted. |
| OP-TM-212-217 | R2113091 | DH | VT-2 | 11/15/2009 | ISI | None |
| OP-TM-212-218 | R2113090 | DH | VT-2 | 11/15/2009 | ISI | None |
| OP-TM-212-251 | R2134679 | DH | VT-2 | 12/13/2009 | ISI | None |
| OP-TM-212-251 | R2092584 | DH | VT-2 | 11/04/2008 | ISI | None |
| OP-TM-212-251 | R2085475 | DH | VT-2 | 10/13/2008 | ISI | None |
| OP-TM-212-261 | R2043698 | DH | VT-2 | 01/20/2010 | ISI | None |
| OP-TM-213-251 | R2077789 | CF | VT-2 | 02/27/2009 | ISI | None |
| OP-TM-213-252 | R2077790 | CF | VT-2 | 02/27/2009 | ISI | None |
| OP-TM-213-261 | R2043696 | CF | VT-2 | 01/19/2010 | ISI | None |
| OP-TM-213-261 | R2043696 | CF | VT-2 | 01/21/2010 | ISI | None |

Enclosure 1, Tab 5, System Pressure Tests

1. OWNER: Exelon Nuclear
2. PLANT: Three Mile Island Nuclear Generating Station, Route 441 South, Middletown, Pennsylvania
3. PLANT UNIT: 1
4. OWNER CERTIFICATION OF AUTHORIZATION (if required): NONE
5. COMMERCIAL SERVICE DATE: 9/02/74
6. NATIONAL BOARD NUMBER FOR UNIT: Reactor Vessel N-109

| IDENTIFICATION | Work Order | SYSTEM | NDE Method | EXAM DATE | REASON | REMARKS |
|----------------|------------|-------------------|------------|------------|--------|---|
| OP-TM-213-262 | R2043697 | CF | VT-2 | 01/21/2010 | ISI | None |
| OP-TM-214-253 | R2107865 | BS | VT-2 | 07/15/2009 | ISI | None |
| OP-TM-214-254 | R2106713 | BS | VT-2 | 07/14/2009 | ISI | None |
| OP-TM-220-261 | R2113285 | RC, MU, DH, CF | VT-2 | 01/20/2010 | ISI | No through wall leakage detected. Mechanical joint leakage addressed by noted Issue Reports and evaluated as acceptable. |
| OP-TM-220-263 | R2042978 | RC | VT-2 | 01/21/2010 | ISI | None |
| OP-TM-411-251 | R2113489 | MS, FW, EF | VT-2 | 01/20/2010 | ISI | None |

| Component / Surveillance Identification | Condition(s) Noted and Corrective Actions |
|--|---|
| Reactor building electrical penetration 202E is missing paint on the exterior side of the penetration | The penetration condition is currently acceptable per IWE-3000 requirements. No reduction in material thickness was identified. Work action request A2240830 has been issued to apply paint in the missing paint location. |
| Minor rust/corrosion was identified on reactor building penetration 409 | The rust did not reduce the wall thickness of the component and is acceptable per IWE-3000 requirements. Work action request A2236718 has been issued to apply paint in the missing paint location. |
| Minor rust/corrosion was identified on reactor building penetration 410 | The rust did not reduce the wall thickness of the component and is acceptable per IWE-3000 requirements. Work action request A2236719 has been issued to apply paint in the missing paint location. |
| Minor rust/corrosion was identified on reactor building penetration 407 | The rust did not reduce the wall thickness of the component and is acceptable per IWE-3000 requirements. Work action request A2236720 has been issued to apply paint in the missing paint location. |
| Rust and coating failure present on reactor building equipment hatch | The rust did not reduce the wall thickness of the component and is acceptable per IWE-3000 requirements. The failed coating was removed per work order C2022436. Future coating repairs are being tracked per Passport assignment 997631-04. |
| Rust, corrosion, coating failures noted during reactor building containment liner examinations | The rust noted was accepted per IWE-3000. Coating conditions were evaluated and corrected per work order C2022436. Previously identified and accepted containment liner corrosion at the basement moisture barrier region was restored to >90% nominal thickness under work order C2020603. |
| Support EF0011 had a loose nut on one guide bolt. | The loose nut was acceptable per ASME Code Case N-491-2. The nut was subsequently tightened and a post tightening VT-3 performed to verify acceptability. |
| Constant supports EF0021, EF0022, EF0023, EF0024, EF0025, and EF0026 travel settings were out of tolerance | The condition was evaluated under issue report 997421. The segment of emergency feedwater piping where these supports are located was changed during steam generator replacement under ECR 07-00638. This modification changed the line configuration slightly to eliminate interferences that prevented appropriate line movement. |
| Nuclear Services River Water, Reactor Building Emergency Cooling Water, and Decay Heat River Water Systems | Implemented Code Case N-513-2 during operating cycle and completed required code repairs prior to restart from Outage T1R18. |

Enclosure 1, Tab 6 Conditions Noted and Corrective Actions
Owner: Exelon Nuclear, 200 Exelon Way, Kennett Square, PA
Plant: Three Mile Island Nuclear Generating Station, Route 441 South Middletown, PA
Plant Unit: 1
Owner Certificate of Authorization: NA
Commercial Service Date: September 2, 1974
National Board number for Unit: Reactor Vessel N-109

Page 2 of 2

| Component / Surveillance Identification | Condition(s) Noted and Corrective Actions |
|--|--|
| Reactor Building Tendon Grease Leakage | The lower end tendon end cap gaskets on nine tendons were replaced due to observed leakage and the tendons were re-greased. There was no change in previously observed grease seepage at vertical small cracks in the lower wall near the equipment hatch. This seepage has no structural significance and does not warrant re-greasing. |

TMI-10-033
April 21, 2010

ENCLOSURE 2

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As required by the Provisions of the ASME Code Section XI

1. Owner Exelon Nuclear Date March 18, 2010
Name _____
200 Exelon Way, Kennett Square, PA Sheet 1 of 1
Address _____
2. Plant Three Mile Island Generating Station Unit TMI-1
Name _____
Address C2020536 and C2020537
Repair Organization P.O. No., Job No., etc. _____
3. Work Performed by Exelon Nuclear Type Code Symbol Stamp N/A
Name _____
Authorization No. N/A
200 Exelon Way, Kennett Square, PA Expiration Date NA
Address _____
4. Identification of System 221 - REACTOR VESSEL
5. (a) Applicable Construction Code ASME Section III 1965 Class A 1965 Edition, Summer 1967, Addenda, 1337-4 and 1337-5 Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1995 through 1996

6. Identification of Components Repaired or Replaced and Replacement Components.

| Name of Component | Name of Manufacturer | Manufacturer Serial No. | National Board No. | Other Identification | Yr Built | Repaired, Replaced, or Replacement | ASME Code Stamped (Yes or No) |
|-------------------|--------------------------|-------------------------|--------------------|----------------------|----------|------------------------------------|-------------------------------|
| Reactor Vessel | Babcock & Wilcox Company | 620-0005-51 | N-109 | NA | 1970 | Repaired | Yes |

7. Description of Work: Applied cladding to the inside surface of two core flood nozzle to safe end welds.

8. Tests Conducted Hydrostatic Pneumatic Nominal Operating Pressure

Other Pressure 2176 psig Test Temp. 532°F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

This Form (E00030) may be obtained from the Order Dept., 22 Law drive, Box 2300, Fairfield, NJ 07007-2300. , New York, NY 10017

FORM NIS-2 (Back)

9. Remarks: cladding to the inside surface of two core flood nozzle to safe end welds.
Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

I certify that the statements made in the report are correct and that this conforms the requirements of ASME Code, Section XI.

Type of Code Symbol Stamp N/A

Certificate of Authorization No. N/A Expiration Date N/A

Signed Gene Navratil/ISI Program Specialist *Gene Navratil* Date March 18, 2010
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Pennsylvania and employed by Hartford Steam boiler I & I Co of CT of Hartford, CT, 06102 have inspected the components described in this Owner's Report during the period 9-15-09 to 3-23-10, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Joseph J. Shely Commissions PA NB 5478 A. N. I.
Inspector's Signature National Board, State, Province, and Endorsements

Date MARCH 23 2010

FORM NIS-2 (Back)

9. Remarks: one bonnet stud and two bonnet nuts on valve MU-V-112.
Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

I certify that the statements made in the report are correct and that this conforms the requirements of ASME Code, Section XI.

Type of Code Symbol Stamp N/A

Certificate of Authorization No. N/A Expiration Date N/A

Signed Gene Navratil/ISI Program Specialist *Gene Navratil* Date March 19, 2010
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Pennsylvania and employed by Hartford Steam boiler I & I Co of CT of Hartford, CT, 06102 have inspected the components described in this Owner's Report during the period 12-31-09 to 3-22-10, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Jessie S. Healy
Inspector's Signature

Commissions PA NB 5478 A. N. I.
National Board, State, Province, and Endorsements

Date 3/22 2010

-FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As required by the Provisions of the ASME Code Section XI

1. Owner Exelon Nuclear Date January 21, 2010
 Name _____
200 Exelon Way, Kennett Square, PA Sheet 1 of 1
 Address _____

2. Plant Three Mile Island Generating Station Unit TMI-1
 Name _____
Rt. 441 South, Middletown, PA, 17057 For EOTSG 1002556-00001, UHL 00417645
 Address _____ Repair Organization P.O. No., Job No., etc.

3. Work Performed by SGT Type Code Symbol Stamp N/A
 Name _____
 Authorization No. N/A
200 Exelon Way, Kennett Square, PA Expiration Date NA
 Address _____

4. Identification of System NSSS See Attachment 1 for additional systems, WO's and applicable Codes.

5. (a) Applicable Construction Code ASME Section III, 2001 Edition, 03 Addenda, N-725 Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1995 through 1996

6. Identification of Components Repaired or Replaced and Replacement Components.

| Name of Component | Name of Manufacturer | Manufacturer Serial No. | National Board No. | Other Identification | Yr Built | Repaired, Replaced, or Replacement | ASME Code Stamped (Yes or No) |
|---------------------|----------------------|-------------------------|--------------------|----------------------|----------|------------------------------------|-------------------------------|
| "A" Steam Generator | Areva NP, Inc. | GV/TM325 | 5 | NA | 2009 | Replaced | Yes |
| "A" UHL | Taylor Forge | 0199-1A | N/A | NA | 2009 | Replaced | Yes |

7. Description of Work: 1A Steam Generator Replacement

8. Tests Conducted Hydrostatic Pneumatic Nominal Operating Pressure

Other Pressure NOP (Ref. Section 9) psig Test Temp NOT

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

This Form (E00030) may be obtained from the Order Dept., 22 Law drive, Box 2300, Fairfield, NJ 07007-2300., New York, NY 10017

FORM NIS-2 (Back)

9. Remarks: See Attachment 1 for systems and applicable Codes, Utilized Code Case N-416-3 for pressure tests except for Blowdown System which received Section XI Hydrostatic Test at 1.25 Design Pressure.
Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

I certify that the statements made in the report are correct and that this conforms the requirements of ASME Code, Section XI.

Type of Code Symbol Stamp N/A

Certificate of Authorization No. N/A Expiration Date N/A

Signed Gene Navratil/ISI Program Specialist
Owner or Owner's Designee, Title

Date March 9, 2010

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of _____ and employed by Hartford Steam Boiler I & I Co of CT of Hartford, CT, 06102 have inspected the components described in this Owner's Report during the period 10-1-09 to 3-9-10, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Joseph P. Hully
Inspector's Signature

Commissions NB 5478 N.E.A. B 1287
National Board, State, Province, and Endorsements

Date March 9 2010

NIS-2 SGT EOTSG A & ASSOCIATED SYSTEMS REPLACEMENT ACTIVITIES

TMI Unit 1

ATTACHMENT 1

| System/Component | Const Code | R & R Code | Description |
|-----------------------------|--|--|---|
| Emergency Feedwater | B31.1 1967 | ASME Sec. III 2001 Ed/03 Add, Class 2 | WO# C2017971, WP# 3083A, Reinstallation of 6" EFW riser piping up to feed ring per ECR-06-00709 & ECR 07-00638 in support of TMI-1 EOTSG replacement activities |
| Reactor Coolant | USAS B31.7, Feb 1968 Draft with June 1968 Errata | USAS B31.7, Feb 1968 Draft with June 1968 Errata, Class 1 | WO# C2018069, WO# C2018071, WP# 3065C, 3065A, Replacement of 36 I.D. Hot Leg riser piping and 28" I.D. Cold Leg elbow at primary outlet per ECR-06-00759 in support of TMI-1 EOTSG replacement activities |
| Feedwater | B31.1 1967 | ASME Sec. III 2001 Ed/03 Add, Class 2 | WO# C2017973, WP# 3085A, Replacement of 14" FW riser piping up to feed ring per ECR-06-00709 in support of TMI-1 EOTSG replacement activities |
| Main Steam | B31.1 1967 | ASME Sec. III 2001 Ed/03 Add, Class 2 | WO# C2017934, WP# 3080A, Replacement of 24" Main Steam elbows per ECR-06-00708 in support of TMI-1 EOTSG replacement activities |
| Blowdown | B31.1 1967 | B31.1 1967 Class 2 | WO# C2020047, WP# 3521A, Modify existing Hot Drain and SG Sampling system to create an independent Steam Generator Blowdown system per ECR-07-00259 in support of TMI-1 EOTSG replacement activities |
| RCS Hot Leg Instrumentation | USAS B31.7, Feb 1968 Draft with June 1968 Errata | ASME Sec. III 2001 Ed/03 Add, Class 1 | WO# C2017991, WP# 3527A & PIMS work activity C2018571 Items 33, 34, 35, 36, Replacement of existing ½" & 1" Hot Leg Instrumentation lines and elbows per ECR-07-00576 & work activity C2018571 in support of TMI-1 EOTSG replacement activities |
| RCS High point Vent | USAS B31.7, Feb 1968 Draft with June 1968 Errata | ASME Sec. III 2001 Ed/03 Add, Class 1 | WO# C2017989, WP# 3526A, Replacement of existing Hot Leg High Point Vent from 1" NPS nozzle extension to ½" NPS existing pipe in support of TMI-1 EOTSG replacement activities |
| EOTSG Secondary Drain | B31.1 1967 | ASME Sec. III 2001 Ed/03 Add, Class 2 | WO# C2017925, WP# 3522A, Reinstallation of 1-1/2" Secondary Drain piping from EOTSG drain nozzle extension per ECR-07-00638 in support of TMI-1 EOTSG replacement activities. |
| EOTSG Upper Tubesheet Vent | B31.1 1967 | ASME Sec. III 2001 Ed/03 Add, Class 2 | WO# C2017384, WP# 3524A, Reinstallation of 1-1/2" Upper Tubesheet Vent piping between EOTSG nozzle and valves MS-V-23A per ECR-07-00638 in support of TMI-1 EOTSG replacement activities |

FORM N-1 CERTIFICATE HOLDERS' DATA REPORT FOR NUCLEAR VESSELS*
As Required by the Provisions of the ASME Code, Section III, Division 1 Pg. 1 of 5

1. Manufactured and certified by AREVA NP, Inc. - 3315 Old Forest Road, Lynchburg, VA 24501
(name and address of N Certificate Holder)
2. Manufactured for Exelon Generation, LLC - 200 Exelon Way, Kennett Square, PA 19348
(name and address of Purchaser)
3. Location of installation Three Mile Island Nuclear Station Unit 1 - Route 441 South, Middletown, PA 17057
(name and address)
4. Type Vertical Heat Exch. GV/TM325 N/A See Page 3 5 2009
(monz. or vert.) (tank, jacketed, heat ex.) (Cert. Holder's serial no.) (CRN) (drawings no.) (Nat'l Bd. No.) (year built)
5. ASME Code, Section III, Division 1: 2001 See Pg 3 2003 See Pg 3 Class 1/2 See Pg 3 N-725
(edition) (addenda date) (class) (Code Case no.)

Items 6-10 inclusive to be completed for single wall vessels, jackets of jacketed vessels, or shells of heat exchangers.

6. Shell: SA-508 G3C2 90 ksi 5.31 and 3.31 5.13 and 3.13 11 ft 8 in. 52 Ft. - 1.38 in.
(mat'l spec. no.) (tensile strength) (nom. thickness (in.)) (min. design thickness (in.)) (dia. ID (ft. & in.)) (length overall) (ft & in.)
7. Seams: N/A N/A N/A N/A Single Yes Full Four
(long.) (HT) (RT) (eff.%) (girth) (HT) (RT) (no. of courses)
8. Heads: N/A N/A N/A N/A N/A
(a) mat'l spec. no. (tensile strength) (b) mat'l spec. no. (tensile strength)

| | Location (top, bottom, ends) | Thickness | Corrosion Allowance | Crown Radius | Knuckle Radius | Elliptical Ratio | Conical Apex Angle | Hemispherical Radius | Flat Diameter | Side to Pressure (convex or concave) |
|-----|------------------------------|-----------|---------------------|--------------|----------------|------------------|--------------------|----------------------|---------------|--------------------------------------|
| (a) | N/A | | | | | | | | | |
| (b) | N/A | | | | | | | | | |

If removable, bolts used N/A N/A
(mat'l. spec. no., size, quantity) (describe or attach sketch)

9. Jacket closure: N/A
(Describe as ogee & weld, bar, etc. If bar, give dimensions, describe or sketch)
10. Design pressure² 1150 at max. temp. 605 Min. pressure-test temp. 70 Pneu., hydro., or comb. test pressure 1438
(psi) (°F) (°F) (psi)

Items 11 and 12 to be completed for tube sections.

11. Tubesheets: SA-508 G3C2 (Page 3) 140" I.D. 24 in. min. Welded
(stationary, mat'l. spec no) (dia. in. (subject to press.)) (thickness (in.)) (attachment (welded, bolted))
- N/A N/A N/A N/A
(floating, mat'l spec. no.) (dia. (in.)) (thickness (in.)) (attachment)
12. Tubes: SB-163 Alloy 690 0.625 in. 0.0368 in. 15,597 Straight
(mat'l. spec. no.) (OD (in.)) (thickness (inches or gage)) (no.) (type (straight or U))

Items 13 to 16 inclusive to be completed for inner chambers of jacketed vessels, or channels of heat exchangers.

13. Shell: SA-508 G3C2 90 ksi N/A 8.0" 9' - 11.06" 0' - 9.733"
(mat'l. spec. no.) (tensile strength) (nom. thickness (in.)) (min. design thickness (in.)) (dia. ID (ft & in.)) (length overall) (ft & in.)
14. Seams: N/A N/A N/A N/A Single/Double Yes Full One each
(long, welded, dbl., single) (HT) (yes or no) (RT) (eff.%) (girth) (HT) (RT) (no. of courses)
15. Heads: SA-508 G3C2 90 ksi SA-508 G3C2 90 ksi N/A N/A
(a) mat'l spec. no. (tensile strength) (b) mat'l spec. no. (tensile strength) (c) mat'l spec. no. (tensile strength)

| Location | Thickness | Crown Radius | Knuckle Radius | Elliptical Ratio | Conical Apex Angle | Hemispherical Radius | Flat Diameter | Side to Pressure (convex or concave) |
|-----------------------|-----------|--------------|----------------|------------------|--------------------|----------------------|---------------|--------------------------------------|
| (a) Top, bottom, ends | 8.0" Min. | | | | | 65.63" | | Concave |
| (b) Channel Bottom | 8.0" Min. | | | | | 60.88" | | Concave |
| (c) Floating | N/A | | | | | | | |

If removable, bolts used N/A N/A
(mat'l spec. no., size, quantity) (describe or attach sketch)

16. Design pressure² 2500 at 650 Min. pressure-test temp. 70 Pneu., hydro., or comb. test pressure 3125
(psi) (°F) (°F) (psi)

¹If postweld heat treated. ²List other internal or external pressure with coincident temperature when applicable.

*Supplemental information in form of lists, sketches, or drawings may be used provided (1) size is 8 1/2 x 11, (2) information in items 1 through 4 on this Data Report is included on each sheet, (3) each sheet is numbered and number of sheets is recorded at top of this form.

FORM N-1 (Back - Pg. 2 of 5)

Certificate Holder's Serial No. GV/TM325

17. Nozzles, inspection and safety valve openings:

| Purpose (inlet, outlet, drain, etc.) | Quantity | Dia. or Size | Type | How Attached | Mat'l | Thickness | Reinforcement Material | Location |
|--------------------------------------|----------|--------------|---------|--------------|-------------|-----------|------------------------|-----------|
| Primary Inlet | 1 | 36.13" I.D. | N/A | Integral | SA-508 G3C2 | 3.25" | Integral | Top Head |
| Primary Outlet | 2 | 28.63" I.D. | N/A | Integral | SA-508 G3C2 | 2.56" | Integral | Bottom Hd |
| Steam Outlet | 2 | 21.75" I.D. | N/A | Welded | SA-508 G3C2 | 1.25" | Integral | Shell |
| Primary Manway | 1 | 16.0" I.D. | Blt Cov | Integral | SA-508 G3C2 | 6.25" | Integral | Top Head |
| Primary Manway | 1 | 16.0" I.D. | Blt Cov | Integral | SA-508 G3C2 | 6.25" | Integral | Bottom Hd |
| Secondary Manway | 1 | 16.0" I.D. | Blt Cov | Welded | SA-508 G3C2 | 5.0" | Integral | Shell |
| (continued on page 4) | | | | | (See Pg 3) | | | |

18. Supports: Skirt: Yes Lugs: 48 Legs: N/A Other: N/A Attached: Welded to Lower Head
(yes or no) (quantity) (quantity) (describe) (where and how)

19. Remarks:
14" Sch. 80 Main Feedwater Header consists of two half-torus sections and includes (32) 3" Sch. 80 Risers - See page 5
6" Sch. 80 Emergency Feedwater Header includes (7) 3" Sch. 80 Risers - See page 5
N-2 Data Report for completed item attached. Performance of component hydrostatic pressure test and subsequent Code stamping conducted at NPT Certificate Holder's Shop location in Saint-Marcel, France. - NCA-8322(b)

| CERTIFICATION OF DESIGN | | | |
|---|---------------------------|-------------------------------------|--|
| Design specification certified by <u>P. A. Opsal</u> | P. E. State <u>VA</u> | Reg. no. <u>014498</u> | |
| Design report certified by <u>T.M. Wiger</u> | P. E. State <u>CA</u> | Reg. no. <u>M33816</u> | |
| CERTIFICATE OF SHOP COMPLIANCE | | | |
| We certify that the statements made in this report are correct and that this nuclear vessel conforms to the rules for construction of the ASME Code, Section III, Division 1. | | | |
| N Certificate of Authorization No. _____ | | Expires _____ | |
| Date _____ | Name _____ | Signed _____ | (authorized representative) |
| CERTIFICATE OF SHOP INSPECTION | | | |
| I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of _____ and employed by _____ of _____ have inspected the component described in this Data Report on _____, and state that to the best of my knowledge and belief, the Certificate Holder has constructed this component in accordance with the ASME Code, Section III, Division 1. | | | |
| By signing this certificate neither the inspector nor his employer makes any warranty, expressed or implied, concerning the component described in this Data Report. Furthermore, neither the inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection. | | | |
| Date _____ | Signed _____ | Commissions _____ | (Nat'l. Bd. (incl. endorsements) and state or prov. and no.) |
| CERTIFICATE OF FIELD ASSEMBLY COMPLIANCE | | | |
| We certify that the statements on this report are correct and that the field assembly construction of all parts of this nuclear vessel conforms to the rules of construction of the ASME Code, Section III, Division 1. | | | |
| N Certificate of Authorization No. <u>N-1650</u> | | Expires <u>June 12, 2012</u> | |
| Date <u>July 31, 2009</u> | Name <u>AREVA NP Inc.</u> | Signed <u>MJ McInerney</u> | (authorized representative) |
| CERTIFICATE OF FIELD ASSEMBLY INSPECTION | | | |
| I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of <u>CT</u> and employed by <u>HARTFORD STEAM BOILER OF CT</u> of <u>HARTFORD (CT)</u> have compared the statements in this Data Report with the described component and state that parts referred to as data items <u>in item 19</u> , not included in the certificate of shop inspection, have been inspected by me on <u>May 29, 2009</u> and that to the best of my knowledge and belief the Certificate Holder has constructed and assembled this component in accordance with the ASME Code, Section III, Division 1. | | | |
| By signing this certificate neither the inspector nor his employer makes any warranty, expressed or implied, concerning the component described in this Data Report. Furthermore, neither the inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection. | | | |
| Date <u>July 31, 2009</u> | Signed _____ | Commissions <u>11452 A.N. 04193</u> | (Nat'l Bd. (incl. endorsements) and state or prov. and no.) |

FORM N-1 CERTIFICATE HOLDERS' DATA REPORT SUPPLEMENTARY SHEET
As Required by the Provisions of the ASME Code, Section III, Division 1 Pg. 3 of 5

Certificate Holder's Serial No. GV/TM325

1. Manufactured and certified by AREVA NP, Inc. - 3315 Old Forest Road, Lynchburg, VA 24501
(name and address of N Certificate Holder)
2. Manufactured for Exelon Generation, LLC - 200 Exelon Way, Kennett Square, PA 19348
(name and address of Purchaser)
3. Location of installation Three Mile Island Nuclear Station Unit 1 - Route 441 South, Middletown, PA 17057
(name and address)
4. Type Vertical Heat Exch. GV/TM325 N/A See Page 3 5 2009
(horiz. or vert.) (tank, jacketed, heat ex.) (Cert. Holder's serial no.) (CRN) (drawings no.) (Nat'l. Bd. no.) (year built)

SUPPLEMENTAL INFORMATION

| <u>Line</u> | <u>Item</u> | <u>Description</u> |
|-------------|--------------|--|
| 4 | Drawing No's | 02-5056245E-005, TMI EOTSG Specification Drawing 02-5056246E-005, TMI EOTSG General Outline Drawing 02-5056247E-005, TMI EOTSG General Outline – Cross Sections Drawing 02-5056248E-009, TMI EOTSG List of Material Drawing 02-5056249E-007, TMI EOTSG Shell Outline Drawing 02-5056252E-008, TMI EOTSG Primary Side Openings 02-5056253E-005, TMI EOTSG Secondary Openings Sections 02-5056254E-006, TMI EOTSG Upper Tubesheet Details 02-5056256E-004, TMI EOTSG Lower Tubesheet Details 02-5056260E-002, TMI EOTSG Lower Head Outlet Nozzle Details 02-5056264E-003, TMI EOTSG Drain, Temperature and Sensing Nozzles. 02-5056267E-001, TMI EOTSG Longitudinal Section and Opening Sections 02-5056280E-003, TMI EOTSG SG-A Main Feedwater Assembly and Details 02-5056281F-003, TMI EOTSG MFW Header Additional Details 02-5056283E-003, TMI EOTSG Emergency Feedwater Header Assembly and Details |
| 5 | ASME Code | ASME Code Section III, Division I, 2001 Edition with Addenda through 2003 for the complete Steam Generator excluding Alloy 690 tube bundle material. ASME Code Section III, 1998 Edition with Addenda through 2000 for Alloy 690 tube bundle material for procurement and design analysis. |
| 5 | Addenda | As noted above. |
| 5 | Class | Within the jurisdictional boundaries specified on Drawing 02-5056245: <ul style="list-style-type: none"> • The entire EOTSG primary side and secondary side pressure boundary are classified, designed, and fabricated in accordance with the ASME Code as a Class 1 Vessel. • The Primary outlet elbows and extension pieces are Class 1 Piping. • The integrally welded Support Skirt is a Class 1 Support. • The Main Feedwater Header / Riser Assemblies are Class 2 Piping. • The Emergency Feedwater Header / Riser Assembly is Class 2 Piping. |

Lines 6, 11, 13 & 15 The material specification number for these items is SA-508 Grade 3 Class 2.

Lines 17 On pages 2 and 4, the material designated as SA-508 G3C2 is Grade 3 Class 2.

AREVA NP Inc. Date July 31, 2009 Name AREVA NP Inc. Signed [Signature]
(N Certificate Holder)

ANI Date July 31, 2009 Name [Signature] Commissions 11452, A-N, OH193
(Authorized Nuclear Inspector) (Nat'l. Bd. (incl. endorsements) and state or prov. and no.)

FORM N-1 CERTIFICATE HOLDERS' DATA REPORT SUPPLEMENTARY SHEET

As Required by the Provisions of the ASME Code, Section III, Division 1 Pg. 4 of 5

Certificate Holder's Serial No. GV/TM325

1. Manufactured and certified by AREVA NP, Inc. - 3315 Old Forest Road, Lynchburg, VA 24501
(name and address of N Certificate Holder)
2. Manufactured for Exelon Generation, LLC - 200 Exelon Way, Kennett Square, PA 19348
(name and address of Purchaser)
3. Location of installation Three Mile Island Nuclear Station Unit 1 - Route 441 South, Middletown, PA 17057
(name and address)
4. Type Vertical Heat Exch. GV/TM325 N/A See Page 3 5 2009
(honz. or vert.) (tank, jacketed, heat ex.) (Cert. Holder's serial no.) (CRN) (drawings no.) (Nat'l. Bd. no.) (year built)

SUPPLEMENTAL INFORMATION

Line Item Description

17. Nozzles, inspection and safety valve openings:

| Purpose (inlet, outlet, drain, etc.) | Quantity | Nominal Dia. or Size | Type | How Attached | Mat'l | Thickness | Reinforcement Material | Location |
|---|----------|-------------------------|-----------------|--------------------------|---------------------|-----------|---------------------------|----------------|
| Main Feedwater Nozzles | 32 | 2.9" I.D. | N/A | Bolted with seal weld | SB-564 Alloy 690 | 0.3" | Integral | Shell |
| Emergency FW Nozzles | 7 | 2.9" I.D. | N/A | Bolted with seal weld | SB-564 Alloy 690 | 0.3" | Integral | Shell |
| Handholes | 8 | 8.0" I.D. | Bolted Cover | Integral | SA508 G3C2 | 3.88" | Integral | Shell |
| Primary Inspection Port | 1 | 5.0" I.D. | Bolted Cover | Integral | SA508 G3C2 | N/A | Integral | Top Head |
| Inspection Openings | 9 | 3" I.D. | Bolted Cover | Welded | SA508 G3C2 | 3.25" | Integral | Thin Shell |
| Inspection Openings | 8 | 3" I.D. | Bolted Cover | Integral | SA508 G3C2 | N/A | Integral | Thick Shell |
| Vent Conn. | 1 | 1.5" I.D. | N/A | F.P. Weld | SA-105 | 0.57" | Integral | Upper TS |
| Drain Conn. | 2 | 1.5" I.D. | N/A | P.P. Weld | SA-105 | 0.2" | Integral | Shell |
| Temp. Sensing Conn. | 2 | 1.4" O.D. | N/A | P.P. Weld | SB-166 Alloy 690 | 0.51" | None Req'd | Thin Shell |
| Temp. Sensing Conn. | 1 | 1.4" O.D. | N/A | P.P. Weld | SB-166 Alloy 690 | 0.51" | Integral | Thick Shell |
| Tubesheet Drain Conn. | 4 | 1.94" I.D. | N/A | F.P. Weld | SA-105 | 0.435" | Integral | Lower TS |
| Shroud Drain Conn. | 2 | 0.96" I.D. | N/A | P.P. Weld | SA-105 | 0.18" | Integral | Shell |
| Sensing Conn. Nozzle | 6 | 2" O.D. | N/A | F.P. Weld | SA-105 | 0.483" | Integral | Shell |
| UHL Sensing Conn. | 2 | 0.96" I.D. | N/A | P.P. Weld | SA-105 | 0.18" | Integral | Shell |
| LHL Sensing Conn. | 2 | 0.96" I.D. | N/A | P.P. Weld | SA-105 | 0.18" | Integral | Shell |
| ULL Sensing Conn. | 2 | 0.96" I.D. | N/A | P.P. Weld | SA-105 | 0.18" | Integral | Shell |
| LLL Sensing Conn. | 2 | 0.96" I.D. | N/A | P.P. Weld | SA-105 | 0.18" | Integral | Shell |

AREVA NP Inc. Date July 31, 2009 Name AREVA NP Inc.
(N Certificate Holder)

Signed [Signature]

ANI Date July 31, 2009 Name [Signature]
(Authorized Nuclear Inspector)

Commissions 11452, A-N, OH 193
(Nat'l. Bd. (incl. endorsements) and state or prov. and no.)

FORM N-1 CERTIFICATE HOLDERS' DATA REPORT SUPPLEMENTARY SHEET
As Required by the Provisions of the ASME Code, Section III, Division 1 Pg. 5 of 5

Certificate Holder's Serial No. GV/TM325

1. Manufactured and certified by AREVA NP, Inc. - 3315 Old Forest Road, Lynchburg, VA 24501
(name and address of N Certificate Holder)
2. Manufactured for Exelon Generation, LLC - 200 Exelon Way, Kennett Square, PA 19348
(name and address of Purchaser)
3. Location of installation Three Mile Island Nuclear Station Unit 1 - Route 441 South, Middletown, PA 17057
(name and address)
4. Type Vertical Heat Exch. GV/TM325 N/A See Page 3 5 2009
(horiz. or vert.) (tank, jacketed, heat ex.) (Cert. Holder's serial no.) (CRN) (drawings no.) (Nat'l Bd. no.) (year built)

SUPPLEMENTAL INFORMATION

Line Item Description

19. Remarks:

Main Feedwater Header Parts:

- 14" Sch. 80 MFW Header pipe and cap, Riser branch conn., Tee conn., Inspection Port
- Riser pipe inspection port, plug, 4" x 3" Reducer and 3" Sch. 80 LR Elbows
- 3" Sch. 80 Riser pipe
- 14" Dia. x 3" long Safe End at Header Inlet
- 3" Inspection Port Cover

Materials:

- SA-182 F22 Class 3
- SB-564 Alloy 690
- SB-167 Alloy 690
- SA-105
- SA-533 Gr. B Class 2

Emergency Feedwater Header Parts:

- 6" Sch. 80 EFW Header pipe, 6" Sch. 80 LR Elbow, Spool Piece, Riser branch conn.
- 6" - 900# Weld Neck Flange and Blind Flange
- 3" Sch. 80 Riser pipe, 4" Sch. 40 Inlet pipe
- 3" Sch. 80 LR Elbows
- 6" Sch. 80 x 3" long Safe End at Header Inlet

Materials:

- SA-182 F22 Class 3
- SA-182 F22 Class 3
- SB-167 Alloy 690
- SB-564 Alloy 690
- SA-105

All ferritic steel surfaces exposed to primary reactor coolant are clad. Primary heads are internally clad with type 308L stainless steel; the primary face of tubesheets are clad with UNS number N06052.

Hydrostatic Testing

As permitted by NB-3226, up to 10 cycles of hydrostatic tests may be excluded from the SG component fatigue analysis. For compliance with that requirement, the actual test cycles used were as follows:

- 1 cycle - Primary Side Hydrostatic test
- 2 cycles - Secondary Side Hydrostatic test

AREVA NP Inc. Date July 31, 2009 Name AREVA NP Inc.
(N Certificate Holder)

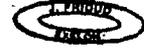
Signed [Signature]

ANI Date July 31, 2009 Name [Signature]
(Authorized Nuclear Inspector)

Commissions 11452, A-N, OH193
(Nat'l Bd. (incl. endorsements) and state approv. and no.)

01 0009

**FORM N-2 CERTIFICATE HOLDERS' DATA REPORT FOR IDENTICAL
NUCLEAR PARTS AND APPURTENANCES**
As Required by the Provisions of the ASME Code Section III
Not to Exceed One Day's Production



Pg. 1 of 11

Certificate Holder's Data Report Ref : BUERTWNGV0325 rev A

1. Manufactured and certified by AREVA NP Usine de Chalons/Saint Marcel
(Name and address of Certificate Holder)
BP 40001 - St Marcel - Zone Industrielle at Portuaire Sud - 71328 CHALON SUR SAONE Cedex - FRANCE
2. Manufactured for AREVA NP, Inc
(Name and address of Purchaser)
3315 Old Forest Road - Lynchburg, VA 24501
3. Location of installation Three Mile Island Nuclear Station Unit 1 - Route 441 South, Middletown, PA 17057USA
4. Type (See supplementary sheets)
(drawing no.) (mat'l spec no.) (tensile strength) N/A (CRN) 2009 (year built)
5. ASME Code, Section III, Division 2001 Addenda through 2003 1&2 (see supp sheets) N-725
(edition) (addenda) (class) (code case no.)
6. Fabricated in accordance with Const. Spec. (Div 2 only) N/A Revision _____ Date _____
(no.)
7. Remarks:
- Class 1 : primary and secondary sides
- Class 2 : Main feedwater and Emergency feedwater headers and risers

8. Nom. Thickness (in.) (See supplementary sheets) Min. des thickness (in.) (See supplementary sheets)
Dia. ID (ft & in.) (See supplementary sheets) Length overall (ft & in.) 52 Ft.-1.38 in.

9. When applicable, Certificate Holders' Data Reports are attached for each item on this report:

| Part or Appurtenance Serial Number | National Board No. in Numerical Order | Part or Appurtenance Serial Number | National Board No. in Numerical Order |
|---------------------------------------|---|---------------------------------------|---|
| 1. GV/TM325 | N/A | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

10. Design Pressure (See supplementary sheets) psig Temp. (See supplementary sheets) Deg. F
Hydro. Test Pressure @ Temp (See supplementary sheets)

01 0010

FORM N-2 (Back - Pg 2 of 11)

Certificate Holders' Serial Nos GV/TM325



Certificate Holder's Data Report Ref : BUERTMNGV0325 rev A

CERTIFICATION OF DESIGN

Design Specifications Certified by PHILIP A. OPSAL P.E. State VA Reg. No. 014498

Design Report Certified by T.M WIGER P.E. State CA Reg. No. M33816

CERTIFICATE OF COMPLIANCE

We Certify that the statements made in this report are correct and that this (these) STEAM GENERATOR conforms to the rules of construction of the ASME Code, Section III Division 1

NPT Certification of Authorization No. N-2772 Expires: Jan.29,2012

Date 31 JUL 2009 Name AREVA NP Signed LALMER P.

CERTIFICATE OF INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of OHIO and employed by HSB CT of CT have inspected these items described in this Data Report on July 29, 2009 and state that to the best of my knowledge and belief, the Certificate Holder has fabricated these parts or Appurtenances in accordance with the ASME Code, Section III, Division 1. Each Part has been authorized for stamping on the date shown above.

By signing this certificate, neither the Inspector nor his Employer makes any warranty expressed or implied concerning the equipment described in this Data Report. Furthermore, neither the Inspector nor his Employer shall be liable for any personal injury or property damage or loss of any kind arising from or connected with this inspection.

Date July 31st, 2009 Signed Commissions 11452, A N, OH 193
(Authorized Nuclear Inspector) (Nat'l Board Endsmts, State or Prov. and no.)

01 0011

**CERTIFICATE HOLDERS' DATA REPORT SUPPLEMENTARY SHEET
As Required by the Provisions of the ASME Code Section III**

Certificate Holders' Serial Nos. GV/TM 325 Pg. 3 of 11
Certificate Holder's Data Report Ref : BUERTM/NGV0325 rev A

1. Manufactured and certified by AREVA NP - Usine de Chalons/St Marcel
(Name and address of NPT Certificate Holder)
BP 40001 St Marcel - 71328 CHALON SUR SAONE Cedex - France
2. Manufactured for AREVA NP, Inc.
(Name and address of Purchaser)
3315 Old Forest Road, Lynchburg, VA 24501
3. Location of installation Three Mile Island Nuclear Station Unit 1
(Name and address)
Route 441 South, Middletown, PA 17057 - USA



Item 4

List of drawings

| Drawing Number | Title |
|-----------------|---|
| 02-5056245E-005 | TMI EOTSG Specification Drawing |
| 02-5056246E-005 | TMI EOTSG General Outline Drawing |
| 02-5056247E-005 | TMI EOTSG General Outline - Cross section Drawing |
| 02-5056248E-009 | TMI EOTSG List of Material Drawing |
| 02-5056249E-007 | TMI EOTSG Shell Outline Drawing |
| 02-5056252E-008 | TMI EOTSG Primary side Openings |
| 02-5056253E-005 | TMI EOTSG Secondary Openings sections |
| 02-5056254E-006 | TMI EOTSG Upper Tubesheet Details |
| 02-5056256E-004 | TMI EOTSG Lower Tubesheet Details |
| 02-5056260E-002 | TMI EOTSG Lower Head Outlet Nozzle Details |
| 02-5056264E-003 | TMI EOTSG Drain, Temperature and Sensing Nozzles |
| 02-5056267E-001 | TMI EOTSG Longitudinal Section and Opening Sections |
| 02-5056280E-003 | TMI EOTSG SG-A Main feedwater Assembly and Details |
| 02-5056281F-003 | TMI EOTSG MFW Header additional Details |
| 02-5056283E-003 | TMI EOTSG Emergency feedwater Header Assembly and Details |

AREVA NP SAS Date 31 JUL 2011 Name AREVA NP Signed LAIGNIER P.
(Certificate Holder) (Authorized representative)

ANI Date 7/31/09 Name [Signature] Commissions 11452, A-N, 04193
(Authorized Nuclear Inspector) (Natl Board (Incl. Endorsements), and State or Prov. and No.)

01 0012

CERTIFICATE HOLDERS' DATA REPORT SUPPLEMENTARY SHEET
As Required by the Provisions of the ASME Code Section III

Certificate Holders' Serial Nos. GV/TM 325 Pg. 4 of 11
Certificate Holder's Data Report Ref : BUERTWNGV0325 rev A

- 1. Manufactured and certified by AREVA NP - Usine de Chalons/St Marcel
(Name and address of NPT Certificate Holder)
BP 40001 St Marcel - 71328 CHALON SUR SAONE Cedex - France
- 2. Manufactured for AREVA NP, Inc.
(Name and address of Purchaser)
3315 Old Forest Road, Lynchburg, VA 24501
- 3. Location of installation Three Mile Island Nuclear Station Unit 1
(Name and address)
Route 441 South, Middletown, PA 17057 - USA



Item 5

ASME Code ASME Code Section III, Division 1, 2001 Edition with Addenda through 2003 for the complete steam generator excluding Alloy 690 tube bundle material.

ASME Code section III, 1998 Edition with Addenda through 2000 for alloy 690 tube bundle material for procurement and design analysis.

Class Within the jurisdictional boundaries specified on drawing 02-0508245 :

- The entire EOTSG primary side and secondary side pressure boundary are classified, designed, and fabricated in accordance with the ASME Code as a Class 1 Vessel.
- The primary outlet elbows and extension pieces are Class 1 Piping.
- The integrally welded support skirt is a Class 1 Support.
- The main Feedwater Header/Riser Assemblies are Class 2 Piping.
- The Emergency Feedwater Header/Riser Assembly is Class 2 Piping

AREVA NP SAS Date 31 Jul 2009 Name AREVA NP Signed LAWRIER P.
(Certificate Holder) (Authorized representative)

ANI Date 7/31/09 Name [Signature] Commissions 11452, A-N, OH193
(Authorized Nuclear Inspector) (Nat'l Board (Incl. Endorsements), and State or Prov. and No.)

01 0013

CERTIFICATE HOLDERS' DATA REPORT SUPPLEMENTARY SHEET
As Required by the Provisions of the ASME Code Section III

Certificate Holders' Serial Nos. GV/TM 325 Pg. 5 of 11
 Certificate Holder's Data Report Ref : BUERTM/NGV0325 rev A

1. Manufactured and certified by AREVA NP - Usine de Chalons/St Marcel
 (Name and address of NPT Certificate Holder)
BP 40001 St Marcel - 71328 CHALON SUR SAONE Cedex - France
2. Manufactured for AREVA NP, Inc.
 (Name and address of Purchaser)
3315 Old Forest Road, Lynchburg, VA 24501
3. Location of installation Three Mile Island Nuclear Station Unit 1
 (Name and address)
Route 441 South, Middletown, PA 17057 - USA

Items 4 and 8

| Part | Mat'l. Spec. no. | Tensile strength (ksi at 70°F) (note a) | Nom. thickness (in.) | Min. design thickness (in.) | Nom. Dia. ID (in.) |
|--|------------------|---|--|-----------------------------|--|
| Upper shell | SA-508 Gr3 cl 2 | 90 ksi | 5.31" (note b) 3.31" (note c) | 5.13" 3.13" | 140.00" |
| Nozzle shell | SA-508 Gr3 cl 2 | | 3.31" (note d) 5.31" (note e) 3.31" (note f) | 3.13" 5.13" 3.13" | 140.00" |
| Intermediate shell | SA-508 Gr3 cl 2 | | 3.31" | 3.13" | 140.00" |
| Lower shell | SA-508 Gr3 cl 2 | | 3.31" (note g) 5.31" (note h) | 3.13" 5.13" | 140.00" |
| Lower head | SA-508 Gr3 cl 2 | | 8.12" | 8" 8.03" (flat bottom) | R=65.63" (note l) |
| Upper head | SA-508 Gr3 cl 2 | | 8.07" | 8" | R=60.88" (note l) |
| Lower and upper tubesheet | SA-508 Gr3 cl 2 | | 24" (note i) | 24" (note i) | 119.06" (notes i and j) 140" (note k) |
| Lower and upper tubesheet extension (ring) | SA-508 Gr3 cl 2 | | N/A | 8" | 119.06" (note l) |
| Tube bundle | SB-163 Alloy 690 | 85 ksi | 0.0368" | 0.0340" | 0.5514" |

- a : Tensile strength Su from ASME Code, Section III, Appendix 1, tables
- b : Top end (tubesheet side)
- c : Bottom end (Nozzle shell side)
- d : Top end (Upper shell side)
- e : Middle
- f : Bottom end (Intermediate shell side)
- g : Top end (Intermediate shell side)
- h : Bottom end (Tubesheet side)
- i : Under cladding
- j : Head side
- k : Shell side

AREVA NP SAS Date 1/11/09 Name AREVA NP Signed LAIGNIER P.
 (Certificate Holder) (Authorized representative)

ANI Date 7/31/09 Name [Signature] Commissions 11452, A-N 04193.
 (Authorized Nuclear Inspector) (Nat'l Board (Incl. Endorsements), and State or Prov. and No.)

01 0014

CERTIFICATE HOLDERS' DATA REPORT SUPPLEMENTARY SHEET
As Required by the Provisions of the ASME Code Section III

Certificate Holders' Serial Nos. GY/TM 325 Pg. 6 of 11
Certificate Holder's Data Report Ref : BUERTM/NGV0325 rev A

1. Manufactured and certified by AREVA NP - Usine de Chalons/St Marcel
(Name and address of NPT Certificate Holder)
BP 40001 St Marcel - 71328 CHALON SUR SAONE Cedex - France
2. Manufactured for AREVA NP, Inc.
(Name and address of Purchaser)
3315 Old Forest Road, Lynchburg, VA 24501
3. Location of installation Three Mile Island Nuclear Station Unit 1
(Name and address)
Route 441 South, Middletown, PA 17057 - USA

Items 4 and 8

| Part | Mat'l. Spec. no. | Tensile strength (ksi at 70°F) (note a) | Nom. thickness (in.) | Min. design thickness (in.) | Nom. Dia. ID (in.) |
|----------------------------------|------------------|---|--|-----------------------------|--------------------|
| Primary inlet nozzle extension | SA-508 Gr3 cl 2 | 90 ksi | 3.25" (note b) 3.50" (note c) 5.25" (note d) | 3.25" | 36.13" (note e) |
| Primary inlet nozzle | SA-508 Gr3 cl 2 | | 5.25" | 5.25" | 46.51" (note e) |
| Primary manway | SA-508 Gr3 cl 2 | | N/A | N/A | 16.50" (note e) |
| Primary inspection port | SA-508 Gr3 cl 2 | | N/A | N/A | 5.50" (note e) |
| Secondary manway | SA-508 Gr3 cl 2 | | 4.97" | 2.14" | 16.00" |
| Secondary inspection port welded | SA-508 Gr3 cl 2 | | 3.25" | 2.78" | 3.00" |
| Handhole | SA-508 Gr3 cl 2 | | 3.875" | 1.58" | 8.00" |
| Steam outlet nozzle | SA-508 Gr3 cl 2 | | 3.66" | 3.66" | 21.75" |
| Steam outlet nozzle safe end | SA-105 | 70 ksi | 1.25" | 1.25" | 21.75" |
| Primary outlet nozzle | SA-508 Gr3 cl 2 | 90 ksi | 4.31" (note f) 2.56" (note g) | 1.51" | 28.63" |

- a : Tensile strength Su from ASME Code, Section III, Appendix 1, tables
b : Top end (pipe side)
c : Middle
d : Bottom end (Primary inlet nozzle side)
e : Under cladding
f : Top end (Head side)
g : Bottom end (extension side)

AREVA NP SAS Date 4 JUL 2009 Name AREVA NP Signed [Signature]
(Certificate Holder) (Authorized representative)

ANI Date 7/31/09 Name [Signature] Commissions 11452, A-N, 0H193
(Authorized Nuclear Inspector) (NRC Board (Incl. Endorsements), and State or Prov. and No.)

01 0015

**CERTIFICATE HOLDERS' DATA REPORT SUPPLEMENTARY SHEET
As Required by the Provisions of the ASME Code Section III**

Certificate Holders' Serial Nos. GV/TM 325 Pg. 7 of 11
Certificate Holder's Data Report Ref : BUERTWNGV0325 rev A

1. Manufactured and certified by AREVA NP - Usine de Chalon/St Marcel
(Name and address of NPT Certificate Holder)
BP 40001 St Marcel - 71328 CHALON SUR SAONE Cedex - France
2. Manufactured for AREVA NP, Inc.
(Name and address of Purchaser)
3315 Old Forest Road, Lynchburg, VA 24501
3. Location of Installation Three Mile Island Nuclear Station Unit 1
(Name and address)
Route 441 South, Middletown, PA 17057 - USA

Items 4 and 8

| Part | Mat'l. Spec. no. | Tensile strength (ksi at 70°F) (note a) | Nom. thickness (in.) | Min. design thickness (in.) | Nom. Dia. ID (in.) |
|---|------------------|---|----------------------|-----------------------------|--------------------|
| Primary outlet nozzle extension | SA-508 Gr3 cl 2 | 90 ksi | 2.50" (note b) | 2.50" | 28.75" |
| Primary outlet nozzle elbow | SA-508 Gr3 cl 2 | | 3.375" (note c) | | |
| Nozzles for main and emergency feedwaters (quantity 32+7) | SB-564 Alloy 690 | 85 ksi | 0.3" | 0.30" | 2.9" |
| Secondary inspection port (integral) | SA-508 Gr3 cl 2 | 90 ksi | N/A | N/A | 3.00" |
| Drain connection nozzle | SA-105 | 70 ksi | 0.67" (note f) | 0.44" | 1.94" |
| Upper and lower low level sensing connection | SA-105 | | 0.435" (note g) | | |
| Temperature sensing connection | SB-166 Alloy 690 | 85 ksi | 0.51" (note h) | 0.51" | 0.38" (note h) |
| | | | 0.4625" (note i) | | 0.257" (note i) |

- a : Tensile strength Su from ASME Code, Section III, Appendix 1, tables
- b : Top end (nozzle side)
- c : Bottom end (elbow side)
- d : Top end (Extension side)
- e : Bottom end (pipe side)
- f : Tubesheet side
- g : Pipe side
- h : Shell side
- i : Shroud side end radial thickness
- j : shroud side end thickness

AREVA NP SAS Date 31 JUL 2009 Name AREVA NP Signed L. AUBNIER P
(Certificate Holder) (Authorized representative)

ANI Date 7/31/09 Name [Signature] Commissions 11452.A-N, 04193
(Authorized Nuclear Inspector) (Natl Board (Incl. Endorsements), and State or Prov. and No.)

01 0016

CERTIFICATE HOLDERS' DATA REPORT SUPPLEMENTARY SHEET
As Required by the Provisions of the ASME Code Section III

Certificate Holders' Serial Nos. GV/TM 325 Pg. 8 of 11
 Certificate Holder's Data Report Ref : BUERTMNGV0325 rev A

1. Manufactured and certified by AREVA NP - Usine de Chalons/St Marcel
 (Name and address of NPT Certificate Holder)
BP 40001 St Marcel - 71328 CHALON SUR SAONE Cedex - France
2. Manufactured for AREVA NP, Inc.
 (Name and address of Purchaser)
3315 Old Forest Road, Lynchburg, VA 24501
3. Location of installation Three Mile Island Nuclear Station Unit 1
 (Name and address)
Route 441 South, Middletown, PA 17057 - USA

Items 4 and 8

| Part | Matl. Spec. no. | Tensile strength (ksi at 70°F) (note a) | Nom. thickness (in.) | Min. design thickness (in.) | Nom. Dia. ID (in.) |
|---|-----------------|---|------------------------------------|-----------------------------|--------------------|
| Sensing connection | SA-105 | 70 ksi | 0.18" 0.36" (note b) | N/A | 0.96" |
| Sensing connection nozzle | SA-105 | | 0.483" | 0.48" | 1.673" |
| Upper shroud drain connection | SA-105 | | 0.20" (note c) 0.40" (note d) | 0.20" | 1.50" |
| Vent and high level nitrogen purge connection | SA-105 | | 0.565" (note e) 0.355" (note c) | 0.36" | 1.50" |

- a : Tensile strength Su from ASME Code, Section III, Appendix 1, tables
 b : Bottom end with sensing connection nozzle welded (Shell side)
 c : Pipe side
 d : Shell side
 e : Tubesheet side

AREVA NP SAS Date 31 Jul 2009 Name AREVA NP Signed LAIGNIER D
 (Certificate Holder) (Authorized representative)

ANI Date 7/31/09 Name [Signature] Commissions 11452 A-N, 04193
 (Authorized Nuclear Inspector) (Nat'l Board (incl. Endorsements), and State or Prov. and No.)

01 0017

**CERTIFICATE HOLDERS' DATA REPORT SUPPLEMENTARY SHEET
As Required by the Provisions of the ASME Code Section III**

Certificate Holders' Serial Nos. GV/TM 325 Pg. 9 of 11
Certificate Holder's Data Report Ref : BUERTM/NGV0325 rev A

1. Manufactured and certified by AREVA NP - Usine de Chalons/St Marcel
(Name and address of NPT Certificate Holder)
BP 40001 St Marcel - 71328 CHALON SUR SAONE Cedex - France
2. Manufactured for AREVA NP, Inc.
(Name and address of Purchaser)
3315 Old Forest Road, Lynchburg, VA 24501
3. Location of installation Three Mile Island Nuclear Station Unit 1
(Name and address)
Route 441 South, Middletown, PA 17057 - USA

Items 4 and 8 - Main Feedwaters accessories

| Part | Matl. Spec. no. | Tensile strength (ksi at 70°F) (note a) | Nom. thickness (in.) | Min. design thickness (in.) | Nom. Dia. ID (in.) |
|---------------------------------|------------------|---|--------------------------------|-----------------------------|--------------------|
| 14.00 sch 80 pipe | SA-182 F22 Cl 3 | 75 ksi | 0.75" | 0.66" | 12.50" |
| Caps 14" sch 80 | SA-182 F22 Cl 3 | | 0.75" | 0.70" | 12.50" |
| Tee connection | SA-182 F22 Cl 3 | | 1.00" min | 1.00" | 12.40" |
| Inspection ports | SA-182 F22 Cl 3 | | 1.00" min | 1.00" | 12.40" |
| Header riser branch connection | SA-182 F22 Cl 3 | | 0.3" (note b) 0.8" (note c) | 0.28" | 2.90" |
| Riser pipe 3.00" sch 80 | SB-167 Alloy 690 | 85 | 0.3" | 0.26" | 2.90" |
| Riser pipe inspection port plug | SB-564 Alloy 690 | 85 | 1.50" | 0.36" | 0.86" OD |
| Riser pipe inspection port | SB-564 Alloy 690 | | 0.30" min | 0.36" | 2.90" |
| Elbow 90° 3.00" sch 80 | SB-564 Alloy 690 | | 0.3" | N/A | 2.90" |
| Inspection port cover | SA-533 GrB Cl2 | 90 | 2.25" | N/A | 9.75" OD |
| Safe end | SA-105 | 70 | 0.75" | 0.66" | 12.50" |

a : Tensile strength Su from ASME Code, Section III, Appendix 1, tables
b : MFW riser side
c : MFW header side

AREVA NP SAS Date 31 Jul 2009 Name AREVA NP Signed LAINIER D.
(Certificate Holder) (Authorized representative)

ANI Date 7/31/09 Name [Signature] Commissions 11452, A-N, 04193
(Authorized Nuclear Inspector) (Natl Board (Incl. Endorsements), and State or Prov. and No.)

01 0018

**CERTIFICATE HOLDERS' DATA REPORT SUPPLEMENTARY SHEET
As Required by the Provisions of the ASME Code Section III**

Certificate Holders' Serial Nos. GV/TM 325 Pg. 10 of 11
Certificate Holder's Data Report Ref : BUERTM/NGV0325 rev A

1. Manufactured and certified by AREVA NP - Usine de Chalons/St Marcel
(Name and address of NPT Certificate Holder)
BP 40001 St Marcel - 71328 CHALON SUR SAONE Cedex - France
2. Manufactured for AREVA NP, Inc.
(Name and address of Purchaser)
3315 Old Forest Road, Lynchburg, VA 24501
3. Location of installation Three Mile Island Nuclear Station Unit 1
(Name and address)
Route 441 South, Middletown, PA 17057 - USA

Items 4 and 8 - Emergency Feedwaters accessories

| Part | Matl. Spec. no. | Tensile strength (ksi at 70°F) (note a) | Nom. thickness (in.) | Min. design thickness (in.) | Nom. Dia. ID (in.) |
|-----------------------------------|------------------|---|----------------------------------|-----------------------------|--------------------|
| 6" sch 80 pipe | SA-182 F22 Cl3 | 75 | 0.43" | 0.38" | 5.76" |
| Header to riser branch connection | SA-182 F22 Cl3 | | 0.30" (note b) 0.80" (note c) | 0.30" | 2.90" |
| 3" sch 80 riser pipe | SB-167 Alloy 690 | 85 | 0.3" | 0.26" | 2.90" |
| Elbow 3" sch 80 | SB-564 Alloy 690 | | 0.3" | N/A | 2.90" |
| 6" blind flange | SA-182 F22 Cl3 | 75 | 2.20" | N/A | 15.00" OD |
| 6" weld neck flange | SA-182 F22 Cl3 | | 0.432" | N/A | 5.76" |
| 6.00" sch 80 pipe elbow | SA-182 F22 Cl3 | | 0.43" | N/A | 5.76" |
| 6" sch 80 pipe safe end 3" fg | SA-105 | 70 | 0.43" | N/A | 5.76" |

- a : Tensile strength Su from ASME Code, Section III, Appendix 1, tables
b : EFW riser side
c : EFW header side

AREVA NP SAS Date 31.07.2009 Name AREVA NP Signed LALBIER P
(Certificate Holder) (Authorized representative)

ANI Date 7/31/09 Name [Signature] Commissions 11452 A-N, OH 193
(Authorized Nuclear Inspector) (Natl Board (incl. Endorsements), and State or Prov. and No.)

01 0019

**CERTIFICATE HOLDERS' DATA REPORT SUPPLEMENTARY SHEET
As Required by the Provisions of the ASME Code Section III**

Certificate Holders' Serial Nos. GV/TM 325 Pg. 11 of 11
Certificate Holder's Data Report Ref : BUERTM/NGV0325 rev A

1. Manufactured and certified by AREVA NP - Usine de Chalons/St Marcel
(Name and address of NPT Certificate Holder)
BP 40001 St Marcel - 71328 CHALON SUR SAONE Cedex - France
2. Manufactured for AREVA NP, Inc.
(Name and address of Purchaser)
3315 Old Forest Road, Lynchburg, VA 24501
3. Location of installation Three Mile Island Nuclear Station Unit 1
(Name and address)
Route 441 South, Middletown, PA 17057 - USA

Item 10

| | Steam generator primary side | Steam generator secondary side |
|----------------------------|------------------------------|--------------------------------|
| Design pressure (psig) | 2500 | 1150 |
| Temp (°F) | 650 | 605 |
| Hydro test pressure (psig) | 3125 | 1438 |
| Min. Temp. hydr test (°F) | 70 | 70 |

AREVA NP SAS Date 3/11/2009 Name AREVA NP Signed LAINIER P
(Certificate Holder) (Authorized representative)

ANI Date 7/31/09 Name [Signature] Commissions 11452 A-N, OH 193
(Authorized Nuclear Inspector) (Natl Board (incl. Endorsements), and State or Prov. and No.)

**FORM NPP-1 CERTIFICATE HOLDER'S DATA REPORT FOR FABRICATED
NUCLEAR PIPING SUBASSEMBLIES***
As Required by the Provisions of the ASME Code, Section III, Division 1

1. Fabricated and certified by TAYLOR FORGE ENGINEERED SYSTEMS, INC • 208 N. IRON STREET • PAOLA, KANSAS 66071
(name and address of NPT Certificate Holder)
2. Fabricated for AREVA NP, INC., • 155 MILL RIDGE ROAD • LYNCHBURG, VA 24502
(name and address of Purchaser)
3. Location of installation THREE MILE ISLAND, UNIT 1 • RT 441 SOUTH • MIDDLETOWN, PA 17057
(name and address)
4. Type: 0199-1A — 0199-01-D12, Rev. 1 — 2009
(Certificate Holder's serial no.) (CRN) (drawing no.) (National Bd. no.) (year built)
5. ASME Code, Section III, Division 1: 2001 2003 Class 1 2142-2
(edition) (addenda date) (class) (Code Case no.)
6. Shop hydrostatic test 3125 psig Minimum / 3400 psig Maximum at 70° F. Minimum / 100° F. Maximum (if performed)
7. Description of piping 36" ID Overlaid Upper Hot Leg Assembly: 180° Elbow (4-45° Elbows)=SA-516-70 Modified to SA-234-WPC S7 & S9; All Pipe=SA-106-C; (2) Pressure Tap Nozzles=SA-105, (3) RTE Mounting Bosses With RTD Weldable Thermowells=SB-166 UNS N06690, (Continued in Remarks)
8. Certificate Holder's Data Reports properly identified and signed by commissioned inspectors have been furnished for the following items of this report: Vent and Pressure Tap Nozzle Forgings - Part Number EG8022796-001, S/N's 01, 03, 04, 05, 06, 07, 08, and Flow Meter Nozzle Forgings - Part Number EG8022801-001, S/N's 01, 02, 03 and 04
9. Remarks (1) Vent Nozzle=SA-105; (2) Flow Meter Nozzles=SA-105, (8) Impulse Nozzles & (2) Flow Meter Rings=SB-166 UNS N06690; (2) Flow Meter, (3) Vent and Pressure Tap Safe Ends=SA-182-F316; Lifting Lug and Insulation Support Lugs=SA-516-70

| CERTIFICATE OF SHOP COMPLIANCE | |
|--|---|
| We certify that the statements made in this report are correct and that the fabrication of the described piping subassembly conforms to the rules for construction of the ASME Code, Section III, Division 1. | |
| NPT Certificate of Authorization No. <u>N-1937</u> | Expires <u>November 25, 2010</u> |
| Date <u>10/15/09</u> Name <u>Taylor Forge Engineered Systems, Inc.</u> Signed <u><i>J.P. [Signature]</i></u> | <small>(NPT Certificate Holder) (authorized representative)</small> |
| CERTIFICATE OF SHOP INSPECTION | |
| I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of <u>Kansas</u> and employed by <u>HSB CT</u> of <u>Hartford, CT</u> have inspected the piping subassembly described in this Data Report on <u>10/7/09</u> , and state that to the best of my knowledge and belief, the Certificate Holder has fabricated this piping subassembly in accordance with the ASME Code, Section III, Division 1. | |
| By signing this certificate neither the inspector nor his employer makes any warranty, expressed or implied, concerning the piping subassembly described in this Data Report. Furthermore, neither the inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection. | |
| Date <u>10/15/09</u> Signed <u><i>[Signature]</i></u> Commissions <u>NB11546ABNINS</u> | <small>(Authorized Nuclear Inspector) (National Bd. (incl. endorsements), and state or prov. and no.)</small> |

* Supplemental information in the form of lists, sketches, or drawings may be used provided: (1) size is 8 1/2 x 11; (2) information in items 1 through 4 on this Data Report is included on each sheet; and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

Certificate Holder's Serial No. 0199-1A

3. Description of field fabrication

1. Pneu., hydro., or comb. test pressure at temp. (if performed)

CERTIFICATE OF FIELD FABRICATION COMPLIANCE
We certify that the statements made in this report are correct and that the field fabrication of the described piping subassembly conforms with the rules for construction of the ASME Code, Section III, Division 1.
NPT Certificate of Authorization No. Expires
Date Name Signed
(Certificate Holder) (authorized representative)
CERTIFICATE OF FIELD FABRICATION INSPECTION
I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of and employed by have compared the statements in this Data Report with the described piping subassembly and state that parts referred to as data items not included in the Certificate of Shop Inspection, have been inspected by me on and that to the best of my knowledge and belief the Certificate Holder has fabricated this piping subassembly in accordance with the ASME Code, Section III, Division 1.
By signing this certificate neither the inspector nor his employer makes any warranty, expressed or implied, concerning the piping subassembly described in this Data Report. Furthermore, neither the inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.
Date Signed Commissions
(Authorized Nuclear Inspector) (National Bd. Incl. endorsements, and state or prov. and no.)

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As required by the Provisions of the ASME Code Section XI

1. Owner Exelon Nuclear Name _____ Date January 21, 2010
200 Exelon Way, Kennett Square, PA Address _____ Sheet 1 of 1
2. Plant Three Mile Island Generating Station Name _____ Unit TMI-1
Rt. 441 South, Middletown, PA, 17057 Address _____ For EOTSG 1002556-00001, UHL 00417645
 Repair Organization P.O. No., Job No., etc.
3. Work Performed by SGT Name _____ Type Code Symbol Stamp N/A
 Name _____ Authorization No. N/A
200 Exelon Way, Kennett Square, PA Address _____ Expiration Date NA

4. Identification of System NSSS See Attachment 1 for additional systems, WO's and applicable Codes.

5. (a) Applicable Construction Code ASME Section III, 2001 Edition, 03 Addenda, N-725 Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1995 through 1996

6. Identification of Components Repaired or Replaced and Replacement Components:

| Name of Component | Name of Manufacturer | Manufacturer Serial No. | National Board No. | Other Identification | Yr Built | Repaired, Replaced, or Replacement | ASME Code Stamped (Yes or No) |
|---------------------|----------------------|-------------------------|--------------------|----------------------|----------|------------------------------------|-------------------------------|
| "B" Steam Generator | Areva NP, Inc | GV/TM326 | 6 | NA | 2009 | Replaced | Yes |
| "B" UHL | Taylor Forge | 0199-1B | N/A | NA | 2009 | Replaced | Yes |

7. Description of Work: 1B Steam Generator Replacement
8. Tests Conducted Hydrostatic Pneumatic Nominal Operating Pressure
 Other Pressure NOP (Ref. Section 9) psig Test Temp NOT

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

This Form (E00030) may be obtained from the Order Dept., 22 Law drive, Box 2300, Fairfield, NJ 07007-2300., New York, NY 10017

FORM NIS-2 (Back)

9. Remarks: See Attachment 1 for systems and applicable Codes. Utilized Code Case N-416-3 for pressure tests except for Blowdown System which received Section XI Hydrostatic Test at 1.25 Design Pressure.
Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

I certify that the statements made in the report are correct and that this conforms the requirements of ASME Code, Section XI.

Type of Code Symbol Stamp N/A

Certificate of Authorization No. N/A

Expiration Date N/A

Signed Gene Navratil/ISI Program Specialist
Owner or Owner's Designee, Title

Date March 9, 2010

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of - _____ and employed by. Hartford Steam Boiler I & I Co of CT of Hartford, CT, 06102 have inspected the components described in this Owner's Report during the period 10-1-09 to 3-9-10, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection..

Paul J. Kelly
Inspector's Signature

Commissions

NR 5478 N.A.T.

National Board, State, Province, and Endorsements

Date

MARCH 9 2010

NIS-2 SGT EOTSG B & ASSOCIATED SYSTEMS REPLACEMENT ACTIVITIES

TMI Unit 1

ATTACHMENT 1

| System/Component | Const Code | R & R Code | Description |
|-----------------------------|--|--|---|
| Emergency Feedwater | B31.1 1967 | ASME Sec. III 2001 Ed/03 Add, Class 2 | WO# C2017972 & C2020006, WP# 3083B, 3083C, Reinstallation of 6" EFW riser piping up to feed ring per ECR-06-00709 & ECR 07-00638 in support of TMI-1 EOTSG replacement activities |
| Reactor Coolant | USAS B31.7, Feb 1968 Draft with June 1968 Errata | USAS B31.7, Feb 1968 Draft with June 1968 Errata, Class 1 | WO# C2018070, WO# C2018072, WP# 3065D, 3065B, Replacement of 36 I.D. Hot Leg riser piping and 28" I.D. Cold Leg elbow at primary outlet per ECR-06-00759 in support of TMI-1 EOTSG replacement activities |
| Feedwater | B31.1 1967 | ASME Sec. III 2001 Ed/03 Add, Class 2 | WO# C2017974, WP# 3085B, Replacement of 14" FW riser piping up to feed ring per ECR-06-00709 in support of TMI-1 EOTSG replacement activities |
| Main Steam | B31.1 1967 | ASME Sec. III 2001 Ed/03 Add, Class 2 | WO# C2017935, WP# 3080B, Replacement of 24" Main Steam elbows per ECR-06-00708 in support of TMI-1 EOTSG replacement activities |
| Blowdown | B31.1 1967 | B31.1 1967 Class 2 | WO# C2020048, WP# 3521B, Modify existing Hot Drain and SG Sampling system to create an independent Steam Generator Blowdown system per ECR-07-00259 in support of TMI-1 EOTSG replacement activities |
| RCS Hot Leg Instrumentation | USAS B31.7, Feb 1968 Draft with June 1968 Errata | ASME Sec. III 2001 Ed/03 Add, Class 1 | WO# C2017992, WP# 3527B & PIMS work activity C2018571 Items 33, 34, 35, 36, Replacement of existing 1/2" & 1" Hot Leg Instrumentation lines and elbows per ECR-07-00576 & work activity C2018571 in support of TMI-1 EOTSG replacement activities |
| RCS High point Vent | USAS B31.7, Feb 1968 Draft with June 1968 Errata | ASME Sec. III 2001 Ed/03 Add, Class 1 | WO# C2017990, WP# 3526B, Replacement of existing Hot Leg High Point Vent from 1" NPS nozzle extension to 1/2" NPS existing pipe in support of TMI-1 EOTSG replacement activities |
| EOTSG Secondary Drain | B31.1 1967 | ASME Sec. III 2001 Ed/03 Add, Class 2 | WO# C2017926, WP# 3522B, Reinstallation of 1-1/2" Secondary Drain piping from EOTSG drain nozzle extension per ECR-07-00638 in support of TMI-1 EOTSG replacement activities. |
| EOTSG Upper Tubesheet Vent | B31.1 1967 | ASME Sec. III 2001 Ed/03 Add, Class 2 | WO# C2017385, WP# 3524B, Reinstallation of 1-1/2" Upper Tubesheet Vent piping between EOTSG nozzle and valves MS-V-23A per ECR-07-00638 in support of TMI-1 EOTSG replacement activities |

FORM N-1 CERTIFICATE HOLDERS' DATA REPORT FOR NUCLEAR VESSELS*

As Required by the Provisions of the ASME Code, Section III, Division 1 Pg. 1 of 5

1. Manufactured and certified by AREVA NP, Inc. - 3315 Old Forest Road, Lynchburg, VA 24501
(name and address of N Certificate Holder)
2. Manufactured for Exelon Generation, LLC - 200 Exelon Way, Kennett Square, PA 19348
(name and address of Purchaser)
3. Location of installation Three Mile Island Nuclear Station Unit 1 - Route 441 South, Middletown, PA 17057
(name and address)
4. Type Vertical Heat Exch. GV/TM326 N/A See Page 3 6 2009
(horiz. or vert.) (tank, jacketed, heat ex.) (Cert. Holder's serial no.) (CRN) (drawings no.) (Nat'l. Bd. No.) (year built)
5. ASME Code, Section III, Division 1: 2001 See Pg 3 2003 See Pg 3 Class 1/2 See Pg 3 N-725
(addition) (addenda date) (class) (Code Case no.)

Items 6-10 inclusive to be completed for single wall vessels, jackets of jacketed vessels, or shells of heat exchangers.

6. Shell: SA-508 G3C2 90 ksi 5.31 and 3.31 5.13 and 3.13 11 ft 8 in. 52 Ft. - 1.38 in.
(mat'l spec. no.) (tensile strength) (nom. thickness (in.)) (min. design thickness (in.)) (dia. ID (ft. & in.)) (length (overall)) (ft & in.)
7. Seams: N/A N/A N/A N/A Single Yes Full Four
(long.) (HT) (RT) (eff.%) (girth) (HT) (RT) (no. of courses)
8. Heads: N/A N/A N/A N/A N/A
(a) mat'l spec. no. (tensile strength) (b) mat'l spec. no. (tensile strength)

| | Location (top, bottom, ends) | Thickness | Corrosion Allowance | Crown Radius | Knuckle Radius | Elliptical Ratio | Conical Apex Angle | Hemispherical Radius | Flat Diameter | Side to Pressure (convex or concave) |
|-----|------------------------------|-----------|---------------------|--------------|----------------|------------------|--------------------|----------------------|---------------|--------------------------------------|
| (a) | N/A | | | | | | | | | |
| (b) | N/A | | | | | | | | | |

If removable, bolts used N/A N/A
(mat'l spec. no., size, quantity) (describe or attach sketch)

9. Jacket closure: N/A
(Describe as ogee & weld, bar, etc. If bar, give dimensions, describe or sketch)
10. Design pressure² 1150 at max. temp. 605 Min. pressure-test temp. 70 Pneu., hydro., or comb. test pressure 1438
(psi) (°F) (°F) (psi)

Items 11 and 12 to be completed for tube sections.

11. Tubesheets: SA-508 G3C2 (Page 3) 140" I.D. 24 in. min. Welded
(laboratory, mat'l spec. no.) (dia. in. (subject to press.)) (thickness (in.)) (attachment (welded, bolted))
N/A N/A N/A N/A
(floating, mat'l spec. no.) (dia. (in.)) (thickness (in.)) (attachment)
12. Tubes: SB-163 Alloy 690 0.625 in. 0.0368 in. 15,597 Straight
(mat'l spec. no.) (OD (in.)) (thickness (inches or gage)) (no.) (type (straight or U))

Items 13 to 16 inclusive to be completed for inner chambers of jacketed vessels, or channels of heat exchangers.

13. Shell: SA-508 G3C2 90 ksi N/A 8.0" 9' - 11.06" 0' - 9.733"
(mat'l spec. no.) (tensile strength) (nom. thickness (in.)) (min. design thickness (in.)) (dia. ID (ft & in.)) (length (overall)) (ft & in.)
14. Seams: N/A N/A N/A N/A Single/Double Yes Full One each
(long. (welded, dbl., single)) (HT) (yes or no) (RT) (eff.%) (girth) (HT) (RT) (no. of courses)
15. Heads: SA-508 G3C2 90 ksi SA-508 G3C2 90 ksi N/A N/A
(a) mat'l spec. no. (tensile strength) (b) mat'l spec. no. (tensile strength) (c) mat'l spec. no. (tensile strength)

| Location | Thickness | Crown Radius | Knuckle Radius | Elliptical Ratio | Conical Apex Angle | Hemispherical Radius | Flat Diameter | Side to Pressure (convex or concave) |
|-----------------------|-----------|--------------|----------------|------------------|--------------------|----------------------|---------------|--------------------------------------|
| (a) Top, bottom, ends | 8.0" Min. | | | | | 65.63" | | Concave |
| (b) Channel Bottom | 8.0" Min. | | | | | 60.88" | | Concave |
| (c) Floating | N/A | | | | | | | |

If removable, bolts used N/A N/A
(mat'l spec. no., size, quantity) (describe or attach sketch)

16. Design pressure² 2500 at 650 Min. pressure-test temp. 70 Pneu., hydro., or comb. test pressure 3125
(psi) (°F) (°F) (psi)

¹If postweld heat treated. ²List other internal or external pressure with coincident temperature when applicable.

*Supplemental information in form of lists, sketches, or drawings may be used provided (1) size is 8 1/2" x 11, (2) information in items 1 through 4 on this Data Report is included on each sheet, (3) each sheet is numbered and number of sheets is recorded at top of this form.

FORM N-1 (Back - Pg. 2 of 5)

Certificate Holder's Serial No. GV/ITM328

17. Nozzles, inspection and safety valve openings:

| Purpose (inlet, outlet, drain, etc.) | Quantity | Dia. or Size | Type | How Attached | Mat'l | Thickness | Reinforcement Material | Location |
|---|----------|--------------|---------|--------------|-------------|-----------|------------------------|-----------|
| Primary Inlet | 1 | 36.13" I.D. | N/A | Integral | SA-508 G3C2 | 3.25" | Integral | Top Head |
| Primary Outlet | 2 | 28.63" I.D. | N/A | Integral | SA-508 G3C2 | 2.56" | Integral | Bottom Hd |
| Steam Outlet | 2 | 21.75" I.D. | N/A | Welded | SA-508 G3C2 | 1.25" | Integral | Shell |
| Primary Manway | 1 | 16.0" I.D. | Blt Cov | Integral | SA-508 G3C2 | 8.25" | Integral | Top Head |
| Primary Manway | 1 | 16.0" I.D. | Blt Cov | Integral | SA-508 G3C2 | 8.25" | Integral | Bottom Hd |
| Secondary Manway | 1 | 16.0" I.D. | Blt Cov | Welded | SA-508 G3C2 | 5.0" | Integral | Shell |
| (continued on page 4) | | | | | (See Pg 3) | | | |

18. Supports: Skirt: _____ Lugs: 48 Legs: N/A Other: N/A Attached: Welded to Lower Head
(yes or no) (quantity) (quantity) (describe) (where and how)

19. Remarks:
14" Schedule 80 Main Feedwater Header consists of two half-torus sections and includes (32) 3" Schedule 80 Risers - See page 5
6" Schedule 80 Emergency Feedwater Header includes (7) 3" Schedule 80 Risers - See page 5
N-2 Data Report for completed item attached. Performance of component hydrostatic pressure test and subsequent Code stamping conducted at NPT Certificate Holder's Shop location in Saint-Marcel, France. - NCA-8322(b)

| | | | |
|---|---------------------------|-------------------------------------|---|
| CERTIFICATION OF DESIGN | | | |
| Design specification certified by <u>P. A. Opsal</u> | P.E. State <u>VA</u> | Reg. no. <u>014498</u> | |
| Design report certified by <u>T.M. Wiger</u> | P.E. State <u>CA</u> | Reg. no. <u>M33816</u> | |
| CERTIFICATE OF SHOP COMPLIANCE | | | |
| We certify that the statements made in this report are correct and that this nuclear vessel conforms to the rules for construction of the ASME Code, Section III, Division 1. | | | |
| N Certificate of Authorization No. _____ | | Expires _____ | |
| Date _____ | Name _____ | Signed _____ | (authorized representative) |
| CERTIFICATE OF SHOP INSPECTION | | | |
| I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of _____ and employed by _____ of _____ have inspected the component described in this Data Report on _____, and state that to the best of my knowledge and belief, the Certificate Holder has constructed this component in accordance with the ASME Code, Section III, Division 1. | | | |
| By signing this certificate neither the inspector nor his employer makes any warranty, expressed or implied, concerning the component described in this Data Report. Furthermore, neither the inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection. | | | |
| Date _____ | Signed _____ | Commissions _____ | (Natl. Bd. (incl. endorsements) and state or prov. and no.) |
| CERTIFICATE OF FIELD ASSEMBLY COMPLIANCE | | | |
| We certify that the statements on this report are correct and that the field assembly construction of all parts of this nuclear vessel conforms to the rules of construction of the ASME Code, Section III, Division 1. | | | |
| N Certificate of Authorization No. <u>N-1650</u> | | Expires <u>June 12, 2012</u> | |
| Date <u>Aug 1, 2009</u> | Name <u>AREVA NP Inc.</u> | Signed <u>MJ McInerney</u> | (authorized representative) |
| CERTIFICATE OF FIELD ASSEMBLY INSPECTION | | | |
| I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of <u>OHIO</u> and employed by <u>HARTFORD STEAM BOILER OF CT</u> of <u>HARTFORD (CT)</u> have compared the statements in this Data Report with the described component and state that parts referred to as data items <u>in line 19</u> , not included in the certificate of shop inspection, have been inspected by me on <u>June 7, 2009</u> and that to the best of my knowledge and belief the Certificate Holder has constructed and assembled this component in accordance with the ASME Code, Section III, Division 1. | | | |
| By signing this certificate neither the inspector nor his employer makes any warranty, expressed or implied, concerning the component described in this Data Report. Furthermore, neither the inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection. | | | |
| Date <u>August 1, 2009</u> | Signed _____ | Commissions <u>11452 A-N OH 193</u> | (Natl. Bd. (incl. endorsements) and state or prov. and no.) |

FORM N-1 CERTIFICATE HOLDERS' DATA REPORT SUPPLEMENTARY SHEET
As Required by the Provisions of the ASME Code, Section III, Division 1 Pg. 3 of 5

Certificate Holder's Serial No. GV/TM326

1. Manufactured and certified by AREVA NP, Inc. - 3315 Old Forest Road, Lynchburg, VA 24501
(name and address of N Certificate Holder)
2. Manufactured for Exelon Generation, LLC - 200 Exelon Way, Kennett Square, PA 19348
(name and address of Purchaser)
3. Location of installation Three Mile Island Nuclear Station Unit 1 - Route 441 South, Middletown, PA 17057
(name and address)
4. Type Vertical Heat Exch. GV/TM326 N/A See Page 3 6 2009
(horiz. or vert.) (Tank, jacketed, heat ex) (Cert. Holder's serial no.) (CRN) (drawings no.) (Nat'l. Bd. no.) (year built)

SUPPLEMENTAL INFORMATION

| <u>Line</u> | <u>Item</u> | <u>Description</u> |
|-------------|--------------|---|
| 4 | Drawing No's | 02-5056245E-005, TMI EOTSG Specification Drawing 02-5056246E-005, TMI EOTSG General Outline Drawing 02-5056247E-005, TMI EOTSG General Outline - Cross Sections Drawing 02-5056248E-009, TMI EOTSG List of Material Drawing 02-5056249E-007, TMI EOTSG Shell Outline Drawing 02-5056250F-003, TMI EOTSG SG-B Main Feedwater Header Assembly and Details 02-5056252E-008, TMI EOTSG Primary Side Openings 02-5056253E-005, TMI EOTSG Secondary Openings Sections 02-5056254E-006, TMI EOTSG Upper Tubesheet Details 02-5056256E-004, TMI EOTSG Lower Tubesheet Details 02-5056260E-002, TMI EOTSG Lower Head Outlet Nozzle Details 02-5056264E-003, TMI EOTSG Drain, Temperature and Sensing Nozzles. 02-5056267E-001, TMI EOTSG Longitudinal Section and Opening Sections 02-5056281F-003, TMI EOTSG MFW Header Additional Details 02-5056283E-003, TMI EOTSG Emergency Feedwater Header Assembly and Details |
| 5 | ASME Code | ASME Code Section III, Division I, 2001 Edition with Addenda through 2003 for the complete Steam Generator excluding Alloy 690 tube bundle material. ASME Code Section III, 1998 Edition with Addenda through 2000 for Alloy 690 tube bundle material for procurement and design analysis. |
| 5 | Addenda | As noted above. |
| 5 | Class | Within the jurisdictional boundaries specified on Drawing 02-5056245: <ul style="list-style-type: none"> • The entire EOTSG primary side and secondary side pressure boundary are classified, designed, and fabricated in accordance with the ASME Code as a Class 1 Vessel. • The Primary outlet elbows and extension pieces are Class 1 Piping. • The integrally welded Support Skirt is a Class 1 Support. • The Main Feedwater Header / Riser Assemblies are Class 2 Piping. • The Emergency Feedwater Header / Riser Assembly is Class 2 Piping. |

Lines 6, 11, 13 & 15 The material specification number for these items is SA-508 Grade 3 Class 2.

Lines 17 On pages 2 and 4, the material designated as SA-508 G3C2 is Grade 3 Class 2.

AREVA NP Inc. Date Aug 1, 2009 Name AREVA NP Inc. Signed [Signature]
(N Certificate Holder)

ANI Date Aug 1st, 2009 Name [Signature] Commissions 11452 A-N OH 193
(Authorized Nuclear Inspector) (Nat'l. Bd. (incl. endorsement) and state or prov. and no.)

FORM N-1 CERTIFICATE HOLDERS' DATA REPORT SUPPLEMENTARY SHEET

As Required by the Provisions of the ASME Code, Section III, Division 1 Pg. 4 of 5

Certificate Holder's Serial No. GV/TM326

1. Manufactured and certified by AREVA NP, Inc. - 3315 Old Forest Road, Lynchburg, VA 24501
(name and address of N Certificate Holder)
2. Manufactured for Exelon Generation, LLC - 200 Exelon Way, Kennett Square, PA 19348
(name and address of Purchaser)
3. Location of installation Three Mile Island Nuclear Station Unit 1 - Route 441 South, Middletown, PA 17057
(name and address)
4. Type Vertical Heat Exch. GV/TM326 N/A See Page 3 6 2009
(horiz. or vert.) (tank, jacketed, heat ex.) (Cert. Holder's serial no.) (CRN) (drawings no.) (Nat'l. Bd. no.) (year built)

SUPPLEMENTAL INFORMATION

Line Item Description

17. Nozzles, inspection and safety valve openings:

| Purpose (inlet, outlet, drain, etc.) | Quantity | Nominal Dia. or Size | Type | How Attached | Mat'l | Thickness | Reinforcement Material | Location |
|---|----------|-------------------------|-----------------|--------------------------|---------------------|-----------|---------------------------|----------------|
| Main Feedwater Nozzles | 32 | 2.9" I.D. | N/A | Bolted with seal weld | SB-564 Alloy 690 | 0.3" | Integral | Shell |
| Emergency FW Nozzles | 7 | 2.9" I.D. | N/A | Bolted with seal weld | SB-564 Alloy 690 | 0.3" | Integral | Shell |
| Handholes | 8 | 8.0" I.D. | Bolted Cover | Integral | SA508 G3C2 | 3.88" | Integral | Shell |
| Primary Inspection Port | 1 | 5.0" I.D. | Bolted Cover | Integral | SA508 G3C2 | N/A | Integral | Top Head |
| Inspection Openings | 9 | 3" I.D. | Bolted Cover | Welded | SA508 G3C2 | 3.25" | Integral | Thin Shell |
| Inspection Openings | 8 | 3" I.D. | Bolted Cover | Integral | SA508 G3C2 | N/A | Integral | Thick Shell |
| Vent Conn. | 1 | 1.5" I.D. | N/A | F.P. Weld | SA-105 | 0.57" | Integral | Upper TS |
| Drain Conn. | 2 | 1.5" I.D. | N/A | P.P. Weld | SA-105 | 0.2" | Integral | Shell |
| Temp. Sensing Conn. | 2 | 1.4" O.D. | N/A | P.P. Weld | SB-166 Alloy 690 | 0.51" | None Req'd | Thin Shell |
| Temp. Sensing Conn. | 1 | 1.4" O.D. | N/A | P.P. Weld | SB-166 Alloy 690 | 0.51" | Integral | Thick Shell |
| Tubesheet Drain Conn. | 4 | 1.94" I.D. | N/A | F.P. Weld | SA-105 | 0.435" | Integral | Lower TS |
| Shroud Drain Conn. | 2 | 0.96" I.D. | N/A | P.P. Weld | SA-105 | 0.18" | Integral | Shell |
| Sensing Conn. Nozzle | 6 | 2" O.D. | N/A | F.P. Weld | SA-105 | 0.483" | Integral | Shell |
| UHL Sensing Conn. | 2 | 0.96" I.D. | N/A | P.P. Weld | SA-105 | 0.18" | Integral | Shell |
| LHL Sensing Conn. | 2 | 0.96" I.D. | N/A | P.P. Weld | SA-105 | 0.18" | Integral | Shell |
| ULL Sensing Conn. | 2 | 0.96" I.D. | N/A | P.P. Weld | SA-105 | 0.18" | Integral | Shell |
| LLL Sensing Conn. | 2 | 0.96" I.D. | N/A | P.P. Weld | SA-105 | 0.18" | Integral | Shell |

AREVA NP Inc. Date Aug 1, 2009 Name AREVA NP Inc.
(N Certificate Holder)

Signed [Signature]

ANI Date Aug 1, 2009 Name [Signature]
(Authorized Nuclear Inspector)

Commissions 11452, A-N, 04193
(Nat'l. Bd. (incl. endorsements) and state or prov. and no.)

FORM N-1 CERTIFICATE HOLDERS' DATA REPORT SUPPLEMENTARY SHEET

As Required by the Provisions of the ASME Code, Section III, Division 1 Pg. 5 of 5

Certificate Holder's Serial No. GV/TM326

1. Manufactured and certified by AREVA NP, Inc. - 3315 Old Forest Road, Lynchburg, VA 24501
(name and address of N Certificate Holder)
2. Manufactured for Exelon Generation, LLC - 200 Exelon Way, Kennett Square, PA 19348
(name and address of Purchaser)
3. Location of installation Three Mile Island Nuclear Station Unit 1 - Route 441 South, Middletown, PA 17057
(name and address)
4. Type Vertical Heat Exch. GV/TM326 N/A See Page 3 6 2009
(horiz. or vert.) (tank, jacketed, heat ex.) (Cert. Holder's serial no.) (CRN) (drawings no.) (Nat'l. Bd. no.) (year built)

SUPPLEMENTAL INFORMATION

Line Item Description

19. Remarks:

Main Feedwater Header Parts:

- 14" Sch. 80 MFW Header pipe and cap, Riser branch conn., Tee conn., Inspection Port
- Riser pipe inspection port, plug, 4" x 3" Reducer and 3" Sch. 80 LR Elbows
- 3" Sch. 80 Riser pipe
- 14" Dia. x 3" long Safe End at Header Inlet
- 3" Inspection Port Cover

Materials:

- SA-182 F22 Class 3
- SB-564 Alloy 690
- SB-167 Alloy 690
- SA-105
- SA-533 Gr. B Class 2

Emergency Feedwater Header Parts:

- 6" Sch. 80 EFW Header pipe, 6" Sch. 80 LR Elbow, Spool Piece, Riser branch conn.
- 6" - 900# Weld Neck Flange and Blind Flange
- 3" Sch. 80 Riser pipe, 4" Sch. 40 Inlet pipe
- 3" Sch. 80 LR Elbows
- 6" Sch. 80 x 3" long Safe End at Header Inlet

Materials:

- SA-182 F22 Class 3
- SA-182 F22 Class 3
- SB-167 Alloy 690
- SB-564 Alloy 690
- SA-105

All ferritic steel surfaces exposed to primary reactor coolant are clad. Primary heads are internally clad with type 308L stainless steel; the primary face of tubesheets are clad with UNS number N06052.

Hydrostatic Testing

As permitted by NB-3226, up to 10 cycles of hydrostatic tests may be excluded from the SG component fatigue analysis. For compliance with that requirement, the actual test cycles used were as follows:

- 1 cycle - Primary Side Hydrostatic test
- 2 cycles - Secondary Side Hydrostatic test

AREVA NP Inc. Date Aug 1, 2009 Name AREVA NP Inc.
(N Certificate Holder)

Signed [Signature]

ANI Date Aug 1, 2009 Name [Signature]
(Authorized Nuclear Inspector)

Commissions 11452, A-N, OH 193
(Nat'l Bd. Incl. endorsements and state of prov. and no.)

01 0008

FORM N-2 CERTIFICATE HOLDERS' DATA REPORT FOR IDENTICAL NUCLEAR PARTS AND APPURTENANCES As Required by the Provisions of the ASME Code Section III Not to Exceed One Day's Production

Pg. 1 of 11

Certificate Holder's Data Report Ref : BUERTM/NGV0328 rev A

1. Manufactured and certified by AREVA NP Usine de Chalon/Saint Marcel (Name and address of Certificate Holder) BP 40001 - St Marcel - Zone Industrielle et Portuaire Sud - 71328 CHALON SUR SAONE Cedex - FRANCE

2. Manufactured for AREVA NP, Inc. (Name and address of Purchaser) 3315 Old Forest Road, Lynchburg, VA 24501

3. Location of Installation Three Mile Island Nuclear Station Unit 1 - Route 441 South, Middletown, PA 17057USA

4. Type (See supplementary sheets) N/A 2009 (drawing no.) (matl spec no.) (tensile strength) (CRN) (year built)

5. ASME Code, Section III, Division 2001 Addenda through 2003 1&2 (see supp sheets) N-725 (edition) (addenda) (class) (code case no.)

6. Fabricated in accordance with Const. Spec. (Div 2 only) N/A Revision Date (no.)

7. Remarks: - Class 1 : primary and secondary sides - Class 2 : Main feedwater and Emergency feedwater headers and risers

8. Nom. Thickness (in.) (See supplementary sheets) Min. des thickness (in.) (See supplementary sheets)

Dia. ID (ft & in.) (See supplementary sheets) Length overall (ft & in.) 52 Ft. - 1.38 in.

9. When applicable, Certificate Holders' Data Reports are attached for each item on this report:

Table with 4 columns: Part or Appurtenance Serial Number, National Board No. in Numerical Order, Part or Appurtenance Serial Number, National Board No. in Numerical Order. Row 1: 1. GV/TM328, N/A, empty, empty.

10. Design Pressure (See supplementary sheets) psig Temp. (See supplementary sheets) Deg. F

Hydro.Test Pressure @ Temp (See supplementary sheets)

01 0009

FORM N-2 (Back - Pg 2 of 11)

Certificate Holders' Serial Nos GV/TM326

Certificate Holder's Data Report Ref : BUERTM/NGV0326 rev A



CERTIFICATION OF DESIGN

Design Specifications Certified by PHILIP A. OPSAL P.E. State VA Reg. No. 014498

Design Report Certified by T.M WIGER P.E. State CA Reg. No. M33816

CERTIFICATE OF COMPLIANCE

We Certify that the statements made in this report are correct and that this (these) STEAM GENERATOR conforms to the rules of construction of the ASME Code, Section III Division 1

NPT Certification of Authorization No. N-2772 Expires: Jan.29,2012

Date 04 Aug 2009 Name AREVA NP Signed LAIGNIER P

CERTIFICATE OF INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of OHIO and employed by HSB CT of CT have inspected these items described in this Data Report on June 7, 2009 and state that to the best of my knowledge and belief, the Certificate Holder has fabricated these parts or Appurtenances in accordance with the ASME Code, Section III, Division 1. Each Part has been authorized for stamping on the date shown above.

By signing this certificate, neither the Inspector nor his Employer makes any warranty expressed or implied concerning the equipment described in this Data Report. Furthermore, neither the Inspector nor his Employer shall be liable for any personal injury or property damage or loss of any kind arising from or connected with this inspection.

Date August 1st, 2009 Signed Commissions 11452, A-N, OH 193
(Authorized Nuclear Inspector) (Nat'l Board Endsmts. State or Prov. and no.)

**CERTIFICATE HOLDERS' DATA REPORT SUPPLEMENTARY SHEET
As Required by the Provisions of the ASME Code Section III**

Certificate Holders' Serial Nos. GV/TM 326 Pg. 3 of 11
Certificate Holder's Data Report Ref: BUERTMNGV0326 rev A

1. Manufactured and certified by AREVA NP - Usine de Chalons/St Marcel
(Name and address of NPT Certificate Holder)
BP 40001 St Marcel - 71328 CHALON SUR SAONE Cedex - France
2. Manufactured for AREVA NP, Inc.
(Name and address of Purchaser)
3315 Old Forest Road, Lynchburg, VA 24501
3. Location of installation Three Mile Island Nuclear Station Unit 1
(Name and address)
Route 441 South, Middletown, PA 17057 - USA

Item 4

List of drawings

| Drawing Number | Title |
|-----------------|---|
| 02-5056245E-005 | TMI EOTSG Specification Drawing |
| 02-5056248E-005 | TMI EOTSG General Outline Drawing |
| 02-5056247E-005 | TMI EOTSG General Outline - Cross section Drawing |
| 02-5056248E-009 | TMI EOTSG List of Material Drawing |
| 02-5056249E-007 | TMI EOTSG Shell Outline Drawing |
| 02-5056250E-003 | TMI EOTSG SG-B Main feedwater Assembly and Details |
| 02-5056252E-008 | TMI EOTSG Primary side Openings |
| 02-5056253E-005 | TMI EOTSG Secondary Openings sections |
| 02-5056254E-006 | TMI EOTSG Upper Tubesheet Details |
| 02-5056256E-004 | TMI EOTSG Lower Tubesheet Details |
| 02-5056260E-002 | TMI EOTSG Lower Head Outlet Nozzle Details |
| 02-5056264E-003 | TMI EOTSG Drain, Temperature and Sensing Nozzles |
| 02-5056267E-001 | TMI EOTSG Longitudinal Section and Opening Sections |
| 02-5056281F-003 | TMI EOTSG MFW Header additional Details |
| 02-5056283E-003 | TMI EOTSG Emergency feedwater Header Assembly and Details |

AREVA NP SAS Date 04 Aug 1999 Name AREVA NP Signed LAGNIER P
(Certificate Holder) (Authorized representative)

ANI Date 8/11/99 Name [Signature] Commissions 11452, A-N, OH193
(Authorized Nuclear Inspector) (Natl Board (Incl. Endorsements), and State or Prov. and No.)

**CERTIFICATE HOLDERS' DATA REPORT SUPPLEMENTARY SHEET
As Required by the Provisions of the ASME Code Section III**

Certificate Holders' Serial Nos. GV/TM 326 Pg. 5 of 11
Certificate Holder's Data Report Ref : BUERTM/NGV0326 rev A

1. Manufactured and certified by AREVA NP - Usine de Chalons/St Marcel
(Name and address of NPT Certificate Holder)
BP 40001 St Marcel - 71328 CHALON SUR SAONE Cedex - France
2. Manufactured for AREVA NP, Inc.
(Name and address of Purchaser)
3315 Old Forest Road, Lynchburg, VA 24501
3. Location of installation Three Mile Island Nuclear Station Unit 1
(Name and address)
Route 441 South, Middletown, PA 17057 - USA



Items 4 and 8

| Part | Mat'l. Spec. no. | Tensile strength (ksi at 70°F) (note a) | Nom. thickness (in.) | Min. design thickness (in.) | Nom. Dia. ID (in.) |
|--|------------------|---|--|-----------------------------|--|
| Upper shell | SA-508 Gr3 cl 2 | 90 ksi | 5.31" (note b) 3.31" (note c) | 5.13" 3.13" | 140.00" |
| Nozzle shell | SA-508 Gr3 cl 2 | | 3.31" (note d) 5.31" (note e) 3.31" (note f) | 3.13" 5.13" 3.13" | 140.00" |
| Intermediate shell | SA-508 Gr3 cl 2 | | 3.31" | 3.13" | 140.00" |
| Lower shell | SA-508 Gr3 cl 2 | | 3.31" (note g) 5.31" (note h) | 3.13" 5.13" | 140.00" |
| Lower head | SA-508 Gr3 cl 2 | | 8.12" | 8" 8.03" (flat bottom) | R=65.63" (note l) |
| Upper head | SA-508 Gr3 cl 2 | | 8.07" | 8" | R=60.88" (note l) |
| Lower and upper tubesheet | SA-508 Gr3 cl 2 | | 24" (note i) | 24" (note i) | 119.06" (notes i and j) 140" (note k) |
| Lower and upper tubesheet extension (ring) | SA-508 Gr3 cl 2 | | N/A | 8" | 119.06" (note l) |
| Tube bundle | SB-163 Alloy 690 | 85 ksi | 0.0368" | 0.0340" | 0.5514" |

- a : Tensile strength Su from ASME Code, Section III, Appendix 1, tables
- b : Top end (tubesheet side)
- c : Bottom end (Nozzle shell side)
- d : Top end (Upper shell side)
- e : Middle
- f : Bottom end (Intermediate shell side)
- g : Top end (Intermediate shell side)
- h : Bottom end (Tubesheet side)
- i : Under cladding
- j : Head side
- k : Shell side

AREVA NP SAS Date 01 Aug 1999 Name AREVA NP Signed LAIGNIER P.
(Certificate Holder) (Authorized representative)

ANI Date 8/1/09 Name [Signature] Commissions 11452, A-N, 04193
(Authorized Clear Inspector) (Net'l Board (Incl. Endorsements), and State or Prov. and No.)

01 0013

**CERTIFICATE HOLDERS' DATA REPORT SUPPLEMENTARY SHEET
As Required by the Provisions of the ASME Code Section III**

Certificate Holders' Serial Nos. GV/TM 326 Pg. 6 of 11
Certificate Holder's Data Report Ref : BUERTM/NGV0326 rev A

1. Manufactured and certified by AREVA NP - Usine de Chalons/St Marcel
(Name and address of NPT Certificate Holder)
BP 40001 St Marcel - 71328 CHALON SUR SAONE Cedex - France
2. Manufactured for AREVA NP, Inc.
(Name and address of Purchaser)
3315 Old Forest Road, Lynchburg, VA 24501
3. Location of installation Three Mile Island Nuclear Station Unit 1
(Name and address)
Route 441 South, Middletown, PA 17057 - USA

Items 4 and 8

| Part | Mat'l. Spec. no. | Tensile strength (ksi at 70°F) (note a) | Nom. thickness (in.) | Min. design thickness (in.) | Nom. Dia. ID (in.) |
|----------------------------------|------------------|---|--|-----------------------------|--------------------|
| Primary inlet nozzle extension | SA-508 Gr3 cl 2 | 90 ksi | 3.25" (note b) 3.50" (note c) 5.25" (note d) | 3.25" | 36.13" (note e) |
| Primary inlet nozzle | SA-508 Gr3 cl 2 | | 5.25" | 5.25" | 48.51" (note e) |
| Primary manway | SA-508 Gr3 cl 2 | | N/A | N/A | 16.50" (note e) |
| Primary inspection port | SA-508 Gr3 cl 2 | | N/A | N/A | 5.50" (note e) |
| Secondary manway | SA-508 Gr3 cl 2 | | 4.97" | 2.14" | 16.00" |
| Secondary inspection port welded | SA-508 Gr3 cl 2 | | 3.25" | 2.78" | 3.00" |
| Handhole | SA-508 Gr3 cl 2 | | 3.875" | 1.58" | 8.00" |
| Steam outlet nozzle | SA-508 Gr3 cl 2 | | 3.66" | 3.66" | 21.75" |
| Steam outlet nozzle safe end | SA-105 | 70 ksi | 1.25" | 1.25" | 21.75" |
| Primary outlet nozzle | SA-508 Gr3 cl 2 | 90 ksi | 4.31" (note f) 2.56" (note g) | 1.51" | 28.63" |

- a : Tensile strength Su from ASME Code, Section III, Appendix 1, tables
b : Top end (pipe side)
c : Middle
d : Bottom end (Primary inlet nozzle side)
e : Under cladding
f : Top end (Head side)
g : Bottom end (extension side)

AREVA NP SAS Date 04/11/09 Name AREVA NP Signed LAINIER P.
(Certificate Holder) (Authorized representative)

ANI Date 8/1/09 Name [Signature] Commissions 11452, A-N, OH 193
(Authorized Nuclear Inspector) (Nat'l Board (Incl. Endorsements), and State or Prov. and No.)

01 0014

**CERTIFICATE HOLDERS' DATA REPORT SUPPLEMENTARY SHEET
As Required by the Provisions of the ASME Code Section III**

Certificate Holders' Serial Nos. GV/TM 326 Pg. 7 of 11
Certificate Holder's Data Report Ref : BUERTM/NGV0326 rev A

1. Manufactured and certified by AREVA NP - Usine de Chalons/St Marcel
(Name and address of NPT Certificate Holder)
BP 40001 St Marcel - 71328 CHALON SUR SAONE Cedex - France
2. Manufactured for AREVA NP, Inc.
(Name and address of Purchaser)
3315 Old Forest Road, Lynchburg, VA 24501
3. Location of Installation Three Mile Island Nuclear Station Unit 1
(Name and address)
Route 441 South, Middletown, PA 17057 - USA



Items 4 and 8

| Part | Mat'l. Spec. no. | Tensile strength (ksi at 70°F) (note a) | Nom. thickness (in.) | Min. design thickness (in.) | Nom. Dia. ID (in.) |
|---|------------------|---|----------------------|-----------------------------|-----------------------------------|
| Primary outlet nozzle extension | SA-508 Gr3 cl 2 | 90 ksi | 2.50" (note b) | 2.50" | 28.75" |
| Primary outlet nozzle elbow | SA-508 Gr3 cl 2 | | 3.375" (note c) | | |
| Nozzles for main and emergency feedwaters (quantity 32+7) | SB-564 Alloy 690 | 85 ksi | 0.3" | 0.30" | 2.9" |
| Secondary inspection port (integral) | SA-508 Gr3 cl 2 | 90 ksi | N/A | N/A | 3.00" |
| Drain connection nozzle | SA-105 | 70 ksi | 0.67" (note f) | 0.44" | 1.94" |
| Upper and lower low level sensing connection | SA-105 | | 0.435" (note g) | | |
| Temperature sensing connection | SB-166 Alloy 690 | 85 ksi | 0.18" | 0.18" | 0.96" |
| | | | 0.51" (note h) | 0.51" | 0.38" (note h) 0.257" (note i) |
| | | | 0.4625" (note i) | | |
| | | | 0.31" (note j) | | |

- a : Tensile strength Su from ASME Code, Section III, Appendix 1, tables
- b : Top end (nozzle side)
- c : Bottom end (elbow side)
- d : Top end (Extension side)
- e : Bottom end (pipe side)
- f : Tubesheet side
- g : Pipe side
- h : Shell side
- i : Shroud side end radial thickness
- j : shroud side end thickness

AREVA NP SAS Date 01/11/09 Name AREVA NP Signed LAWRIER P
(Certificate Holder) (Authorized representative)

ANI Date 8/14/09 Name [Signature] Commissions 11452, A-N, 04193
(Authorized Nuclear Inspector) (Natl Board (incl. Endorsements), and State or Prov. and No.)

01 0015

CERTIFICATE HOLDERS' DATA REPORT SUPPLEMENTARY SHEET
As Required by the Provisions of the ASME Code Section III

Certificate Holders' Serial Nos. GY/TM 326 Pg. 8 of 11
 Certificate Holder's Data Report Ref : BUERTM/NGV0326 rev A

1. Manufactured and certified by AREVA NP - Usine de Chalons/St Marcel
 (Name and address of NPT Certificate Holder)
BP 40001 St Marcel - 71328 CHALON SUR SAONE Cedex - France
2. Manufactured for AREVA NP, Inc.
 (Name and address of Purchaser)
3315 Old Forest Road, Lynchburg, VA 24501
3. Location of installation Three Mile Island Nuclear Station Unit 1
 (Name and address)
Route 441 South, Middletown, PA 17057 - USA

Items 4 and 8

| Part | Mat'l. Spec. no. | Tensile strength (ksi at 70°F) (note a) | Nom. thickness (in.) | Min. design thickness (in.) | Nom. Dia. ID (in.) |
|---|------------------|---|------------------------------------|-----------------------------|--------------------|
| Sensing connection | SA-105 | 70 ksi | 0.18" 0.36" (note b) | N/A | 0.98" |
| Sensing connection nozzle | SA-105 | | 0.483" | 0.48" | 1.673" |
| Upper shroud drain connection | SA-105 | | 0.20" (note c) 0.40" (note d) | 0.20" | 1.50" |
| Vent and high level nitrogen purge connection | SA-105 | | 0.565" (note e) 0.355" (note c) | 0.36" | 1.50" |

- a : Tensile strength Su from ASME Code, Section III, Appendix 1, tables
 b : Bottom end with sensing connection nozzle welded (Shell side)
 c : Pipe side
 d : Shell side
 e : Tubesheet side

AREVA NP SAS Date 01/06/09 Name AREVA NP Signed LALONIER P.
 (Certificate Holder) (Authorized representative)

ANI Date 8/14/09 Name [Signature] Commissions 11452, A-N, OH 193.
 (Authorized Nuclear Inspector) (Natl Board (Incl. Endorsements), and State or Prov. and No.)

01 0016

**CERTIFICATE HOLDERS' DATA REPORT SUPPLEMENTARY SHEET
As Required by the Provisions of the ASME Code Section III**

Certificate Holders' Serial Nos. GV/TM 326 Pg. 9 of 11
Certificate Holder's Data Report Ref : BUERTM/NGV0326 rev A

1. Manufactured and certified by AREVA NP - Usine de Chalons/St Marcel
(Name and address of NPT Certificate Holder)
BP 40001 St Marcel - 71328 CHALON SUR SAONE Cedex - France
2. Manufactured for AREVA NP, Inc.
(Name and address of Purchaser)
3315 Old Forest Road, Lynchburg, VA 24501
3. Location of installation Three Mile Island Nuclear Station Unit 1
(Name and address)
Route 441 South, Middletown, PA 17057 - USA

Items 4 and 8 - Main Feedwaters accessories

| Part | Matl. Spec. no. | Tensile strength (ksi at 70°F) (note a) | Nom. thickness (in.) | Min. design thickness (in.) | Nom. Dia. ID (in.) |
|---------------------------------|------------------|---|--------------------------------|-----------------------------|--------------------|
| 14.00 sch 80 pipe | SA-182 F22 Cl 3 | 75 ksi | 0.75" | 0.66" | 12.50" |
| Caps 14" sch 80 | SA-182 F22 Cl 3 | | 0.75" | 0.70" | 12.50" |
| Tee connection | SA-182 F22 Cl 3 | | 1.00" min | 1.00" | 12.40" |
| Inspection ports | SA-182 F22 Cl 3 | | 1.00" min | 1.00" | 12.40" |
| Header riser branch connection | SA-182 F22 Cl 3 | | 0.3" (note b) 0.8" (note c) | 0.28" | 2.90" |
| Riser pipe 3.00" sch 80 | SB-167 Alloy 690 | 85 | 0.3" | 0.26" | 2.90" |
| Riser pipe inspection port plug | SB-564 Alloy 690 | 85 | 1.50" | 0.36" | 0.86" OD |
| Riser pipe inspection port | SB-564 Alloy 690 | | 0.30" min | 0.36" | 2.90" |
| Elbow 90° 3.00" sch 80 | SB-564 Alloy 690 | | 0.3" | N/A | 2.90" |
| Inspection port cover | SA-533 GrB Cl2 | 90 | 2.25" | N/A | 9.75" OD |
| Safe end | SA-105 | 70 | 0.75" | 0.66" | 12.50" |

a : Tensile strength Su from ASME Code, Section III, Appendix 1, tables
b : MFW riser side
c : MFW header side

AREVA NP SAS Date 01/16/09 Name AREVA NP Signed LIGNIER P.
(Certificate Holder) (Authorized representative)

ANI Date 8/14/09 Name [Signature] Commissions 11452, A-N, OH 193
(Authorized Nuclear Inspector) (Natl Board (Incl. Endorsements), and State or Prov. and No.)

01 0017

**CERTIFICATE HOLDERS' DATA REPORT SUPPLEMENTARY SHEET
As Required by the Provisions of the ASME Code Section III**

Certificate Holders' Serial Nos. GV/TM 326 Pg. 10 of 11
Certificate Holder's Data Report Ref: BUERTM/NGV0326 rev A

1. Manufactured and certified by AREVA NP - Usine de Chalons/St Marcel
(Name and address of NPT Certificate Holder)
BP 40001 St Marcel - 71328 CHALON SUR SAONE Cedex - France
2. Manufactured for AREVA NP, Inc.
(Name and address of Purchaser)
3315 Old Forest Road, Lynchburg, VA 24501
3. Location of installation Three Mile Island Nuclear Station Unit 1
(Name and address)
Route 441 South, Middletown, PA 17057 - USA



Items 4 and 8 - Emergency Feedwaters accessories

| Part | Matl. Spec. no. | Tensile strength (ksi at 70°F) (note a) | Nom. thickness (in.) | Min. design thickness (in.) | Nom. Dia. ID (in.) |
|-----------------------------------|------------------|---|----------------------------------|-----------------------------|--------------------|
| 6" sch 80 pipe | SA-182 F22 Cl3 | 75 | 0.43" | 0.38" | 5.76" |
| Header to riser branch connection | SA-182 F22 Cl3 | | 0.30" (note b) 0.80" (note c) | 0.30" | 2.90" |
| 3" sch 80 riser pipe | SB-167 Alloy 690 | 85 | 0.3" | 0.26" | 2.90" |
| Elbow 3" sch 80 | SB-564 Alloy 690 | | 0.3" | N/A | 2.90" |
| 6" blind flange | SA-182 F22 Cl3 | 75 | 2.20" | N/A | 15.00" OD |
| 6" weld neck flange | SA-182 F22 Cl3 | | 0.432" | N/A | 5.76" |
| 6.00" sch 80 pipe elbow | SA-182 F22 Cl3 | | 0.43" | N/A | 5.76" |
| 6" sch 80 pipe safe end 3" lg | SA-105 | 70 | 0.43" | N/A | 5.76" |

a : Tensile strength Su from ASME Code, Section III, Appendix 1, tables
b : EFW riser side
c : EFW header side

AREVA NP SAS Date 01 Aug 2009 Name AREVA NP Signed J. LIGNIER P.
(Certificate Holder) (Authorized representative)

ANI Date 8/14/09 Name [Signature] Commissions 11452 A-N, 04193
(Authorized Nuclear Inspector) [Natl Board (Incl. Endorsements), and State or Prov. and No.]

01 0018

CERTIFICATE HOLDERS' DATA REPORT SUPPLEMENTARY SHEET
As Required by the Provisions of the ASME Code Section III

Certificate Holders' Serial Nos. GV/TM 326 Pg. 11 of 11
Certificate Holder's Data Report Ref : BUERTM/NGV0326 rev A

1. Manufactured and certified by AREVA NP - Usine de Chalons/St Marcel
(Name and address of NPT Certificate Holder)
BP 40001 St Marcel - 71328 CHALON SUR SAONE Cedex - France
2. Manufactured for AREVA NP, Inc.
(Name and address of Purchaser)
3315 Old Forest Road, Lynchburg, VA 24501
3. Location of installation Three Mile Island Nuclear Station Unit 1
(Name and address)
Route 441 South, Middletown, PA 17057 - USA



Item 10

| | Steam generator primary side | Steam generator secondary side |
|----------------------------|------------------------------|--------------------------------|
| Design pressure (psig) | 2500 | 1150 |
| Temp (°F) | 650 | 605 |
| Hydro test pressure (psig) | 3125 | 1438 |
| Min: Temp. hydr test (°F) | 70 | 70 |

AREVA NP SAS Date 04/11/2009 Name AREVA NP Signed LALONIER P.
(Certificate Holder) (Authorized representative)

ANI Date 8/1/09 Name [Signature] Commissions 11452, A-N, 04193
(Authorized Nuclear Inspector) (Natl Board (Incl. Endorsements), and State or Prov. and No.)

**FORM NPP-1 CERTIFICATE HOLDER'S DATA REPORT FOR FABRICATED
NUCLEAR PIPING SUBASSEMBLIES***
As Required by the Provisions of the ASME Code, Section III, Division 1

1. Fabricated and certified by TAYLOR FORGE ENGINEERED SYSTEMS, INC • 208 N. IRON STREET • PAOLA, KANSAS 66071
(name and address of NPT Certificate Holder)
2. Fabricated for AREVA NP, INC., • 155 MILL RIDGE ROAD • LYNCHBURG, VA 24502
(name and address of Purchaser)
3. Location of installation THREE MILE ISLAND, UNIT 1 • RT 441 SOUTH • MIDDLETOWN, PA 17057
(name and address)
4. Type: 0199-1B — 0199-01-D12, Rev. 1 — 2009
(Certificate Holder's serial no.) (CRN) (drawing no.) (National Bd. no.) (year built)
5. ASME Code, Section III, Division 1: 2001 2003 Class 1 2142-2
(edition) (addenda date) (class) (Code Case no.)
6. Shop hydrostatic test 3125 psig Minimum / 3400 psig Maximum at 70° F. Minimum / 100° F. Maximum (if performed)
7. Description of piping 36" ID Overlaid Upper Hot Leg Assembly: 180° Elbow (4-45° Elbows)=SA-516-70 Modified to SA-234-WPC S7 & S9; All Pipe=SA-106-C; (2) Pressure Tap Nozzles=SA-105, (3) RTE Mounting Bosses With RTD Weldable Thermowells=SB-166 UNS N06690, (Continued in Remarks)
8. Certificate Holder's Data Reports property identified and signed by commissioned inspectors have been furnished for the following items of this report: Vent and Pressure Tap Nozzle Forgings - Part Number EG8022796-001, S/N's 01, 03, 04, 05, 06, 07, 08, and Flow Meter Nozzle Forgings - Part Number EG8022801-001, S/N's 01, 02, 03 and 04
9. Remarks (1) Vent Nozzle=SA-105; (2) Flow Meter Nozzles=SA-105, (8) Impulse Nozzles & (2) Flow Meter Rings=SB-166 UNS N06690; (2) Flow Meter, (3) Vent and Pressure Tap Safe Ends=SA-182-F316; Lifting Lug and Insulation Support Lugs=SA-516-70

| CERTIFICATE OF SHOP COMPLIANCE | |
|---|---|
| We certify that the statements made in this report are correct and that the fabrication of the described piping subassembly conforms to the rules for construction of the ASME Code, Section III, Division 1. | |
| NPT Certificate of Authorization No. <u>N-1937</u> | Expires <u>November 25, 2010</u> |
| Date <u>10/15/09</u> Name <u>Taylor Forge Engineered Systems, Inc.</u> Signed <u>[Signature]</u> | <small>(NPT Certificate Holder) (authorized representative)</small> |
| CERTIFICATE OF SHOP INSPECTION | |
| I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of <u>Kansas</u> and employed by <u>HSB CT</u> of <u>Hartford, CT</u> have inspected the piping subassembly described in this Data Report on <u>10/19/09</u> and state that to the best of my knowledge and belief, the Certificate Holder has fabricated this piping subassembly in accordance with the ASME Code, Section III, Division 1. | |
| By signing this certificate neither the inspector nor his employer makes any warranty, expressed or implied, concerning the piping subassembly described in this Data Report. Furthermore, neither the inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection. | |
| Date <u>10/15/09</u> Signed <u>[Signature]</u> Commissions <u>NB11546ABNINS</u> <u>KS 448</u> | <small>(Authorized Nuclear Inspector) (National Bd. (incl. endorsements), and state or prov. and no.)</small> |

* Supplemental information in the form of lists, sketches, or drawings may be used provided: (1) size is 8 1/2 x 11; (2) information in items 1 through 4 on this Data Report is included on each sheet; and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NPP-1 (Back -- Pg. 2 of 2)

Certificate Holder's Serial No. 0199-1B

J. Description of field fabrication _____

I. Pneu., hydro., or comb. test pressure _____ at temp. _____ (if performed)

CERTIFICATE OF FIELD FABRICATION COMPLIANCE

We certify that the statements made in this report are correct and that the field fabrication of the described piping subassembly conforms with the rules for construction of the ASME Code, Section III, Division 1.

NPT Certificate of Authorization No. _____ Expires _____

Date _____ Name _____ Signed _____
(Certificate Holder) (authorized representative)

CERTIFICATE OF FIELD FABRICATION INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of _____ and employed by _____ of _____ have compared the statements in this Data Report with the described piping subassembly and state that parts referred to as data items _____, not included in the Certificate of Shop Inspection, have been inspected by me on _____ and that to the best of my knowledge and belief the Certificate Holder has fabricated this piping subassembly in accordance with the ASME Code, Section III, Division 1.

By signing this certificate neither the inspector nor his employer makes any warranty, expressed or implied, concerning the piping subassembly described in this Data Report. Furthermore, neither the inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date _____ Signed _____ Commissions _____
(Authorized Nuclear Inspector) (National Bd. (incl. endorsements), and state or prov. and no.)

FORM NIS-2 (Back)

9. Remarks: Removed six pressurizer level sensing nozzle safe ends and adjacent piping/valve assemblies. Replaced pressurizer level sensing nozzle safe ends with new stainless steel safe ends and piping/valve assemblies. Removed pressurizer sample nozzle safe end and replaced with new stainless steel safe end. Work performed under work orders C2020136, C2020137, C2020138, C2020140, C2020142, C2020143, C2020144.
Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

I certify that the statements made in the report are correct and that this conforms the requirements of ASME Code, Section XI.

Type of Code Symbol Stamp N/A

Certificate of Authorization No. N/A Expiration Date N/A

Signed Gene Navratil/ISI Program Specialist *Gene Navratil* Date March 12, 2010
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Pennsylvania and employed by Hartford Steam boiler I & I Co of CT of Hartford, CT, 06102 have inspected the components described in this Owner's Report during the period 1-29-09 to 3-18-10, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Joseph M. Kelly Commissions PA 1887 NR5478 A.N.I
Inspector's Signature National Board, State, Province, and Endorsements

Date March 11, 2010

FORM NIS-2 (Back)

9. Remarks: Removed existing thermowell from service by welding pad over existing location. Installed new thermowell 180 degrees from original location.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

I certify that the statements made in the report are correct and that this conforms the requirements of ASME Code, Section XI.

Type of Code Symbol Stamp N/A

Certificate of Authorization No. N/A Expiration Date N/A

Signed Gene Navratil / ISI Program Specialist Gene Navratil Date March 12, 2010
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Pennsylvania and employed by Hartford Steam boiler I & I Co of CT of Hartford, CT, 06102 have inspected the components described in this Owner's Report during the period 7-16-09 to 3-10-10, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Joseph Malloy
Inspector's Signature

Commissions PA 1887 NB 5478 A.N.I.
National Board, State, Province, and Endorsements

Date March 10 20 10

FORM NIS-2 (Back)

9. Remarks: Replaced "A", "B", "C", and "D" High Pressure Injection (HPI) safe ends and thermal sleeves with new stainless steel material. See work orders C2020573, C2020574, C2020575, and C2020576.
Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

I certify that the statements made in the report are correct and that this conforms the requirements of ASME Code, Section XI.

Type of Code Symbol Stamp N/A

Certificate of Authorization No. N/A Expiration Date N/A

Signed Gene Navratil/ISI Program Specialist *Gene Navratil* Date January 26, 2010
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Pennsylvania and employed by Hartford Steam boiler I & I Co of CT of Hartford, CT, 06102 have inspected the components described in this Owner's Report during the period 12-9-09 to 3-5-10, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Joseph M. Hubley Commissions PA 1887 NB 5478 A. N. I.
Inspector's Signature National Board, State, Province, and Endorsements

Date MARCH 5 20 10

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As required by the Provisions of the ASME Code Section XI

1. Owner Exelon Nuclear Date February 25, 2010
Name _____
200 Exelon Way, Kennett Square, PA Sheet 1 of 1
Address _____
2. Plant Three Mile Island Generating Station Unit TMI-1
Name _____
Address _____ R2061681
Repair Organization P.O. No., Job No., etc. _____
3. Work Performed by Exelon Nuclear Type Code Symbol Stamp N/A
Name _____
Authorization No. N/A
200 Exelon Way, Kennett Square, PA Expiration Date NA
Address _____
4. Identification of System 411 – MAIN STEAM SYSTEM
5. (a) Applicable Construction Code ANSI B31.1 1967 Edition, NA Addenda, NA Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1995 through 1996
6. Identification of Components Repaired or Replaced and Replacement Components.

| Name of Component | Name of Manufacturer | Manufacturer Serial No. | National Board No. | Other Identification | Yr Built | Repaired, Replaced, or Replacement | ASME Code Stamped (Yes or No) |
|-------------------|----------------------|-------------------------|--------------------|----------------------|----------|------------------------------------|-------------------------------|
| NA | NA | NA | NA | NA | NA | NA | NA |

7. Description of Work: Opened, inspected, and replaced stem, bonnet, and seal ring on valve MS-V-1C.
8. Tests Conducted Hydrostatic Pneumatic Nominal Operating Pressure
Other Pressure 860 psig Test Temp. 200°F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 ½ x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

This Form (E00030) may be obtained from the Order Dept., 22 Law drive, Box 2300, Fairfield, NJ 07007-2300. , New York, NY 10017

FORM NIS-2 (Back)

9. Remarks: Opened, inspected, and replaced stem, bonnet, and seal ring on valve MS-V-1C.
Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

I certify that the statements made in the report are correct and that this conforms the requirements of ASME Code, Section XI.

Type of Code Symbol Stamp N/A

Certificate of Authorization No. N/A Expiration Date N/A

Signed Gene Navratil/ISI Program Specialist *Gene Navratil* Date February 25, 2010
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Pennsylvania and employed by Hartford Steam boiler I & I Co of CT of Hartford, CT, 06102 have inspected the components described in this Owner's Report during the period 12-7-09 to 3-3-10, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Joseph Whalley Commissions PA 1987 NB 5478 ANI
Inspector's Signature National Board, State, Province, and Endorsements

Date March 3 20 10

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As required by the Provisions of the ASME Code Section XI

1. Owner Exelon Nuclear Name _____ Date February 23, 2010
200 Exelon Way, Kennett Square, PA Address _____ Sheet 1 _____ of 1 _____
2. Plant Three Mile Island Generating Station Name _____ Unit TMI-1
Rt. 441 South, Middletown, PA, 17057 Address _____ R2120893 Repair Organization P.O. No., Job No., etc. _____
3. Work Performed by Exelon Nuclear Name _____ Type Code Symbol Stamp N/A
200 Exelon Way, Kennett Square, PA Address _____ Authorization No. N/A
 Expiration Date NA

4. Identification of System 153 – Reactor Building
5. (a) Applicable Construction Code B31.1 1967 Edition, NA, Addenda, NA Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1992 through 1992 Add

6. Identification of Components Repaired or Replaced and Replacement Components.

| Name of Component | Name of Manufacturer | Manufacturer Serial No. | National Board No. | Other Identification | Yr Built | Repaired, Replaced, or Replacement | ASME Code Stamped (Yes or No) |
|-------------------|----------------------|-------------------------|--------------------|----------------------|----------|------------------------------------|-------------------------------|
| NA | NA | NA | NA | NA | NA | NA | NA |

7. Description of Work: Replaced flange bolting on Reactor Building penetrations 414 and 415.
8. Tests Conducted Hydrostatic Pneumatic Nominal Operating Pressure
 Other Pressure 54 psig Test Temp NA°F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 ½ x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

This Form (E00030) may be obtained from the Order Dept., 22 Law drive, Box 2300, Fairfield, NJ 07007-2300. , New York, NY 10017

FORM NIS-2 (Back)

9. Remarks: Replaced flange bolting on Reactor Building penetrations 414 and 415.
Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

I certify that the statements made in the report are correct and that this conforms the requirements of ASME Code, Section XI.

Type of Code Symbol Stamp N/A

Certificate of Authorization No. N/A Expiration Date N/A

Signed Gene Navratil/ISI Program Specialist *Gene Navratil* Date February 23, 2010
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Pennsylvania and employed by Hartford Steam boiler I & I Co of CT of Hartford, CT, 06102 have inspected the components described in this Owner's Report during the period 1-16-10 to 2-25-10, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Joseph J. Hubby
Inspector's Signature

Commissions NB 5478 N I A PA 1087
National Board, State, Province, and Endorsements

Date FEB 25 2010

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As required by the Provisions of the ASME Code Section XI

1. Owner Exelon Nuclear Name _____ Date February 23, 2010 _____
200 Exelon Way, Kennett Square, PA Address _____ Sheet 1 _____ of 1 _____
2. Plant Three Mile Island Generating Station Name _____ Unit TMI-1 _____
 _____ Address _____ C2022745 Repair Organization P.O. No., Job No., etc. _____
3. Work Performed by Exelon Nuclear Name _____ Type Code Symbol Stamp N/A _____
 _____ Name _____ Authorization No. N/A _____
200 Exelon Way, Kennett Square, PA Address _____ Expiration Date NA _____
4. Identification of System 220 - REACTOR COOLANT SYSTEM _____
5. (a) Applicable Construction Code ASME Section III, 1977 Edition, Summer 1979, Addenda, NA Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1995 through 1996 _____

6. Identification of Components Repaired or Replaced and Replacement Components.

| Name of Component | Name of Manufacturer | Manufacturer Serial No. | National Board No. | Other Identification | Yr Built | Repaired, Replaced, or Replacement | ASME Code Stamped (Yes or No) |
|-------------------|----------------------|-------------------------|--------------------|----------------------|----------|------------------------------------|-------------------------------|
| NA | NA | NA | NA | NA | NA | Replaced | NA |

7. Description of Work: Replaced valve RC-V-42 operator/bonnet with new operator/bonnet.
8. Tests Conducted Hydrostatic Pneumatic Nominal Operating Pressure
 Other Pressure 2176 psig Test Temp. 532°F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 ½ x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

This Form (E00030) may be obtained from the Order Dept., 22 Law drive, Box 2300, Fairfield, NJ 07007-2300. , New York, NY 10017

FORM NIS-2 (Back)

9. Remarks: Replaced valve RC-V-42 operator/bonnet with new operator/bonnet.
Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

I certify that the statements made in the report are correct and that this conforms the requirements of ASME Code, Section XI.

Type of Code Symbol Stamp N/A

Certificate of Authorization No. N/A Expiration Date N/A

Signed Gene Navratil/ISI Program Specialist *Gene Navratil* Date February 23, 2010
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Pennsylvania and employed by Hartford Steam boiler I & I Co of CT of Hartford, CT, 06102 have inspected the components

described in this Owner's Report during the period 1-19-10 to 1-25-10, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Joseph A. Mully Commissions PA 1887 NB 5478 A.N.I.
Inspector's Signature National Board, State, Province, and Endorsements

Date FEB. 25 20 10

FORM NIS-2 (Back)

9. Remarks: Removed valve, lapped and oxidized disk, lapped and passivated nozzle, tested valve, and re-installed refurbished valve.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

I certify that the statements made in the report are correct and that this conforms the requirements of ASME Code, Section XI.

Type of Code Symbol Stamp N/A

Certificate of Authorization No. N/A Expiration Date N/A

Signed Gene Navratil/ISI Program Specialist *Gene Navratil* Date February 17, 2010
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Pennsylvania and employed by Hartford Steam boiler I & I Co of CT of Hartford, CT, 06102 have inspected the components described in this Owner's Report during the period 11-7-09 to 2-25-10, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Joseph J. Healy
Inspector's Signature

Commissions PA 1887 NB 5478 A.N.I.
National Board, State, Province, and Endorsements

Date FEB 25 20 10

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As required by the Provisions of the ASME Code Section XI

1. Owner Exelon Nuclear Date February 17, 2010
Name _____
200 Exelon Way, Kennett Square, PA Sheet 1 of 1
Address _____
2. Plant Three Mile Island Generating Station Unit TMI-1
Name _____
Address _____ C2022184
Repair Organization P.O. No., Job No., etc.
3. Work Performed by Exelon Nuclear Type Code Symbol Stamp N/A
Name _____
Address _____ Authorization No. N/A
Expiration Date NA
4. Identification of System 411 - MAIN STEAM SYSTEM
5. (a) Applicable Construction Code ASME Section III 1968 Edition, NA Addenda, NA Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1995 through 1996
6. Identification of Components Repaired or Replaced and Replacement Components.

| Name of Component | Name of Manufacturer | Manufacturer Serial No. | National Board No. | Other Identification | Yr Built | Repaired, Replaced, or Replacement | ASME Code Stamped (Yes or No) |
|-------------------|----------------------|-------------------------|--------------------|----------------------|----------|------------------------------------|-------------------------------|
| MS-V-19C | Dresser | BL07033 | NA | NA | 1969 | Refurbished | Yes |

7. Description of Work: Removed valve, replaced spindle and disk, lapped and passivated nozzle seat, tested valve, and re-installed refurbished valve.
8. Tests Conducted Hydrostatic Pneumatic Nominal Operating Pressure
Other Pressure 860 psig Test Temp. 200°F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

This Form (E00030) may be obtained from the Order Dept., 22 Law drive, Box 2300, Fairfield, NJ 07007-2300. , New York, NY 10017

FORM NIS-2 (Back)

9. Remarks: Removed valve, replaced spindle and disk, lapped and passivated nozzle seat, tested valve, and re-installed refurbished valve.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

I certify that the statements made in the report are correct and that this conforms the requirements of ASME Code, Section XI.

Type of Code Symbol Stamp N/A

Certificate of Authorization No. N/A Expiration Date N/A

Signed Gene Navratil/ISI Program Specialist Gene Navratil Date February 17, 2010
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Pennsylvania and employed by Hartford Steam boiler I & I Co of CT of Hartford, CT, 06102 have inspected the components described in this Owner's Report during the period 11-7-09 to 2-25-10, and

state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Joseph S. Phelan
Inspector's Signature

Commissions PA 1987 NB 5478 A. N. I.
National Board, State, Province, and Endorsements

Date FEB. 25 2010

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As required by the Provisions of the ASME Code Section XI

1. Owner Exelon Nuclear Date February 17, 2010
Name _____
200 Exelon Way, Kennett Square, PA
Address _____
2. Plant Three Mile Island Generating Station Unit TMI-1
Name _____
Address _____ C2022197
Repair Organization P.O. No., Job No., etc. _____
3. Work Performed by Exelon Nuclear Type Code Symbol Stamp N/A
Name _____
Address _____ Authorization No. N/A
200 Exelon Way, Kennett Square, PA Expiration Date NA
Address _____
4. Identification of System 411 – MAIN STEAM SYSTEM
5. (a) Applicable Construction Code ASME Section III 1968 Edition, NA Addenda, NA Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1995 through 1996
6. Identification of Components Repaired or Replaced and Replacement Components.

| Name of Component | Name of Manufacturer | Manufacturer Serial No. | National Board No. | Other Identification | Yr Built | Repaired, Replaced, or Replacement | ASME Code Stamped (Yes or No) |
|-------------------|----------------------|-------------------------|--------------------|----------------------|----------|------------------------------------|-------------------------------|
| MS-V-19A | Dresser | BL07031 | NA | NA | 1969 | Refurbished | Yes |

7. Description of Work: Removed valve, replaced spindle and disk, lapped and passivated nozzle seat, tested valve, and re-installed refurbished valve.
8. Tests Conducted Hydrostatic Pneumatic Nominal Operating Pressure
Other Pressure 860 psig Test Temp. 200°F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 ½ x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

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FORM NIS-2 (Back)

9. Remarks: Removed valve, replaced spindle and disk, lapped and passivated nozzle seat, tested valve, and re-installed refurbished valve.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

I certify that the statements made in the report are correct and that this conforms the requirements of ASME Code, Section XI.

Type of Code Symbol Stamp N/A

Certificate of Authorization No. N/A Expiration Date N/A

Signed Gene Navratil/ISI Program Specialist *see Navratil* Date February 17, 2010
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Pennsylvania and employed by Hartford Steam boiler I & I Co of CT of Hartford, CT, 06102 have inspected the components

described in this Owner's Report during the period 11-7-09 to 2-24-10, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Joseph M. Kelly
Inspector's Signature

Commissions PA 1887 NB 5478 A, N.I.
National Board, State, Province, and Endorsements

Date FEB 24 2010

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As required by the Provisions of the ASME Code Section XI

1. Owner Exelon Nuclear Date February 17, 2010
Name _____
- 200 Exelon Way, Kennett Square, PA Sheet 1 of 1
Address _____
2. Plant Three Mile Island Generating Station Unit TMI-1
Name _____
- Address _____ C2022176
Repair Organization P.O. No., Job No., etc. _____
3. Work Performed by Exelon Nuclear Type Code Symbol Stamp N/A
Name _____
- Authorization No. N/A
- 200 Exelon Way, Kennett Square, PA Expiration Date NA
Address _____
4. Identification of System 411 - MAIN STEAM SYSTEM
5. (a) Applicable Construction Code ASME Section III 1968 Edition, NA Addenda, NA Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1995 through 1996
6. Identification of Components Repaired or Replaced and Replacement Components.

| Name of Component | Name of Manufacturer | Manufacturer Serial No. | National Board No. | Other Identification | Yr Built | Repaired, Replaced, or Replacement | ASME Code Stamped (Yes or No) |
|-------------------|----------------------|-------------------------|--------------------|----------------------|----------|------------------------------------|-------------------------------|
| MS-V-19D | Dresser | BL07034 | NA | NA | 1969 | Refurbished | Yes |

7. Description of Work: Replaced valve with new valve. New valve work included replaced spindle and disk, lapped and passivated nozzle seat, tested valve, and re-installed refurbished new valve.
8. Tests Conducted Hydrostatic Pneumatic Nominal Operating Pressure
- Other Pressure 860 psig Test Temp. 200°F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 ½ x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

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FORM NIS-2 (Back)

9. Remarks: Replaced valve with new valve. New valve work included replaced spindle and disk, lapped and passivated nozzle seat, tested valve, and re-installed refurbished new valve.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

I certify that the statements made in the report are correct and that this conforms to the requirements of ASME Code, Section XI.

Type of Code Symbol Stamp N/A

Certificate of Authorization No. N/A

Expiration Date N/A

Signed Gene Navratil/ISI Program Specialist



Date February 17, 2010

Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Pennsylvania and employed by Hartford Steam boiler I & I Co of CT of Hartford, CT, 06102 have inspected the components

described in this Owner's Report during the period 11-7-09 to 2-24-10, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.



Inspector's Signature

Commissions PA 1887 NBS478 A, N, I
National Board, State, Province, and Endorsements

Date

FEB 24 20 10

FORM NIS-2 (Back)

9. Remarks: Replaced Reactor Coolant Inventory Tracking System tubing connected adjacent to the Reactor Vessel Closure Head.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

I certify that the statements made in the report are correct and that this conforms the requirements of ASME Code, Section XI.

Type of Code Symbol Stamp N/A

Certificate of Authorization No. N/A Expiration Date N/A

Signed Gene Navratil/ISI Program Specialist Gene Navratil Date February 19, 2010
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Pennsylvania and employed by Hartford Steam boiler I & I Co of CT of Hartford, CT, 06102 have inspected the components described in this Owner's Report during the period 12-31-09 to 2-24-10, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Joseph J. Hubby
Inspector's Signature

Commissions PA 1887 N.B. 5478 A N I
National Board, State, Province, and Endorsements

Date FEB 24 2010

FORM NIS-2 (Back)

9. Remarks: Removed valve, replaced disk, lapped and passivated nozzle seat, tested valve, and re-installed refurbished valve.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

I certify that the statements made in the report are correct and that this conforms the requirements of ASME Code, Section XI.

Type of Code Symbol Stamp N/A

Certificate of Authorization No. N/A Expiration Date N/A

Signed Gene Navratil/ISI Program Specialist Gene Navratil Date February 19, 2010
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Pennsylvania and employed by Hartford Steam boiler I & I Co of CT of Hartford, CT, 06102 have inspected the components described in this Owner's Report during the period 11-7-09 to 2-23-10, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Joseph A. Schilling
Inspector's Signature

Commissions PA 1887, NB 5478 A.N.I.
National Board, State, Province, and Endorsements

Date FEB 23 2010

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As required by the Provisions of the ASME Code Section XI

1. Owner Exelon Nuclear Date February 19, 2010
 Name _____
200 Exelon Way, Kennett Square, PA Sheet 1 of 1
 Address _____
2. Plant Three Mile Island Generating Station Unit TMI-1
 Name _____
 Address _____ C2022206
 Repair Organization P.O. No., Job No., etc. _____
3. Work Performed by Exelon Nuclear Type Code Symbol Stamp N/A
 Name _____
 Authorization No. N/A
200 Exelon Way, Kennett Square, PA Expiration Date NA
 Address _____
4. Identification of System 411 – MAIN STEAM SYSTEM
5. (a) Applicable Construction Code ASME Section III 1968 Edition, NA Addenda, NA Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1995 through 1996
6. Identification of Components Repaired or Replaced and Replacement Components.

| Name of Component | Name of Manufacturer | Manufacturer Serial No. | National Board No. | Other Identification | Yr Built | Repaired, Replaced, or Replacement | ASME Code Stamped (Yes or No) |
|-------------------|----------------------|-------------------------|--------------------|----------------------|----------|------------------------------------|-------------------------------|
| MS-V-21A | Dresser | BL07019 | NA | NA | 1969 | Refurbished | Yes |

7. Description of Work: Removed valve, lapped, passivated, and oxidized the disk, lapped and passivated nozzle seat. Spring and disk holder and guide were replaced. Tested and re-installed refurbished valve.
8. Tests Conducted Hydrostatic Pneumatic Nominal Operating Pressure
 Other Pressure 860 psig Test Temp. 200°F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

This Form (E00030) may be obtained from the Order Dept., 22 Law drive, Box 2300, Fairfield, NJ 07007-2300. , New York, NY 10017

FORM NIS-2 (Back)

9. Remarks: Removed valve, lapped, passivated, and oxidized the disk, lapped and passivated nozzle seat. Spring and disk holder and guide were replaced. Tested and re-installed refurbished valve.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

I certify that the statements made in the report are correct and that this conforms the requirements of ASME Code, Section XI.

Type of Code Symbol Stamp N/A

Certificate of Authorization No. N/A

Expiration Date N/A

Signed Gene Navratil/ISI Program Specialist
Owner or Owner's Designee, Title

Date February 19, 2010

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Pennsylvania and employed by Hartford Steam boiler I & I Co of CT of Hartford, CT, 06102 have inspected the components

described in this Owner's Report during the period 11-7-09 to 2-23-10, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Joseph A. Sheehan
Inspector's Signature

Commissions PA 1887 NB 5478 W, N.I.
National Board, State, Province, and Endorsements

Date FEB 23 2010

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As required by the Provisions of the ASME Code Section XI

1. Owner Exelon Nuclear Date February 19, 2010
Name _____
200 Exelon Way, Kennett Square, PA Sheet 1 _____ of 1 _____
Address _____
2. Plant Three Mile Island Generating Station Unit TMI-1
Name _____
Address _____ C2022202
Repair Organization P.O. No., Job No., etc. _____
3. Work Performed by Exelon Nuclear Type Code Symbol Stamp N/A
Name _____
Address _____ 200 Exelon Way, Kennett Square, PA Authorization No. N/A
Expiration Date NA
4. Identification of System 411 – MAIN STEAM SYSTEM

5. (a) Applicable Construction Code ASME Section III 1968 Edition, NA Addenda, NA Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1995 through 1996

6. Identification of Components Repaired or Replaced and Replacement Components.

| Name of Component | Name of Manufacturer | Manufacturer Serial No. | National Board No. | Other Identification | Yr Built | Repaired, Replaced, or Replacement | ASME Code Stamped (Yes or No) |
|-------------------|----------------------|-------------------------|--------------------|----------------------|----------|------------------------------------|-------------------------------|
| MS-V-18C | Dresser | BL07029 | NA | NA | 1969 | Refurbished | Yes |

7. Description of Work: Removed valve, replaced spindle and disk, lapped and passivated nozzle seat, tested valve, and re-installed refurbished valve.

8. Tests Conducted Hydrostatic Pneumatic Nominal Operating Pressure
Other Pressure 860 psig Test Temp. 200°F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 ½ x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

This Form (E00030) may be obtained from the Order Dept., 22 Law drive, Box 2300, Fairfield, NJ 07007-2300. , New York, NY 10017

FORM NIS-2 (Back)

9. Remarks: Removed valve, replaced spindle and disk, lapped and passivated nozzle seat, tested valve, and re-installed refurbished valve.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

I certify that the statements made in the report are correct and that this conforms the requirements of ASME Code, Section XI.

Type of Code Symbol Stamp N/A

Certificate of Authorization No. N/A Expiration Date N/A

Signed Gene Navratil/ISI Program Specialist Gene Navratil Date February 19, 2010
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Pennsylvania and employed by Hartford Steam boiler I & I Co of CT of Hartford, CT, 06102 have inspected the components described in this Owner's Report during the period 11-7-09 to 2-23-10, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Joseph J. Schellby
Inspector's Signature

Commissions PA 1887, NB 5478 A, N, I,
National Board, State, Province, and Endorsements

Date FEB 23 20 10

FORM NIS-2 (Back)

9. Remarks: Removed valve, replaced spindle and disk, passivated seat, tested valve, and re-installed refurbished valve.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

I certify that the statements made in the report are correct and that this conforms the requirements of ASME Code, Section XI.

Type of Code Symbol Stamp N/A

Certificate of Authorization No. N/A Expiration Date N/A

Signed Gene Navratil/ISI Program Specialist *Gene Navratil* Date February 17, 2010
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Pennsylvania and employed by Hartford Steam boiler I & I Co of CT of Hartford, CT, 06102 have inspected the components described in this Owner's Report during the period 11-7-09 to 2-17-10, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Joseph M. ...
Inspector's Signature

Commissions PA 1987 NB 5478 E N, A
National Board, State, Province, and Endorsements

Date FEB 17 2010

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As required by the Provisions of the ASME Code Section XI

1. Owner Exelon Nuclear Date January 26, 2010
Name
- 200 Exelon Way, Kennett Square, PA Sheet 1 of 1
Address
2. Plant Three Mile Island Generating Station Unit TMI-1
Name
- Rt. 441 South, Middletown, PA, 17057 C2022710
Address Repair Organization P.O. No., Job No., etc.
3. Work Performed by Exelon Nuclear Type Code Symbol Stamp N/A
Name
- 200 Exelon Way, Kennett Square, PA Authorization No. N/A
Address Expiration Date NA

4. Identification of System 824 - REACTOR BUILDING PURGE & KIDNEY SYSTEM
5. (a) Applicable Construction Code See Below Edition, See Below Addenda, NA Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1995 through 1996
6. Identification of Components Repaired or Replaced and Replacement Components.

| Name of Component | Name of Manufacturer | Manufacturer Serial No. | National Board No. | Other Identification | Yr Built | Repaired, Replaced, or Replacement | ASME Code Stamped (Yes or No) |
|-------------------|----------------------|-------------------------|--------------------|----------------------|----------|------------------------------------|-------------------------------|
| NA | NA | NA | NA | NA | NA | NA | NA |

7. Description of Work: Replaced two studs and two nuts on valve AH-V-1D flange (IWE side).
8. Tests Conducted Hydrostatic Pneumatic Nominal Operating Pressure
- Other Pressure 53 psig Test 64 F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

This Form (E00030) may be obtained from the Order Dept., 22 Law drive, Box 2300, Fairfield, NJ 07007-2300. , New York, NY 10017

FORM NIS-2 (Back)

9. Remarks: two studs and two nuts on valve AH-V-1D flange (IWE side).

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

I certify that the statements made in the report are correct and that this conforms the requirements of ASME Code, Section XI.

Type of Code Symbol Stamp N/A

Certificate of Authorization No. N/A

Expiration Date N/A

Signed Gene Navratil/ISI Program Specialist

Owner or Owner's Designee, Title

Date January 26, 2010

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Pennsylvania and employed by Hartford Steam boiler I & I Co of CT of Hartford, CT, 06102 have inspected the components

described in this Owner's Report during the period 1-14-10 to 2-8-10, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Inspector's Signature

Commissions PA 1887 NB 5478 I.N.A.
National Board, State, Province, and Endorsements

Date

FEB 8 2010

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As required by the Provisions of the ASME Code Section XI

1. Owner Exelon Nuclear Date February 4, 2010
Name
- 200 Exelon Way, Kennett Square, PA Sheet 1 of 1
Address
2. Plant Three Mile Island Generating Station Unit TMI-1
Name
- Rt. 441 South, Middletown, PA, 17057 C2014853
Address Repair Organization P.O. No., Job No., etc.
3. Work Performed by Exelon Nuclear Type Code Symbol Stamp N/A
Name Authorization No. N/A
- 200 Exelon Way, Kennett Square, PA Expiration Date NA
Address

4. Identification of System 231 - GASEOUS WASTE DISPOSAL SYSTEM

5. (a) Applicable Construction Code See Below Edition, See Below Addenda, N-416-3 Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1995 through 1996

6. Identification of Components Repaired or Replaced and Replacement Components.

| Name of Component | Name of Manufacturer | Manufacturer Serial No. | National Board No. | Other Identification | Yr Built | Repaired, Replaced, or Replacement | ASME Code Stamped (Yes or No) |
|-------------------|----------------------|-------------------------|--------------------|----------------------|----------|------------------------------------|-------------------------------|
| NA | NA | NA | NA | NA | NA | NA | NA |

7. Description of Work: Replaced valve WDG-V-3 and added support WDG-3000. Design and materials per B31.1, 1967; B31.7 Draft February 1968 with June 1968 Errata for fabrication, assembly, erection, inspection and testing (Class N-3).
8. Tests Conducted Hydrostatic Pneumatic Nominal Operating Pressure
- Other Pressure 53.06 psig Test 62°F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

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FORM NIS-2 (Back)

9. Remarks: Replaced valve WDG-V-3 and added support WDG-3000. Design and materials per B31.1, 1967; B31.7 Draft February 1968 with June 1968 Errata for fabrication, assembly, erection, inspection and testing (Class N-3).

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

I certify that the statements made in the report are correct and that this conforms the requirements of ASME Code, Section XI.

Type of Code Symbol Stamp N/A

Certificate of Authorization No. N/A Expiration Date N/A

Signed Gene Navratil/ISI Program Specialist *Gene Navratil* Date February 4, 2010
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Pennsylvania and employed by Hartford Steam boiler I & I Co of CT of Hartford, CT, 06102 have inspected the components

described in this Owner's Report during the period 1-28-09 to 2-5-10, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Frank Italy
Inspector's Signature

Commissions PA 1887 NB 5478 I.N.A.
National Board, State, Province, and Endorsements

Date FEB 5 2010

FORM NIS-2 (Back)

9. Remarks: Replaced snubber CF-14 eye bolt and snubber with new previously tested snubber.
Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

I certify that the statements made in the report are correct and that this conforms the requirements of ASME Code, Section XI.

Type of Code Symbol Stamp N/A

Certificate of Authorization No. N/A Expiration Date N/A

Signed Gene Navratil/ISI Program Specialist Gene Navratil Date January 27, 2010
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Pennsylvania and employed by Hartford Steam boiler I & I Co of CT of Hartford, CT, 06102 have inspected the components

described in this Owner's Report during the period 1-27-10 to 2-4-10, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Joseph A. Whelley Commissions PA 1897 NR 5478 EN, A
Inspector's Signature National Board, State, Province, and Endorsements

Date FEB. 4 2010

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As required by the Provisions of the ASME Code Section XI

1. Owner Exelon Nuclear Date February 4, 2010
 Name
200 Exelon Way, Kennett Square, PA Sheet 1 of 1
 Address
2. Plant Three Mile Island Generating Station Unit TMI-1
 Name
R2125079
 Address Repair Organization P.O. No., Job No., etc.
3. Work Performed by Exelon Nuclear Type Code Symbol Stamp N/A
 Name
 Authorization No. N/A
200 Exelon Way, Kennett Square, PA Expiration Date NA
 Address
4. Identification of System 223 - PRESSURIZER
5. (a) Applicable Construction Code ASME Section III 1971 Edition, Summer 1973, Addenda, NA Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1995 through 1996
6. Identification of Components Repaired or Replaced and Replacement Components.

| Name of Component | Name of Manufacturer | Manufacturer Serial No. | National Board No. | Other Identification | Yr Built | Repaired, Replaced, or Replacement | ASME Code Stamped (Yes or No) |
|-------------------|----------------------|-------------------------|--------------------|----------------------|----------|------------------------------------|-------------------------------|
| RC-RV-1B | Dresser | BR06613 | NA | NA | 1977 | NA | Yes |

7. Description of Work: Removed, tested, refurbished, and re-installed valve.
8. Tests Conducted Hydrostatic Pneumatic Nominal Operating Pressure
 Other Pressure 2176 psig Test Temp. 532°F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

This Form (E00030) may be obtained from the Order Dept., 22 Law drive, Box 2300, Fairfield, NJ 07007-2300. , New York, NY 10017

FORM NIS-2 (Back)

9. Remarks: Removed, tested, refurbished, and re-installed valve.
Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

I certify that the statements made in the report are correct and that this conforms the requirements of ASME Code, Section XI.

Type of Code Symbol Stamp N/A

Certificate of Authorization No. N/A Expiration Date N/A

Signed Gene Navratil/ISI Program Specialist *Gene Navratil* Date February 4, 2010
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Pennsylvania and employed by Hartford Steam boiler I & I Co of CT of Hartford, CT, 06102 have inspected the components described in this Owner's Report during the period 2-2-08 to 2-4-10, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

James J. Kelly Commissions PA 1887 NB 5478 I.N.A.
Inspector's Signature National Board, State, Province, and Endorsements

Date FEB 4 2010

FORM NIS-2 (Back)

9. Remarks: Removed valve and replaced with previously refurbished/tested valve that has been previously in service at TMI.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

I certify that the statements made in the report are correct and that this conforms the requirements of ASME Code, Section XI.

Type of Code Symbol Stamp N/A

Certificate of Authorization No. N/A Expiration Date N/A

Signed Gene Navratil/ISI Program Specialist *Gene Navratil* Date February 4, 2010
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Pennsylvania and employed by Hartford Steam boiler I & I Co of CT of Hartford, CT, 06102 have inspected the components

described in this Owner's Report during the period 9-2-08 to 2-4-10, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Joseph A. DeSoto Commissions PA 1887 ND 5478 I, N, A
Inspector's Signature National Board, State, Province, and Endorsements

Date FEB 4 2010

FORM NIS-2 (Back)

9. Remarks: Removed, tested, and refurbished valve serial number BS03989 per Exelon Specification SP-1101-12-087.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

I certify that the statements made in the report are correct and that this conforms the requirements of ASME Code, Section XI.

Type of Code Symbol Stamp N/A

Certificate of Authorization No. N/A Expiration Date N/A

Signed Gene Navratil/ISI Program Specialist *Gene Navratil* Date February 4, 2010
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Pennsylvania and employed by Hartford Steam boiler I & I Co of CT of Hartford, CT, 06102 have inspected the components described in this Owner's Report during the period 9-21-09 to 11-27-09, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Gene Navratil
Inspector's Signature Commissions PA 1887 NB 5478 E, N, P.
National Board, State, Province, and Endorsements

Date FEB 4 2010

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As required by the Provisions of the ASME Code Section XI

1. Owner Exelon Nuclear Date January 26, 2010
Name _____
200 Exelon Way, Kennett Square, PA Sheet 1 of 1
Address _____
2. Plant Three Mile Island Generating Station Unit TMI-1
Name _____
Rt. 441 South, Middletown, PA, 17057 C2019390
Address _____ Repair Organization P.O. No., Job No., etc. _____
3. Work Performed by Exelon Nuclear Type Code Symbol Stamp N/A
Name _____ Authorization No. N/A
200 Exelon Way, Kennett Square, PA Expiration Date NA
Address _____

4. Identification of System 212 - LPI/DECAY HEAT REMOVAL SYSTEM
5. (a) Applicable Construction Code See Below Edition, See Below Addenda, NA Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1995 through 1996
6. Identification of Components Repaired or Replaced and Replacement Components.

| Name of Component | Name of Manufacturer | Manufacturer Serial No. | National Board No. | Other Identification | Yr Built | Repaired, Replaced, or Replacement | ASME Code Stamped (Yes or No) |
|-------------------|----------------------|-------------------------|--------------------|----------------------|----------|------------------------------------|-------------------------------|
| NA | NA | NA | NA | NA | NA | NA | NA |

7. Description of Work: Replaced one stud and two nuts on valve DH-V-38B bonnet without removing bonnet.
8. Tests Conducted Hydrostatic Pneumatic Nominal Operating Pressure
Other Pressure IST Pressure _____ psig Test NA F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-2 (Back)

9. Remarks: Replaced one stud and two nuts on valve DH-V-38B bonnet.
Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

I certify that the statements made in the report are correct and that this conforms the requirements of ASME Code, Section XI.

Type of Code Symbol Stamp N/A

Certificate of Authorization No. N/A Expiration Date N/A

Signed Gene Navratil/ISI Program Specialist *Gene Navratil* Date January 26, 2010
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Pennsylvania and employed by Hartford Steam boiler I & I Co of CT of Hartford, CT, 06102 have inspected the components described in this Owner's Report during the period 11-30-09 to 2-3-10, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Joseph J. Kelly
Inspector's Signature Commissions PA 1987 NB 5474 E N I
National Board, State, Province, and Endorsements

Date FEB 3 2010

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As required by the Provisions of the ASME Code Section XI

1. Owner AmerGen Energy Comp. LLC Date October 3, 2008
Name
- 200 Exelon Way, Kennett Square, PA Sheet 1 of 1
Address
2. Plant Three Mile Island Generating Station Unit TMI-1
Name
- Rt. 441 South, Middletown, PA, 17057 R2079136
Address Repair Organization P.O. No., Job No., etc.
3. Work Performed by AmerGen Energy Comp. Type Code Symbol Stamp N/A
Name
- 200 Exelon Way, Kennett Square, PA Authorization No. N/A
Address Expiration Date NA
4. Identification of System 153 - REACTOR BUILDING
5. (a) Applicable Construction Code B31.1, 1967 (Materials & Design), B31.7, Feb. 1968 Draft with June 1968 Errata (Fabrication, Assembly, Erection, Test) Addenda, N/A Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1992 through 1992 Addenda
6. Identification of Components Repaired or Replaced and Replacement Components.

| Name of Component | Name of Manufacturer | Manufacturer Serial No. | National Board No. | Other Identification | Yr Built | Repaired, Replaced, or Replacement | ASME Code Stamped (Yes or No) |
|-------------------|----------------------|-------------------------|--------------------|----------------------|----------|------------------------------------|-------------------------------|
| Penetration 212 | NA | NA | NA | NA | NA | NA | No |

7. Description of Work: Replaced one blind flange bolt and nut.
8. Tests Conducted Hydrostatic Pneumatic Nominal Operating Pressure
- Other Pressure NA psig Test Temp. NA °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

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FORM NIS-2 (Back)

9. Remarks: Replaced one blind flange bolt and nut.
Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

I certify that the statements made in the report are correct and that this conforms the requirements of ASME Code, Section XI.

Type of Code Symbol Stamp N/A

Certificate of Authorization No. N/A Expiration Date N/A

Signed Gene Navratil/ISI Program Specialist Gene Navratil Date October 17, 2008
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Pennsylvania and employed by Hartford Steam boiler I & I Co of CT of Hartford, CT, 06102 have inspected the components described in this Owner's Report during the period 10/17/08 to 10/17/08, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Scott R. Lacey
Inspector's Signature

Commissions PA 2372 (N&I)
National Board, State, Province, and Endorsements

Date 10/17 20 08

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As required by the Provisions of the ASME Code Section XI

1. Owner AmerGen Energy Comp. LLC Date 04/18/2008
 Name
200 Exelon Way, Kennett Square, PA Sheet 1 of 1
 Address
2. Plant Three Mile Island Generating Station Unit TMI-1
 Name
Rt. 441 South, Middletown, PA, 17057 C2016361
 Address Repair Organization P.O. No., Job No., etc.
3. Work Performed by AmerGen Energy Comp. Type Code Symbol Stamp N/A
 Name
200 Exelon Way, Kennett Square, PA Authorization No. N/A
 Address Expiration Date N/A

4. Identification of System 220- Pressurizer
5. (a) Applicable Construction Code ASME Section III Edition, 1967, Addenda, Summer 1967 Code Case N/A
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1995 through 1996 Addenda
6. Identification of Components Repaired or Replaced and Replacement Components.

| Name of Component | Name of Manufacture | Manufacturer Serial No. | National Board No. | Other Identification | Yr Built | Repaired, Replaced, or Replacement | ASME Code Stamped (Yes or No) |
|---------------------------|---------------------|-------------------------|--------------------|----------------------|----------|------------------------------------|-------------------------------|
| RC-RV-1A (SN BL-08897) | NA | NA | NA | NA | NA | NA | Yes |

7. Description of Work: Refurbish and test valve.
8. Tests Conducted Hydrostatic Pneumatic Nominal Operating Pressure
 Other Pressure 2160 psig Test Temp. 538 °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 ½ x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

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FORM NIS-2 (Back)

9. Remarks: Refurbish and test valve.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

I certify that the statements made in the report are correct and that this conforms the requirements of ASME Code, Section XI.

Type of Code Symbol Stamp N/A

Certificate of Authorization No. N/A

Expiration Date N/A

Signed Gene Navratil, ISI Program Engineer
Owner or Owner's Designee, Title

Gene Navratil

Date April 18, 2008

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Pennsylvania and employed by Hartford Steam boiler I & I Co of CT of Hartford, CT, 06102 have inspected the components

described in this Owner's Report during the period 10/19/07 to 5/20/08, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Scott R. Lacey
Inspector's Signature

Commissions PA2372 (N&I)

National Board, State, Province, and Endorsements

Date

5/20 2008

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As required by the Provisions of the ASME Code Section XI

1. Owner AmerGen Energy Comp. LLC Date 06/20/2008
Name
200 Exelon Way, Kennett Square, PA Sheet 1 of 1
Address
2. Plant Three Mile Island Generating Station Unit TMI-1
Name
Rt. 441 South, Middletown, PA, 17057 C2014757
Address Repair Organization P.O. No., Job No., etc.
3. Work Performed by AmerGen Energy Comp. Type Code Symbol Stamp N/A
Name
Authorization No. N/A
200 Exelon Way, Kennett Square, PA Expiration Date N/A
Address
4. Identification of System 212- Decay Heat Removal
5. (a) Applicable Construction Code B31.7 Edition, 1968 draft, Addenda, June Errata Code Case N/A
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1995 through 1996 Addenda
6. Identification of Components Repaired or Replaced and Replacement Components.

| Name of Component | Name of Manufacturer | Manufacturer Serial No. | National Board No. | Other Identification | Yr Built | Repaired, Replaced, or Replacement | ASME Code Stamped (Yes or No) |
|-------------------|----------------------|-------------------------|--------------------|----------------------|----------|------------------------------------|-------------------------------|
| DH-V-19B | NA | NA | NA | NA | NA | NA | No |

7. Description of Work: Replaced valve internals and bonnet.
8. Tests Conducted Hydrostatic Pneumatic Nominal Operating Pressure
Other Pressure 165 psig Test Temp. 105 °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 ½ x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

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FORM NIS-2 (Back)

9. Remarks Replaced valve internals and bonnet.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

I certify that the statements made in the report are correct and that this conforms the requirements of ASME Code, Section XI.

Type of Code Symbol Stamp N/A

Certificate of Authorization No. N/A

Expiration Date N/A

Signed Gene Navratil, ISI Program Engineer *Gene Navratil* Date June 20, 2008
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Pennsylvania and employed by Hartford Steam boiler I & I Co of CT of Hartford, CT, 06102 have inspected the components

described in this Owner's Report during the period 2/26/07 to 6/24/08, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Scott R. Foley
Inspector's Signature

Commissions PA2372 (N&I)
National Board, State, Province, and Endorsements

Date 6/24 2008

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As required by the Provisions of the ASME Code Section XI

1. Owner AmerGen Energy Comp. LLC Date 06/20/2008
Name
200 Exelon Way, Kennett Square, PA Sheet 1 of 1
Address
2. Plant Three Mile Island Generating Station Unit TMI-1
Name
Rt. 441 South, Middletown, PA, 17057 C2014756
Address Repair Organization P.O. No., Job No., etc.
3. Work Performed by AmerGen Energy Comp. Type Code Symbol Stamp N/A
Name
Authorization No. N/A
200 Exelon Way, Kennett Square, PA Expiration Date N/A
Address
4. Identification of System 212- Decay Heat Removal
5. (a) Applicable Construction Code B31.7 Edition, 1968 draft, Addenda, June Errata Code Case N/A
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1995 through 1996 Addenda
6. Identification of Components Repaired or Replaced and Replacement Components.

| Name of Component | Name of Manufacturer | Manufacturer Serial No. | National Board No. | Other Identification | Yr Built | Repaired, Replaced, or Replacement | ASME Code Stamped (Yes or No) |
|-------------------|----------------------|-------------------------|--------------------|----------------------|----------|------------------------------------|-------------------------------|
| DH-V-19A | NA | NA | NA | NA | NA | NA | No |

7. Description of Work: Replaced valve internals and bonnet.
8. Tests Conducted Hydrostatic Pneumatic Nominal Operating Pressure
Other Pressure 165 psig Test Temp. 105 °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

This Form (E00030) may be obtained from the Order Dept., 22 law drive, Box 2300, Fairfield, NJ 07007-2300. , New York, NY 10017

FORM NIS-2 (Back)

9. Remarks Replaced valve internals and bonnet.

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

I certify that the statements made in the report are correct and that this conforms the requirements of ASME Code, Section XI.

Type of Code Symbol Stamp N/A

Certificate of Authorization No. N/A

Expiration Date N/A

Signed Gene Navratil, ISI Program Engineer
Owner or Owner's Designee, Title



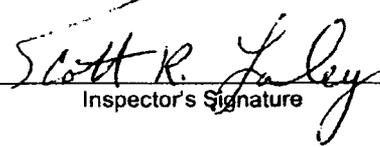
Date June 20, 2008

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Pennsylvania and employed by Hartford Steam boiler I & I Co of CT of Hartford, CT, 06102 have inspected the components

described in this Owner's Report during the period 2/27/07 to 6/24/08, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.



Inspector's Signature

Commissions PA2372 (N&I)

National Board, State, Province, and Endorsements

Date

6/24 2008

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As required by the Provisions of the ASME Code Section XI

1. Owner AmerGen Energy Comp. LLC Date 05/19/2008
Name _____
200 Exelon Way, Kennett Square, PA Sheet 1 _____ of 1 _____
Address _____
2. Plant Three Mile Island Generating Station Unit TMI-1
Name _____
Rt. 441 South, Middletown, PA, 17057 C2017025
Address _____ Repair Organization P.O. No., Job No., etc. _____
3. Work Performed by AmerGen Energy Comp. Type Code Symbol Stamp N/A
Name _____ Authorization No. N/A
200 Exelon Way, Kennett Square, PA Expiration Date N/A
Address _____

4. Identification of System 211- HPI/MAKEUP & PURIFICATION

5. (a) Applicable Construction Code B31.7 Edition, 1968 draft, Addenda, June errata Code Case N/A
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1995 through 1996 Addenda

6. Identification of Components Repaired or Replaced and Replacement Components.

| Name of Component | Name of Manufacturer | Manufacturer Serial No. | National Board No. | Other Identification | Yr Built | Repaired, Replaced, or Replacement | ASME Code Stamped (Yes or No) |
|-------------------|----------------------|-------------------------|--------------------|----------------------|----------|------------------------------------|-------------------------------|
| MU-P-1B Bolting | NA | NA | NA | NA | NA | NA | No |

7. Description of Work: Replace inlet flange bolting one at a time.

8. Tests Conducted Hydrostatic Pneumatic Nominal Operating Pressure
Other Pressure 35 psig Test Temp. 95 °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

This Form (E00030) may be obtained from the Order Dept., 22 law drive, Box 2300, Fairfield, NJ 07007-2300. , New York, NY 10017

FORM NIS-2 (Back)

9. Remarks None
Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

I certify that the statements made in the report are correct and that this conforms the requirements of ASME Code, Section XI.

Type of Code Symbol Stamp N/A

Certificate of Authorization No. N/A Expiration Date N/A

Signed Gene Navratil, ISI Program Engineer *Gene Navratil* Date May 19, 2008
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Pennsylvania and employed by Hartford Steam boiler I & I Co of CT of Hartford, CT, 06102 have inspected the components described in this Owner's Report during the period 2/27/08 to 5/20/08, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Scott R. Juley Commissions PA2372 (N&I)
Inspector's Signature National Board, State, Province, and Endorsements

Date 5/20 2008

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As required by the Provisions of the ASME Code Section XI

1. Owner AmerGen Energy Comp. LLC Date 05/19/2008
Name
200 Exelon Way, Kennett Square, PA Sheet 1 of 1
Address
2. Plant Three Mile Island Generating Station Unit TMI-1
Name
Rt. 441 South, Middletown, PA, 17057 C2016502
Address Repair Organization P.O. No., Job No., etc.
3. Work Performed by AmerGen Energy Comp. Type Code Symbol Stamp N/A
Name
Authorization No. N/A
200 Exelon Way, Kennett Square, PA Expiration Date N/A
Address

4. Identification of System 211- HPI/MAKEUP & PURIFICATION

5. (a) Applicable Construction Code B31.7 Edition, 1968 draft, Addenda, June errata Code Case N/A
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1995 through 1996 Addenda

6. Identification of Components Repaired or Replaced and Replacement Components.

| Name of Component | Name of Manufacturer | Manufacturer Serial No. | National Board No. | Other Identification | Yr Built | Repaired, Replaced, or Replacement | ASME Code Stamped (Yes or No) |
|-------------------|----------------------|-------------------------|--------------------|----------------------|----------|------------------------------------|-------------------------------|
| MU-P-1A Bolting | NA | NA | NA | NA | NA | NA | No |

7. Description of Work: Replace inlet flange bolting one at a time.

8. Tests Conducted Hydrostatic Pneumatic Nominal Operating Pressure
Other Pressure 35 psig Test Temp. 95 °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 ½ x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

This Form (E00030) may be obtained from the Order Dept., 22 law drive, Box 2300, Fairfield, NJ 07007-2300. , New York, NY 10017

FORM NIS-2 (Back)

9. Remarks None

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

I certify that the statements made in the report are correct and that this conforms the requirements of ASME Code, Section XI.

Type of Code Symbol Stamp N/A

Certificate of Authorization No. N/A

Expiration Date N/A

Signed Gene Navratil, ISI Program Engineer
Owner or Owner's Designee, Title

Gene Navratil Date May 19, 2008

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Pennsylvania and employed by Hartford Steam boiler I & I Co of CT of Hartford, CT, 06102 have inspected the components described in this Owner's Report during the period 1/3/08 to 5/20/08, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Scott R. Foley
Inspector's Signature

Commissions PA2372 (N&I)
National Board, State, Province, and Endorsements

Date 5/20 2008

TMI-10-033
April 21, 2010

ENCLOSURE 3

35th Year Reactor Building Tendon Surveillance (Period 9)

(Rev 0)

| | |
|--------------------------------------|---|
| _____ | _____ |
| Author | Date |
| _____ | _____ |
| Co-Author | Date |
| _____ | _____ |
| Reviewer | Date |
| Design Verification Required? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| _____ | _____ |
| Section Manager | Date |

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1. PURPOSE AND INTRODUCTION

This topical report documents the results of the 35th Year (Period 9) Reactor Building In-Service Inspection. This in-service inspection (ISI), also referred to herein as a surveillance, is performed at 5 year intervals to demonstrate the continuing structural integrity of the reactor building, or, containment.

This topical report also serves as the Engineering Evaluation Report required by 10CFR50.55a and the ASME Boiler and Pressure Vessel Code, Section XI, Sub-Section IWL, Par. IWL-3310. The ISI Summary Report and the NIS-1 and NIS-2 forms identified in Sub-Section IWA, Article IWA-6000 and required by 10CFR50.55a, are separate documents.

The ISI, performed per Technical Specification 4.4.2.1, meets the requirements of USNRC Regulation 10CFR50.55a and, as referenced in that regulation, the requirements of the 1992 Edition (with 1992 Addenda) of the ASME Boiler and Pressure Vessel Code, Section XI, Subsection IWL. The ISI, also referred to as a surveillance, meets the requirements described in the FSAR and is performed in accordance with TMI-1 Surveillance Procedure 1301-9.1.

The ISI is comprised of the measurements, examinations, tests and related activities identified in Section 2 below.

Surveillance activities also included replacement of leaking end cap gaskets in the tendon gallery.

Measurements, examinations and tests on randomly selected tendons have been done on a regular basis throughout the life of the plant. Complete examination of the containment exterior as specified in Sub-Section IWL, examination of tendon end anchorage caps and tendon force trend extrapolation, commenced with the Period 7 surveillance (performed in 2000) in accordance with requirements introduced in a 1996 amendment to 10CFR50.55a. The Period 9 surveillance is the third to be conducted per 10CFR50.55a and Sub-Section IWL. The first, the Period 7, and second, the Period 8 surveillance, are documented in topical Reports No. 136 and 183.

The remainder of this topical report is divided into the following sections:

Section 2, Summary of Work Performed and Inspection Results, is a synopsis of ISI activities and findings.

Section 3, Post-Tensioning System Examinations and Tests, describes measurements, tests, and examinations performed on post-tensioning system components (except bearing plate examinations performed as a part of the overall containment exterior examination), tabulates results, provides a detailed development of tendon force trend extrapolation and includes evaluations of conditions that do not meet acceptance criteria. Post-tensioning

system examinations and tests performed to satisfy the topical Report 183 commitments are also covered in this section.

Section 4, Containment Surface Examinations, describes the examination process, discusses examination findings and includes evaluations of conditions that do not meet acceptance criteria. Containment surface examinations performed to satisfy the Topical Report 183 commitments are also covered in this section

Section 5, Repairs and follow-Up Examinations, is a summary list of required repair work and damage / deteriorated area re-examinations to be done during the 40th year surveillance.

Section 6, Conclusions, summarizes overall conclusions regarding containment integrity as demonstrated by the ISI.

Section 7, References, identifies the documents that govern the performance of the ISI and that are otherwise cited in this report.

Section 8, Tables and Figures, includes tables and figures referenced in preceding sections of the report.

Section 9, Attachment 1, is the detailed report submitted by the ISI contractor. This report includes field data sheets.

2. SUMMARY OF WORK PERFORMED AND INSPECTION RESULTS

The work performed during the 35th year surveillance and the results of these examinations and tests are summarized in 2.1 and 2.2 below.

2.1 Work Performed

The 35th year surveillance consisted of testing and visual examination of a randomly selected sample of post-tensioning tendons and a visual examination of the accessible containment exterior.

2.1.1 Post-Tensioning System Testing and Examination

The following tendons, except as noted, were randomly selected for testing and examination. Tendons V-32, H62-26, and D-225, identified as the control tendons, are included in the successive surveillance samples. The initial size, nominally 2% of the tendons in each group (vertical, hoop, dome) or 5 tendons, whichever is less (but at least 3 tendons), meets the requirements of Sub-Section IWL, Par. IWL-2521. Dome tendon D-342 could not be fully examined for safety reasons during the 30th year surveillance, and was added to the scope of the 35th year surveillance.

- Vertical Tendons: V-11, V-32, V-90, V-132
- Hoop Tendons: H13-41, H24-33, H46-50, H51-49, H62-26
- Dome Tendons: D-122, D-225, D-322, D-342

Examinations and tests consisted of the following activities, with exceptions as noted. Examinations and tests were performed in accordance with Surveillance Procedure 1301-9.1, which incorporates the applicable requirements of the 1992 Edition (with 1992 Addenda) of the ASME Boiler and Pressure Vessel Code, Section XI, Sub-Section IWL and the additional requirements specified in 10CFR50.55a(b)(2)(viii). The surveillance procedure also incorporates applicable requirements of the UFSAR.

- Collection of corrosion protection medium (CPM) samples from each end of each tendon (no samples taken from the ends of tendons which only had grease cans repaired) and laboratory tests on these to determine water content, concentration or corrosive ions and reserve alkalinity.
- Visual examination of end anchorage hardware (button heads, anchor heads, shims and bearing plates) and concrete within 2 feet of the bearing plate.
- Measurements of end anchorage force using the feeler gage pull out procedure described in Surveillance Procedure 1301-9.1.

- De-tensioning of one tendon in each group and extraction of a specimen wire for visual examination and tensile tests.
- Re-tensioning of the de-tensioned tendons with measurement of elongations at several loads.
- Refilling tendon ducts and end caps with CPM (quantities of CPM removed and replaced measured and documented).

Also, all tendon end anchorage covers were examined for damage and CPM leakage in accordance with the requirements of 10CFR50.55a(b)(2)(viii)(A).

2.1.2 Containment Surface Examination

The entire accessible concrete surface of the containment was visually examined using the VT-3C procedure defined in ASME Section XI Sub-Section IWL, Par. IWL-2310. This examination was performed directly (without optical aids) and remotely using binoculars. Tendon anchorage end caps and bearing plates were examined at the same time.

The concrete was examined for evidence of cracking, spalling, efflorescence and other types of damage / deterioration as identified in ACI 201.1R. This examination was also focused, as specified in 10CFR50.55a(b)(2)(viii)(D)(3), on CPM seepage through the concrete.

Bearing plates were examined for detached or missing coatings and corrosion.

Topical Report No. 183, Section 5.2, specifies that detailed examinations of previously identified concrete surface conditions be performed during the 35th year ISI. These were performed using the VT-1C detailed visual examination procedure defined in IWL-2310.

2.2 Inspection Results

The results of the 35th Year (Period 9) Reactor Building In-Service Inspection are summarized below.

2.2.1 Post-Tensioning System

The results of the post-tensioning system examinations, measurements and tests met prescriptive acceptance criteria and the one exception was shown to be acceptable by evaluation. A listing of specific results follows.

- All tendon forces were above 95% of the predicted values.

- Vertical, hoop, and dome tendon normalized group mean forces were above the minimum required levels.
- The 95% lower confidence limits on vertical, hoop and dome tendon force trends projected to the latest date for the completion of the 40th year ISI were above the minimum required levels for those groups.
- Elongations measured during re-tensioning of de-tensioned tendons were within 10% of previously measured values as corrected for jack pull rod elongations.
- End anchorage hardware items, with the exception of several tendon gallery bearing plates, were free of active corrosion, cracking and distortion. A number of tendon gallery bearing plates are frequently wetted by ground water seepage between the gallery walls and the Reactor Building base mat. This has caused minor corrosion on several plates. There is no significant loss of metal and, at the present time, no need to take remedial action other than re-examination during the 40th year surveillance.
- All as found button head conditions were as documented during construction. One button head at the shop end of D-322 was found to be unseated following re-tensioning of this tendon, which was de-tensioned for test wire removal. This is attributable to binding of the wires and transfer of force by friction in the wire bundle rather than bearing at the button head. The condition was accepted by evaluation.
- The tensile strength and elongation (at failure) of all wire test samples were above the minimum required values.
- Water content, corrosive ion concentration and reserve alkalinity of all corrosion protection medium samples met acceptance criteria.
- No free water was found at tendon anchorages.
- Concrete adjacent to end anchorages of the surveillance tendons was free of cracks over 0.01 inches wide.
- The differences between the quantities of corrosion protection medium removed from sample tendons and the quantities replaced were all within 10% of net duct volume.
- All end anchorage covers (grease caps) were free of damage with the exception of minor active corrosion on the flange of the V84 cap in the tendon gallery. Nine vertical tendon end caps showed signs of significant grease leakage through the gaskets, which were replaced. Only a few other grease caps showed signs of CPM leakage and the leakage observed was deemed to be insignificant.

2.2.2 Containment Surface

Concrete and tendon anchorage bearing plates were generally free of damage / deterioration. Minor active corrosion was noted on several bearing plates in the tendon gallery, a result of ground water seepage between the gallery outer wall and the Reactor Building base mat. Loss of metal is not significant. Remedial action, other than re-examination during the 40 year surveillance, is not considered necessary at this time.

Minor seepage of corrosion protection medium (CPM) through vertical cracks in the lower wall was found to be continuing at a nominal rate unchanged from that observed during the 30 year surveillance. This is expected since most of the CPM in the TMI tendon ducts is an older formulation that liquefies at a relatively low temperature. Most of the seepage was noted in the area below the equipment opening. Ducts in this area are curved to pass around the opening and are sheet metal fabricated with rolled seams that are not leak tight. The seepage, which has no structural significance, is monitored and corrective action will be taken to top off vertical tendon CPM levels if seepage rates warrant.

3. POST-TENSIONING SYSTEM TESTS AND EXAMINATION

The following tests and examinations were performed to assess the continuing quality and integrity of the post-tensioning system.

- Measurement of tendon end anchorage force.
- Measurement of tendon elongation during re-tensioning.
- Measurement of wire test specimen strength and elongation at failure.
- Chemical analysis to determine corrosion protection medium test specimen water content, reserve alkalinity and concentration of corrosive ions.
- Visual examination of post-tensioning system components, as well as concrete adjacent to bearing plates, to detect accumulation of free water, corrosion, deformation, cracking, wire breakage and wire button head failure.
- Visual examination of tendon end anchorage covers (grease caps) to detect damage and corrosion protection medium leakage.

All but the last of the above tests and examinations involved a small sample of the total tendon population. All tendon end anchorage covers were examined.

Tendons, except control tendons, initially selected for tests and examinations were randomly picked from a population that included all tendons not examined during a prior surveillance. Control tendons are common to consecutive surveillances. Sample tendons, identified in Surveillance Procedure 1301-9.1, enclosure 2, are listed below.

Vertical tendons: V-11, V-32 (control), V-90 and V-123

Hoop Tendons: H13-41, H24-33, H46-50, H51-49 and H62-26 (control)

Dome Tendons: D-122, D-225 (control), D-322 and D-342 (added scope from 30th year¹)

¹ Tendon D342 was randomly selected for examination during Surveillance 8. Since one end of this tendon is located over the main steam safety and dump valve discharge piping, safety considerations limited the scope of the examination that could be performed while the plant was operating. The full set of tests and examinations of D342 was performed during Surveillance 9.

One tendon in each group (vertical, hoop and dome) was selected for de-tensioning and removal of a specimen wire for testing.

3.1 Tendon End Anchorage Forces

Tendon end anchorage forces were measured using the liftoff technique described in Surveillance Procedure 1301-9.1. Forces were measured at both ends of hoop and dome tendons and at only the upper ends of vertical tendons.

Acceptance criteria cover individual tendon forces, current group mean forces and projected group mean forces. These forces and the associated criteria are discussed in the following paragraphs.

3.1.1 Individual Tendon Forces

Table 3-1 lists measured end anchorage forces, tendon mean end forces (for hoop and dome tendons, the average of individual end anchorage measurements) and lower acceptance limits². The acceptance limits are equal to 95% of the forces predicted for the individual tendons. Predictions are documented in Calculation DC-5390-225.01-SE.

As shown in the table, all tendon forces (mean end forces) are above the lower acceptance limits. Furthermore, the forces in all tendons except H13-41, V32, and V90 are above the predicted levels. The forces in the three aforementioned tendons are 99.8%, 99.5%, and 99.6% of their predicted forces, respectively.

In addition, all measured end anchorage forces are below 1,394 kip (0.7 Guaranteed Ultimate Tensile Strength, GUTS)

3.1.2 Group Mean Forces

The mean forces in each group of tendons must be equal to or greater than the minimum required force for the group as stated in Par. 9.3.1 of Surveillance Procedure 1301-9.1. The minimum required force values are:

Vertical Tendons: 1,033 kip

Hoop Tendons: 1,108 kip

Dome Tendons: 1,064 kip

² There is no stated upper limit; however, no measured force exceeded the implicit upper limit of 0.7 GUTS (Guaranteed Ultimate Tensile Strength), which is the stated upper limit on re-tensioning force. For the tendons examined during the 35th year surveillance, all of which have 169 effective wires, 0.7 GUTS equates to 1,394 kip.

During construction of the containment, individual tendons were tensioned to anchorage forces between about 0.70 and 0.74 GUTS. These force differences remain throughout the life of the structure.

Also, as tendons were tensioned in sequence, force in any tendon falls (elastic shortening loss) during subsequent tensioning of tendons in the same group.

Surveillance samples are quite small, nominally 2% of the tendons in each group. For this reason, there is a relatively high probability that the samples will consist of tendons initially tensioned to the high end or the low end of the acceptance range and / or tendons tensioned close to the beginning of the sequence or end of the sequence. Therefore, a sample mean force calculated using measured end anchorage forces has a high probability of deviating significantly from the true group mean.

Therefore, measured tendon forces are adjusted (normalized) to account for initial tensioning force and stressing sequence. Calculation DC-5390-225.01-SE describes the normalization procedure and lists the adjustments for each tendon selected for (or added to) surveillance samples.

Table 3-2 lists tendon forces (from Table 3-1), adjustments, normalized forces and group mean normalized forces. All group mean normalized forces are above the minimum required levels as summarized below.

| <u>Tendon Group</u> | <u>Mean Normalized Force, kip</u> | <u>Minimum Required Mean, kip</u> |
|---------------------|-----------------------------------|-----------------------------------|
| Vertical | 1,186 | 1,033 |
| Hoop | 1,132 | 1,108 |
| Dome | 1,138 | 1,064 |

3.1.3 Projected Group Mean Forces

10CFR50.55a(b)(2)(viii)(B) requires projecting the trends of tendon forces to determine whether or not group means are not expected to remain above minimum required levels until the time of the subsequent surveillance.

Topical Report No. 136, which documents the results of the 25th year surveillance, develops the procedure used to extrapolate tendon force trends. As explained in that report, the projection uses the tendon force data acquired during the 10th year and later surveillances. It does not use data from the 1st, 3rd, and 5th year surveillances for two reasons. First, the trends of the forces measured during those early surveillance appear to differ significantly from the trends established by the data recorded during the later surveillances. Second, the later (10th year forward) surveillances are more completely documented, which ensures that the correct force values are used in trend development.

As discussed in Topical Report No. 136, the force data for all three groups exhibit a considerable degree of scatter. As a result, fitted lines or curves do not necessarily provide meaningful representations of force trends. Therefore, forecast force levels are not determined as the ordinates of the regression curves. Rather, these are reported as the 95% lower confidence levels computed for the postulated log-linear relationships between force and time. The basis for using the confidence level approach is extensively discussed in the cited topical report.

Figures 3-1, 3-2, and 3-3 are log-linear plots of vertical, hoop, and dome group tendon forces measured during the 10th year and later surveillances. The data scatter, which is typical, is evident in the plots. The plots include log-linear trend lines for reference. However, the magnitude of the scatter is such that these fitted trends cannot necessarily be considered meaningful (note that the hoop tendon trend, Fig 3-2, shows force increasing with time).

The tendon forces listed in Tables 3-3, 3-4 and 3-5 (and plotted in Figures 3-1 through 3-3) were used to compute 95% lower confidence limits on group means projected to March 2015 (41 years after the SIT and the latest date for the completion of Surveillance 10). These limits, also plotted in Figures 3-1, 3-2 and 3-3, were computed using the following procedure as developed in most engineering statistics texts³.

$$LCL(X) = a + b * X - t_{0.05, n-2} * s_e * (1/n + n * [X - X_m]^2 / S_{xx})^{1/2}$$

Where (with all summations from 1 to n):

LCL(X) = Lower confidence limit on Y at an abscissa value of X

a = $Y_m - b * X_m$ is the intercept of the least squares fit trend line

$$Y_m = (\sum Y_i) / n$$

$$X_m = (\sum X_i) / n$$

X_i, Y_i are data sets with $X_i = \log_{10}(t_i)$ and $Y_i =$ tendon force in kip

$b = S_{xy} / S_{xx}$ is the slope of the slope of the least squares fit trend line

$t_{0.05, n-2}$ is the t statistic for a 95% confidence level and (n-2) degrees of freedom

$s_e = \{[S_{xx} * S_{yy} - (S_{xy})^2] / \{n * (n - 2) * S_{xx}\}\}^{1/2}$ is the standard error of the estimate

n is the number of data sets used in the LCL calculation

$$S_{xx} = n * \sum X_i^2 - (\sum X_i)^2$$

$$S_{yy} = n * \sum Y_i^2 - (\sum Y_i)^2$$

$$S_{xy} = n * \sum (X_i * Y_i) - (\sum X_i) * (\sum Y_i)$$

³ The procedure shown is that developed in Reference 10. The 95% LCL's on the projected means for the three groups are above the minimum required values, which provides a significant degree of confidence that actual mean forces will be above minimum required levels in March 2015 (T = 41 years), the latest date for completion of the 10th surveillance.

The lower confidence limits (LCL's) on group means at T = 41 years and the corresponding minimum required group means are listed below.

| <u>Group</u> | <u>95% LCL on Group Mean, kip</u> | <u>Minimum Group Mean, kip</u> |
|--------------|-----------------------------------|--------------------------------|
| Vertical | 1,178 | 1,033 |
| Hoop | 1,129 | 1,108 |
| Dome | 1,079 | 1,064 |

3.1.4 Control Tendon Force Trends

One tendon in each group is designated as a control tendon and is, barring exceptional circumstances, included in each consecutive surveillance sample to provide information on the time dependent behavior of individual post-tensioning elements. Control tendons are not de-tensioned. The control tendons and consecutively measured (not normalized) forces are listed in the table below.

| Control Tendon Forces, kip | | | | | | |
|----------------------------|-------------------|------------------|------------------|------------------|------------------|------------------|
| Tendon | Surveillance Year | | | | | |
| | 10 th | 15 th | 20 th | 25 th | 30 th | 35 th |
| V-32 | 1,196 | N/A | 1,210 | 1,193 | 1,190 | 1,180 |
| H62-26 | 1,145 | 1,128 | 1,161 | 1,136 | 1,120 | 1,148 |
| D-225 | 1,125 | N/A | 1,120 | 1,104 | 1,120 | 1,093 |

There is no clear trend to the above forces, which fluctuate in a random manner over a relatively narrow range. The fluctuations, which probably result from temperature changes, tendon force redistribution and small measurement errors, tend to mask the expected trend (a slow, linear decrease with the logarithm or time).

The measured forces, measured force trend line (log-linear fit to the force data) and predicted force trend line are shown for each of the control tendons in Figures 3-4 through 3-6. These plots exhibit the following consistent features.

- Trend lines fitted to the measured forces all have flatter slopes than the predicted force trend lines and, as expected, all fitted trend lines have negative slopes.
- 35th year surveillance measured forces are above predicted values.
- The log-linear trends of measured forces are above the predicted force trends, both at the time of the 35 year surveillance and at all future times.

These plots provide a positive indication that tendon forces are currently decreasing at a lower than expected rate and support the conclusion that mean tendon forces will remain above minimum required levels at least until the latest date for completion of the 40th year surveillance.

3.2 Tendon Elongations and Re-Tensioning

One tendon in each group was de-tensioned to allow removal of a wire for testing. Elongations were measured during the subsequent re-tensioning and compared to original construction values to verify that tendons were intact and that there were no obstructions to tendon motion within the ducts. Following the elongation measurements at Overstress force (OSF) (nominal 80% of ultimate strength), each tendon was seated, in accordance with Sub-Section IWL requirements, at force between that predicted for the time of the surveillance and 70% of ultimate strength.

Tendons V-90, H51-49 and D-322 were de-tensioned for wire removal.

3.2.1 Elongations

Elongations measured during initial tensioning and re-tensioning are normalized to account for differences between the Pre-tension Force (PTF) / OSF forces applied during original construction and those applied during the 9th surveillance as well as for differences in the number of wires (one was removed for testing prior to re-tensioning). Normalizing construction and surveillance values in this manner allows direct comparison of elongations regardless of differences in PTF values, OSF values and numbers of wires. Normalized elongations are expressed as inches per kip per wire.

Elongations are acceptable if:

$$-0.1 \leq dR = (\Delta_{n2} - \Delta_{n1}) / \Delta_{n1} \leq 0.1$$

where

Δ_{n1} is normalized elongation determined for original stressing

Δ_{n2} is normalized elongation determined for re-tensioning

dR is the percent difference of normalized elongation

Pertinent data documented for initial construction tensioning and the 35th year surveillance re-tensioning are tabulated for each of the sample tendons below. These tabulations also list the calculated normalized elongation rates. Original stressing data are as listed on the tendon stressing cards completed during construction and maintained in permanent plant records.

| | Parameter | Tendon | | |
|----------------------|--|--------|--------|-------|
| | | V90 | H51-49 | D322 |
| Construction | F_{osf} , kip | 1,478 | 1,564 | 1,564 |
| | d_{osf} , in | 13.5 | 18.0 | 14.2 |
| | F_{ptf} , kip | 208 | 208 | 208 |
| | d_{ptf} , in | 1.2 | 7.45 | 3.50 |
| | Wires, N_w | 169 | 169 | 169 |
| | Δ_{n1} , in / (kip / wire) | 0.812 | 1.315 | 1.333 |
| 2009 Surveillance | F_{osf} , kip | 1,579 | 1,555 | 1,528 |
| | d_{osf} , in | 17.8 | 17.5 | 17.00 |
| | F_{ptf} , kip | 207 | 207 | 207 |
| | d_{ptf} , in | 5.9 | 6.6 | 7.0 |
| | Wires, N_w | 168 | 168 | 168 |
| | Δ_{n2} , in / (kip / wire) | 1.457 | 1.358 | 1.272 |
| | $dR = (\Delta_{n2} - \Delta_{n1}) / \Delta_{n1}$ | -0.11 | 0.03 | -0.05 |

In the above table - F_{osf} is overstress force ~ 80% GUTS
 d_{osf} is overstress reference distance
 F_{ptf} is pre-tension force ~ 200 kip
 d_{ptf} is pre-tension reference distance
 Δ_n is normalized elongation = $(d_{osf} - d_{ptf}) \times N_w / (F_{osf} - F_{ptf})$

Values of dR computed for H51-49 and D-322 are between -0.1 and 0.1 and are, therefore, acceptable as shown. The value computed for V90 is just outside the acceptance range. However, if the original measured elongation is reduced to account for the increase in the length of the jack pull rod (~0.1 inches), as discussed in the vendor manual, Reference 22, the resulting value of dR is acceptable.

3.2.2 Re-Tensioning

After elongations at OSF were measured, tendons were resealed at forces between those predicted for the time of the surveillance and 70% of ultimate strength as specified in Sub-Section IWL, Par. 2523.3. Final lock-off forces as documented in Surveillance Procedure 1301-9.1 are listed below with the applicable lower and upper limits.

| Tendon | Predicted Force, kip | Lock-Off Force, kip | 70% GUTS, kip |
|--------|----------------------|---------------------|---------------|
| V-90 | 1204 | 1238 | 1384 |
| H51-49 | 1132 | 1215 | 1384 |
| D-322 | 1128 | 1171 | 1384 |

As shown above, all final lock-off forces are between the specified limits.

3.3 End Anchorage Condition

Sample tendon end anchorages, except as subsequently noted, were visually examined for evidence of corrosion, physical damage, missing button heads and unseated button heads. In addition, the concrete surrounding the anchorage was examined out to a distance of two feet beyond the bearing plate edge to detect cracks >0.01 inches in width, spalls, and other indications of damage / deterioration.

These examinations uncovered no indication of unacceptable conditions. Examination results and acceptance criteria are listed below.

3.3.1 Corrosion

- Acceptance Criterion

No evidence of active corrosion

- Examination Results

No active corrosion was found on wires⁴, button heads, stressing washers or shims. Observed corrosion was limited to light, dry, tightly adhering rust on shims and bearing plates; no rust was observed on button heads or anchor heads.

⁴ Short segments of some wires were visible when tendons were de-tensioned for wire removal

3.2.2 Physical Damage

- Acceptance Criterion

No cracks or deformation in anchor heads, shims or bearing plates.

- Examination Results

No cracks or deformations were found.

3.3.3 Missing Button Heads

- Acceptance Criterion

No missing button heads not previously documented (no specific criterion set for button heads that detach during surveillance operations).

- Examination Results

No missing button heads were found during examinations.

3.3.4 Unseated Button Heads

- Acceptance Criterion

No unseated button heads not previously documented (no specific criterion set for button heads that are unseated following re-tensioning).

- Examination Results

No unseated button heads were found during as found inspection.

One button head at the shop end of D322 was unseated after re-tensioning. There were no indications of wire breakage. It is concluded that this wire is tightly bound in the bundle at a point relatively close to the anchorage and that full load transfer to the wire was by friction rather than button head bearing. This condition is acceptable.

3.3.5 Concrete Within Two Feet of Bearing Plate

- Acceptance Criterion

No concrete cracks wider than 0.01 inches.

- Examination Results

No cracks wider than 0.01 inches were found.

3.4 Specimen Wire Test Results

A specimen for wire examination and testing was removed from one tendon in each group. Each wire was visually examined over its entire length for corrosion, pitting, and physical damage. Test samples (100 inches in length) were cut from near each end and near the middle of each specimen wire. These were tested to determine tensile strength and elongation at failure.

The visual examinations, as documented in Surveillance Procedure 1301-9.1, Enclosure 4, showed that all three specimen wires were free from active corrosion, pitting and physical damage. As a result, there was no need to cut an additional test specimen from the most corroded section of wire as specified in the surveillance procedure.

Tensile strengths of all 9 test specimens exceeded the specified lower limit of 240 ksi (Guaranteed Ultimate Tensile Strength, or GUTS). Also elongations at failure all exceeded the lower limit of 4%. The results of the tests are tabulated below.

| Tendon | Test Sample | Tensile Strength, ksi | Elongation at Failure, % |
|--------|-------------|-----------------------|--------------------------|
| V-90 | 1 | 282 | 5.4 |
| | 2 | 280 | 5.2 |
| | 3 | 278 | 5.1 |
| H51-49 | 1 | 287 | 5.3 |
| | 2 | 287 | 5.3 |
| | 3 | 287 | 5.3 |
| D-322 | 1 | 282 | 5.3 |
| | 2 | 280 | 5.3 |
| | 3 | 281 | 5.6 |

It was noted that the tensile strength of the sample wires was moderately stronger than previous data. A thorough investigation of the wire test procedures and equipment calibration procedures, and calibrations tracked to NIST was conducted. Additional wire samples were tested from the same wires with the same results. A fifth set of wire samples were then tested using different test equipment and different calibration equipment traceable to NIST. These last tests with a second set of equipment agreed with originally measured data. As such, the strength measurements are acceptable.

3.5 Corrosion Protection Medium Test Results

Samples of corrosion protection medium (CPM) were collected from each end of each sample tendon. Laboratory tests were performed on these samples to determine the characteristics listed (with acceptance limits) below. Enclosure 3 of Surveillance Procedure 1301-9.1 identifies the process and standardized tests used in the laboratory analysis.

| Characteristic | Acceptance Limit |
|----------------------------------|---|
| Water Content | Not to Exceed 10% by weight |
| Water Soluble Chlorides | Not to Exceed 10 ppm |
| Water Soluble Nitrates | Not to Exceed 10ppm |
| Water Soluble Sulfides | Not to Exceed 10 ppm |
| Reserve Alkalinity (Base Number) | ≥0 or an acid number ≤1 for originally installed CPM ≥17.5 for Visconorust 2090-P4 |

Table 3-6 lists the laboratory test results. As shown in the table, all test results meet the acceptance criteria.

3.6 Corrosion Protection Medium Removal / Replacement

When CPM was removed from tendon sheath, quantity removed and the quantity later replaced were documented. The difference in these quantities provides the information to assess the acceptability of both the level of CPM fill prior to removal and the level following replacement. If the amount replaced is significantly less than the amount removed, the level is low and must be increased. If the amount replaced is significantly greater than the amount removed the reason for the difference (initial fill or leakage over time) must be determined and the situation corrected.

Quantities of CPM removed and replaced during the 35th year surveillance are shown in Table 3-7. All differences (absolute values) are less than 10% of the net duct volume limits specified in 10CFR50.55a(b)(2)(viii)(D)(2).

3.7 Free Water Accumulation

End anchorages were examined for evidence of free water accumulation. No free water was found at any of the anchorages examined.

3.8 Tendon End Anchorage Cover Examination

Tendon end anchorage covers (grease caps) were examined as specified in 10CFR50.55a(b)(2)(viii)(A) for damage / deformations and CPM leakage.

All covers examined were in sound condition and free of deformations. With one exception, there was no evidence of corrosion on the covers. The flange on the cover at the lower end of V84 has active corrosion resulting from seepage of ground water between the tendon gallery wall and the Reactor Building base mat. Loss of metal is not significant. At this time, corrective action, other than re-examination during the 40 year surveillance, is not considered necessary.

Significant CPM leakage was observed at the lower ends of 9 vertical tendons. End cap gaskets were replaced to eliminate the leakage and the tendons were refilled with grease.

3.9 Topical Report No. 183 Examination and Test Commitments

All areas identified in Topical Report No. 183 for VT-1C re-examination during the 2009 surveillance were found to be essentially unchanged. The repair to overlay exposed reinforcing on the vertical face of the ring girder sector in the SE quadrant was done after the completion of the 35 year surveillance. The repaired area currently shows no sign of damage or deterioration.

As all of these areas, with the exception of the repaired area on the ring girder, have been examined multiple times over many years, the special detailed visual examinations will, except as noted below, not be continued in future surveillances.

- The repaired area on the face of the ring girder will be re-examined (detailed visual) during the 40 year surveillance.
- The lower wall extending up from the base mat will be re-examined (detailed visual) to assess the seepage of corrosion protection medium through vertical cracks in the concrete. This detailed visual examination will be done during future surveillances.
- Concrete and bearing plates at the bottom of the base mat where this is exposed in the tendon gallery will require a detailed examination each future surveillance to assess the effects of ongoing ground water intrusion into the gallery area.

4. CONTAINMENT SURFACE EXAMINATIONS

4.1 Overall Concrete Surface Condition

The overall concrete surface shows no evidence of damage or degradation other than non-structural degradation of grout patches in several areas and minor spalling at sharp edges.

There are numerous small shrinkage cracks at the concrete surface. Most of these are less than 0.01 inches wide and are, therefore, below the threshold at which these are to be recorded and evaluated. A few cracks up to 0.15 inches wide were found. However, these were all below 12 inches in length and, therefore, of no structural significance.

Corrosion protection medium (CPM) is seeping through small vertical cracks in the lower wall. This condition is expected if the corrosion protection medium filling the tendon ducts is, as in the case of TMI-1, an older formulation that liquefies at a relatively low temperature. The seepage has no structural significance. It does slowly reduce the level of CPM in vertical tendons. Vertical tendon ducts that lose CPM, whether due to seepage from the ducts or through deteriorated lower end cap gaskets, are refilled under a maintenance work order.

4.2 Previously Documented Conditions

Damaged / degraded areas of the Reactor Building concrete surface that required detailed visual examination under commitments made in Topical Report No. 183 showed no change in condition. The grout overlay of exposed reinforcing on the vertical face of the ring girder sector in the SE quadrant was completed following the 30 year surveillance. The examination done during the 35 year surveillance, the first since the pre-service examination that followed the repair work, uncovered no evidence of damage or deterioration in the repaired area.

4.3 Tendon End Anchorage Bearing Plate Condition

With the following exceptions, end anchorage bearing plates showed no evidence of damage or degradation. Minor active corrosion was noted on the V84 bottom bearing plate and several others, to a lesser degree, in the tendon gallery. This results from frequent seepage of water between the top of the tendon gallery wall and the reactor building base mat. Loss of metal is not significant and the condition can be easily controlled by corrective maintenance if the degree of corrosion worsens. Corrective action (cleaning to bare metal and recoating) is not considered necessary at the present time.

4.4 Concrete Cracks at Selected Dome Tendon Anchorage Areas

Inspection of the nine dome tendon anchorage areas for concrete crack growth is no longer required. As specified in Technical Specification 4.4.2.1.5, “This inspection may be discontinued, if the concrete cracks show no sign of growth.” A review performed this surveillance revealed that no change in crack conditions had been reported in the period 6, 7, and 8 surveillances. As allowed per the Technical Specification, this specific inspection has been evaluated as no longer necessary and will be discontinued.

5. REPAIRS AND FOLLOW-UP EXAMINATIONS

5.1 Repairs

The results of the surveillance show that no repair to either the concrete or post-tensioning system is necessary at the present time.

5.2 Follow-Up Examinations During 1 Year Containment Opening Examination

The surface of new concrete placed in the steam generator opening will be visually examined during the one year limited scope surveillance. The examination will include a detailed visual of the new concrete perimeter and corners for evidence of shrinkage cracks / separation.

Tendons, anchorage hardware, sample wires and CPM will be examined / tested as required by the 2001 Edition with 2002 Addenda of the ASME Boiler and Pressure Vessel Code, Section XI, Sub-Section IWL.

The tendon gallery will be examined for evidence of CPM leakage and the effects of ground water seepage.

5.3 Follow-up Examination During 40th Year ISI

Detailed visual examinations of the following areas will be done during the 40 year surveillance.

- The grout overlay of previously exposed reinforcing on the vertical face of the ring girder sector in the SE quadrant.
- The tendon gallery ceiling area including base mat concrete, tendon bearing plates and tendon end caps for evidence of CPM leakage, effects ground water seepage on concrete and steel items, deterioration of previously documented exposed reinforcing and, other damage / deterioration.
- The lower wall above the base mat to determine whether or not corrosion protection medium seepage through the vertical cracks is increasing as evidenced by CPM accumulation on the top of the base mat.
- The V84 lower end bearing plate including all surface area visible without detensioning of the tendon and removal of shims.

- V146, a randomly selected tendon for the 40th year surveillance, was detensioned and retensioned as part of the Steam Generator Replacement Project. As such, it is no longer representative of the original tendon population. The nearest tendon which has not been previously inspected and was not detensioned for the Steam Generator Replacement Project is V159. During the 40th year surveillance, V159 will be examined in place of V146, and V146 will be subject to random sampling from the population of tendons affected by the Steam Generator Replacement Project.

6. CONCLUSIONS

The following conclusions are based on, and supported by, evaluation of the surveillance results.

- The force in each individual sample tendon exceeds the lower acceptance limit (95% of the predicted value); no sample tendon force exceeds the implied upper limit of 73% GUTS (the limit imposed during initial and Steam Generator Replacement Project tensioning).
- Vertical, hoop and dome sample tendon mean normalized forces are above minimum required levels.
- The 95% lower confidence limits on vertical, hoop and dome tendon force trends are forecast to remain above minimum required levels through March 2015, the deadline for completion of the 40 year surveillance.
- Control tendon lift-offs exhibit relatively little scatter; vertical, hoop and dome trends indicate that forces are decreasing more slowly than predicted.
- Elongations measured during re-tensioning of de-tensioned tendons are as expected and all are within 10% of previously measured values as adjusted for pull rod length change.
- With the exception of several bearing plates in the tendon gallery, all examined tendon end anchorage hardware is free of active corrosion, cracks and distortion. Active corrosion on gallery bearing plates is minor and there is no significant loss of metal; corrective action is not required at this time.
- With one exception, all examined wire buttonheads are seated and meet acceptance criteria on splits. A single wire at one end of re-tensioned tendon D-322 is unseated. This single exception has no structural significance.
- The difference between quantities of CPM removed from sample tendons and quantities replaced were all within 10% of net duct volume showing that tendon duct fill was adequate both as-found and as-left.
- Corrosion protection medium samples meet specified limits on absorbed water content and concentrations of corrosive ions. The samples also meet the specified lower limit on reserve alkalinity.
- No free water was detected at tendon end anchorages; therefore, it is concluded that water intrusion is not a problem.

- Tendon wire samples meet the specified lower limits on ultimate strength and elongation at failure.
- Concrete Surrounding sample tendon bearing plates is free of damage, deterioration and cracks that exceed 0.010 inches in width.
- Concrete surfaces are free of damage and degradation. Spalling of grot patches, as noted in various areas, has no structural significance. The few concrete cracks that exceed the threshold with acceptance criterion of 0.010 inches are less than 1 foot long and are of no structural significance.
- Tendon end caps are free of damage and, with one exception, free of active corrosion. The single exceptions is an end cap in the tendon gallery with minor active corrosion on the mounting flange. Loss of metal is not significant and corrective action is not required at this time.
- Conditions in areas identified for detailed visual examination in Topical Report 183 have not noticeably change since the 30 year surveillance in 2004 (or, in the case of the ring girder grout repair, since the repair was completed following that surveillance). With the exception of the lower wall CPM seepage area, the ring girder repair area and the tendon gallery ceiling, these areas may be deleted form the detailed visual examination commitment list.

7. REFERENCES

The following documents (applicable sections noted) were used in the development of this report and /or are specifically referenced herein.

1. United States Code of Federal Regulations, Title 10, Part 50, Sub-part 50.55a (10CFR50.55a).
2. ASME Boiler and Pressure Vessel Code (1992 Edition with Addenda through 1992), Section XI, Sub-Sections IWA and IWL.
3. USNRC Regulatory Guide 1.35.1, Determining Prestressing Forces for Inspection of Prestressed Concrete Containments, Jul 90.
4. TMI – Unit 1 FSAR Section 5.7.5, Rev. 20
5. TMI – Unit 1 Technical Specification Sections 3.19.1 & 4.4.2.1
6. TMI – Unit 1 Surveillance Procedure 1301-9.1, RB Structural Integrity Tendon Surveillance, Revision 20
7. TMI – Unit 1 EER JO # 162193, Rx Building Tendons, Minimum Required Prestressing Forces.
8. TMI – Unit 1 Calculation C-1101-153-E410-028, Rx Building Tendons, Minimum Required Prestressing Forces, Revision 0.
9. Gilbert / Commonwealth Calculation DC-5390-225.01-SE, dated 26 Apr 94.
10. Miller, Irwin and John E. Freund, *Probability and Statistics for Engineers*, Prentice-Hall, 1965
11. TMI – Unit 1, Reactor Containment Building / First Tendon Surveillance test / One Year After SIT, GAI Report No. 1880, 29 Sep 75
12. TMI – Unit 1, Second Tendon Surveillance Test of Reactor Containment Building / Three Years After SIT, VSL Corp. Report No. GQL 0204, Dec 77.
13. TMI – Unit 1, Containment Building Tendon Surveillance Test report for Third Period (5 Years After SIT), TDR No. 229, 27 Mar 81.
14. TMI – Unit 1, Reactor Building Tendon Surveillance Test / Inspection Period 4 (10 Years), TR No. 025, 27 Aug 85.

15. TMI – Unit 1, Reactor Building Fifteen year Tendon Surveillance Test (Inspection Period 5), Topical report 069, 2 May 90.
16. TMI – Unit 1, Reactor Building Twenty Year Tendon Surveillance Test (Inspection Period 6), Topical Report 093, 22 Mar 95.
17. TMI – Unit 1, 25th Year Reactor Building Tendon Surveillance (Period 7), Topical Report 136, Revision 1, 31 Jul 01.
18. Topical Report No. 183, 30th Year Reactor Building Tendon Surveillance (Period 8), Revision 00.
19. Gilbert / Commonwealth Letter (with attachments) G/C/TMI-1CS/16616 dated 27 Dec 88, Transmitting Tendon Stressing Record Data (ECD C-310055).
20. ACI 349.3R-96, Evaluation of Existing Nuclear Safety-Related Concrete Structures, Published by the American Concrete Institute.
21. TMI Vendor Manual VM-TM-2485.

8. TABLES AND FIGURES

Tables and Figures referenced in the preceding text are included in this section

8.1 Tables

Tables commence on the following page. Numerical values shown in the tables are extracted from Surveillance Procedure 1301-9.1, Calculation DC-5390-225.01-SE, the data sheets documenting the 35th year surveillance and Topical Reports Nos. 025, 069, 093, 136, and 183.

| Table 3-1 | | | | | |
|---|------------|----------------------------|----------------------------|-----------------------------|------------------------------------|
| Measured End Anchorage Forces and Predicted Forces | | | | | |
| Tendon | End | Measured Force, kip | Mean End Force, kip | Predicted Force, kip | 95% of Predicted Force, kip |
| V-11 | Top | 1206 | 1206 | 1148 | 1090 |
| V-32 | Top | 1175 | 1175 | 1181 | 1122 |
| V-90 | Top | 1200 | 1200 | 1204 | 1144 |
| V-132 | Top | 1206 | 1206 | 1204 | 1144 |
| H13-41 | B-1 | 1173 | 1151 | 1153 | 1095 |
| | B-3 | 1130 | | | |
| H24-33 | B-4 | 1157 | 1123 | 1068 | 1015 |
| | B-2 | 1089 | | | |
| H46-50 | B-6 | 1204 | 1131 | 1116 | 1060 |
| | B-4 | 1057 | | | |
| H51-49 | B-1 | 1186 | 1154 | 1132 | 1075 |
| | B-5 | 1123 | | | |
| H62-26 | B-6 | 1131 | 1141 | 1105 | 1050 |
| | B-2 | 1152 | | | |
| D-122 | S | 1110 | 1119 | 1082 | 1028 |
| | N | 1128 | | | |
| D-225 | NE | 1083 | 1088 | 1067 | 1014 |
| | SW | 1094 | | | |
| D-322 | N | 1138 | 1135 | 1128 | 1071 |
| | S | 1133 | | | |
| D-342 | SW | 1118 | 1150 | 1116 | 1060 |
| | SE | 1182 | | | |

| Table 3-2 | | | |
|---|----------------------------|------------------------|------------------------------|
| Normalized Tendon Forces and Group Mean Forces | | | |
| Tendon | Measured force, kip | Adjustment, kip | Normalized force, kip |
| V-11 | 1206 | +26 | 1232 |
| V-32 | 1175 | -7 | 1168 |
| V-90 | 1200 | -30 | 1170 |
| V-132 | 1206 | -30 | 1176 |
| Vertical Group – Mean Normalized Force | | | 1187 |
| | | | |
| H13-41 | 1151 | -47 | 1104 |
| H24-33 | 1123 | +38 | 1161 |
| H46-50 | 1131 | -9 | 1122 |
| H51-49 | 1154 | -25 | 1129 |
| H62-26 | 1141 | +2 | 1143 |
| Hoop Group – Mean Normalized Force | | | 1132 |
| | | | |
| D-122 | 1119 | +31 | 1150 |
| D-225 | 1088 | +45 | 1133 |
| D-322 | 1135 | -15 | 1120 |
| D-342 | 1150 | -3 | 1147 |
| Dome Group – Mean Normalized Force | | | 1138 |

| Table 3-3 | | | |
|--|----------------------------------|---------------|-------------------|
| Summary of Vertical Tendon Forces | | | |
| Surveillance Year | Time Since SIT, Years | Tendon | Force, kip |
| 10 | 11.2 | V-14 | 1243 |
| | | V-30 | 1193 |
| | | V-32 | 1196 |
| | | V-84 | 1189 |
| | | V-160 | 1192 |
| 15 | 15.6 | V-19 | 1187 |
| | | V-21 | 1196 |
| | | V-22 | 1171 |
| | | V-23 | 1175 |
| | | V-50 | 1213 |
| | | V-83 | 1196 |
| 20 | 20.6 | V-85 | 1179 |
| | | V-32 | 1210 |
| | | V-78 | 1306 |
| 25 | 25.5 | V-126 | 1209 |
| | | V-32 | 1193 |
| | | V-40 | 1202 |
| | | V-114 | 1189 |
| 30 | 30.6 | V-164 | 1181 |
| | | V-32 | 1190 |
| | | V-53 | 1222 |
| | | V-66 | 1178 |
| | | V-137 | 1218 |
| 35 | 35.6 | V-140 | 1144 |
| | | V-141 | 1207 |
| | | V-11 | 1206 |
| | | V-32 | 1175 |
| | | V-90 | 1200 |
| | | V-132 | 1206 |

| Table 3-4 | | | |
|--------------------------------------|------------------------------|---------------|-------------------|
| Summary of Hoop Tendon Forces | | | |
| Surveillance Year | Time Since SIT, Years | Tendon | Force, kip |
| 10 | 11.2 | H13-35 | 1191 |
| | | H13-36 | 1066 |
| | | H13-37 | 1182 |
| | | H24-26 | 1173 |
| | | H35-26 | 1156 |
| | | H62-26 | 1145 |
| | | H62-30 | 1152 |
| 15 | 15.6 | H24-29 | 1072 |
| | | H24-30 | 1139 |
| | | H24-31 | 1114 |
| | | H24-51 | 1142 |
| | | H46-34 | 1177 |
| | | H62-13 | 1088 |
| | | H62-26 | 1128 |
| 20 | 20.6 | H24-40 | 1132 |
| | | H35-23 | 1200 |
| | | H35-47 | 1192 |
| | | H62-26 | 1161 |
| | | H62-49 | 1163 |
| 25 | 25.5 | H13-50 | 1159 |
| | | H35-33 | 1169 |
| | | H46-37 | 1129 |
| | | H51-43 | 1170 |
| | | H62-26 | 1136 |
| 30 | 30.6 | H13-11 | 1218 |
| | | H35-49 | 1201 |
| | | H46-25 | 1121 |
| | | H62-18 | 1105 |
| | | H62-26 | 1120 |
| 35 | 35.6 | H13-41 | 1151 |
| | | H24-33 | 1123 |
| | | H46-50 | 1131 |
| | | H51-49 | 1154 |
| | | H62-26 | 1141 |

| Surveillance Year | Time Since SIT, Years | Tendon | Force, kip |
|--------------------------|------------------------------|---------------|-------------------|
| 10 | 11.2 | D-133 | 1107 |
| | | D-225 | 1125 |
| | | D-314 | 1290 |
| 15 | 15.6 | D-145 | 1220 |
| | | D-347 | 1183 |
| 20 | 20.6 | D-141 | 1164 |
| | | D-225 | 1120 |
| | | D-248 | 1202 |
| 25 | 25.5 | D-102 | 1280 |
| | | D-225 | 1104 |
| | | D-313 | 1120 |
| 30 | 30.6 | D-213 | 1094 |
| | | D-225 | 1120 |
| | | D-230 | 1149 |
| 35 | 35.6 | D-122 | 1119 |
| | | D-225 | 1088 |
| | | D-322 | 1135 |
| | | D-342 | 1150 |

| Table 3-6 Corrosion Protection Medium Test Results | | | | | | | |
|---|------------|---------------------------|--------------------------|--------------------------|---------------------------------|--|------------------------|
| Tendon | End | Chlorides, ppm | Nitrates, ppm | Sulfides, ppm | Water Content, % | Base Number (Lower Limit) | Acid Number |
| V-11 | Shop | <0.5 | <0.5 | <0.5 | 0.21 | 31.90 | N/A |
| | Field | <0.5 | <0.5 | <0.5 | <0.10 | 1.40 | N/A |
| V-32 | Shop | <0.5 | <0.5 | <0.5 | <0.10 | 50.60 | N/A |
| | Field | <0.5 | <0.5 | <0.5 | 0.48 | 39.70 | N/A |
| V-90 | Shop | <0.5 | <0.5 | <0.5 | 0.50 | 2.82 | N/A |
| | Field | <0.5 | <0.5 | <0.5 | <0.10 | 3.43 | N/A |
| V-132 | Shop | <0.5 | <0.5 | <0.5 | 0.30 | 46.80 | N/A |
| | Field | <0.5 | <0.5 | <0.5 | <0.10 | 5.11 | N/A |
| H13-41 | Shop | <0.5 | <0.5 | <0.5 | <0.10 | <0.50 | <0.50 |
| | Field | <0.5 | <0.5 | <0.5 | <0.10 | 0.57 | N/A |
| H24-33 | Shop | <0.5 | <0.5 | <0.5 | <0.10 | <0.50 | <0.50 |
| | Field | <0.5 | <0.5 | <0.5 | <0.10 | 2.23 | N/A |
| H46-50 | Shop | <0.5 | <0.5 | <0.5 | 0.58 | 2.21 | N/A |
| | Field | <0.5 | <0.5 | <0.5 | 0.20 | 2.51 | N/A |
| H51-49 | Shop | <0.5 | <0.5 | <0.5 | <0.10 | <0.50 | <0.50 |
| | Field | <0.5 | <0.5 | <0.5 | <0.10 | 1.12 | N/A |
| H62-26 | Shop | <0.5 | <0.5 | <0.5 | <0.10 | 44.60 | N/A |
| | Field | <0.5 | <0.5 | <0.5 | 0.15 | 34.70 | N/A |
| D-122 | Shop | <0.5 | <0.5 | <0.5 | <0.10 | 2.79 | N/A |
| | Field | <0.5 | <0.5 | <0.5 | <0.10 | 55.00 | N/A |
| D-225 | Shop | <0.5 | <0.5 | <0.5 | <0.10 | 37.30 | N/A |
| | Field | <0.5 | <0.5 | <0.5 | <0.10 | 52.00 | N/A |
| D-322 | Shop | <0.5 | <0.5 | <0.5 | <0.10 | <0.50 | <0.50 |
| | Field | <0.5 | <0.5 | <0.5 | <0.10 | 0.81 | N/A |
| D-342 | Shop | <0.5 | <0.5 | <0.5 | <0.10 | 1.67 | N/A |
| | Field | <0.5 | <0.5 | <0.5 | <0.10 | 4.94 | N/A |

| Tendon | Quantity Removed, ga. | Quantity Replaced, gal | Absolute Difference, gal | Duct Volume (Gal) | % Diff. |
|---------------|--------------------------------------|---------------------------------------|---|----------------------------------|----------------|
| V-11 | 61.50 | 68.55 | 7.05 | 123.80 | 5.69 |
| V-32 | 12.50 | 23.01 | 10.51 | 125.20 | 8.39 |
| V-90 | 74.50 | 76.85 | 2.35 | 124.90 | 1.88 |
| V-132 | 58.5 | * | * | * | * |
| H13-41 | 11.5 | 13.27 | 1.77 | 103.50 | 1.71 |
| H24-33 | 9.00 | 12.38 | 3.38 | 103.20 | 3.27 |
| H46-50 | 9.00 | 15.04 | 6.04 | 103.40 | 5.84 |
| H51-49 | 8.00 | 14.16 | 6.16 | 103.40 | 5.96 |
| H62-26 | 9.25 | 13.27 | 4.02 | 103.20 | 3.89 |
| D-122 | 40.00 | 44.02 | 4.02 | 118.70 | 3.38 |
| D-225 | 15.75 | 18.58 | 2.83 | 119.90 | 2.36 |
| D-322 | 15.00 | 19.47 | 4.47 | 120.20 | 3.72 |
| D-342 | 50.00 | 58.72 | 8.72 | 107.8 | 8.09 |

*Tendon V-132 was replaced with a new tendon as part of the scope of the Steam Generator Replacement Project and as such, the grease replacement was performed under that project.

8.2 Figures

Figures commence on the following page.

Figure 3-1 - Vertical Tendon Force Trend

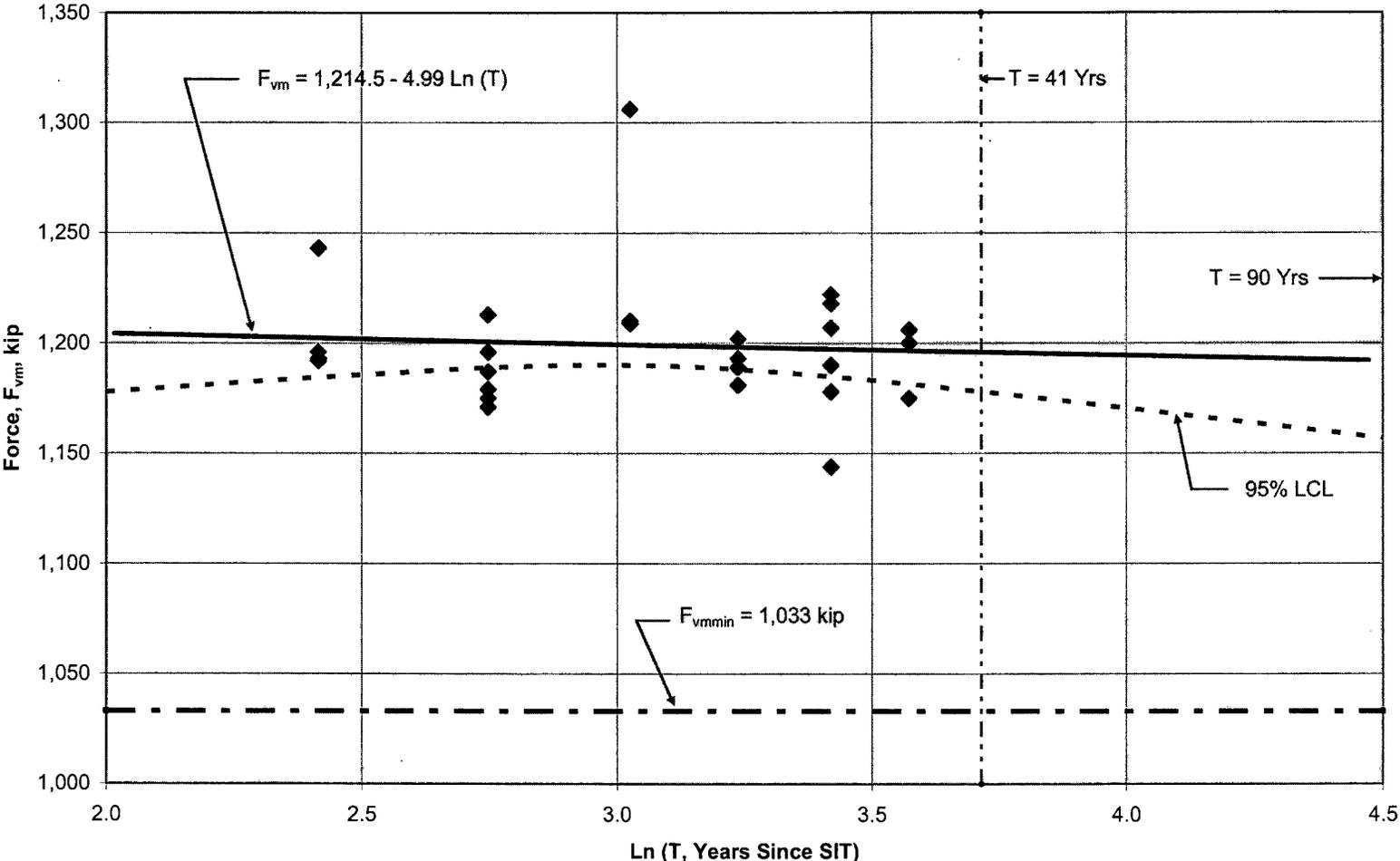


Figure 3-2 - Hoop Tendon Force Trend

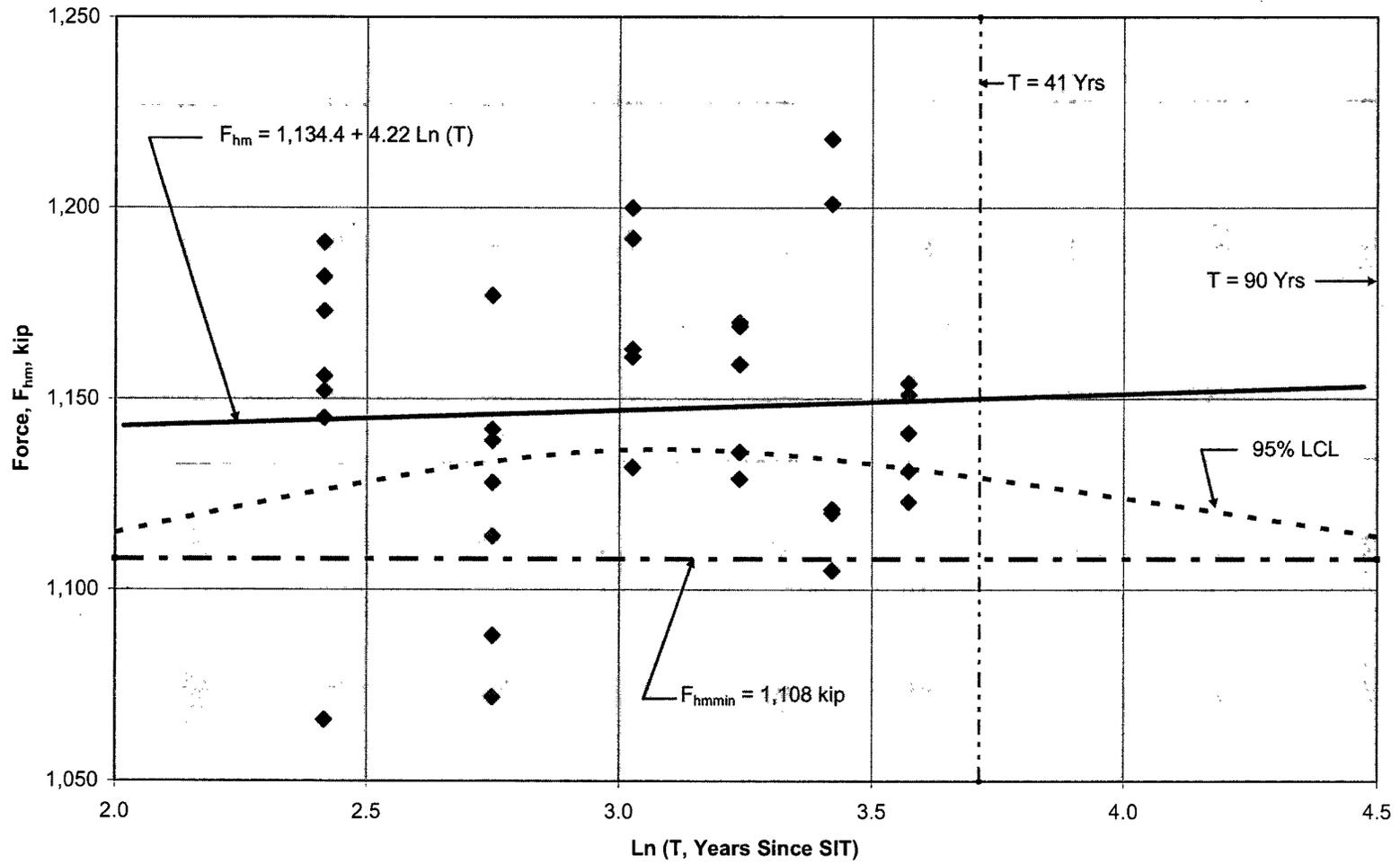


Figure 3-3 - Dome Tendon Force Trend

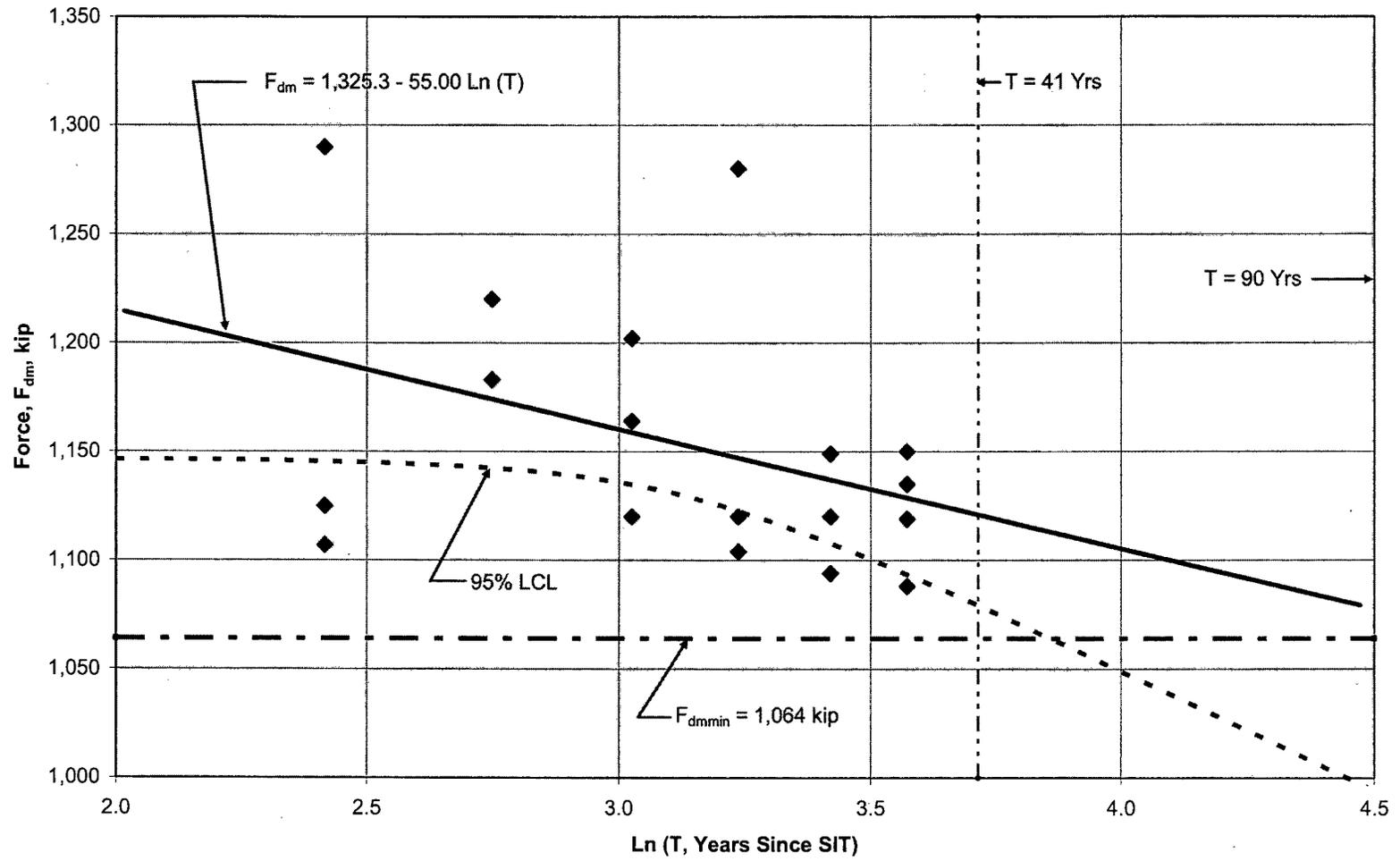


Figure 3-4 - Vertical Control Tendon V-32

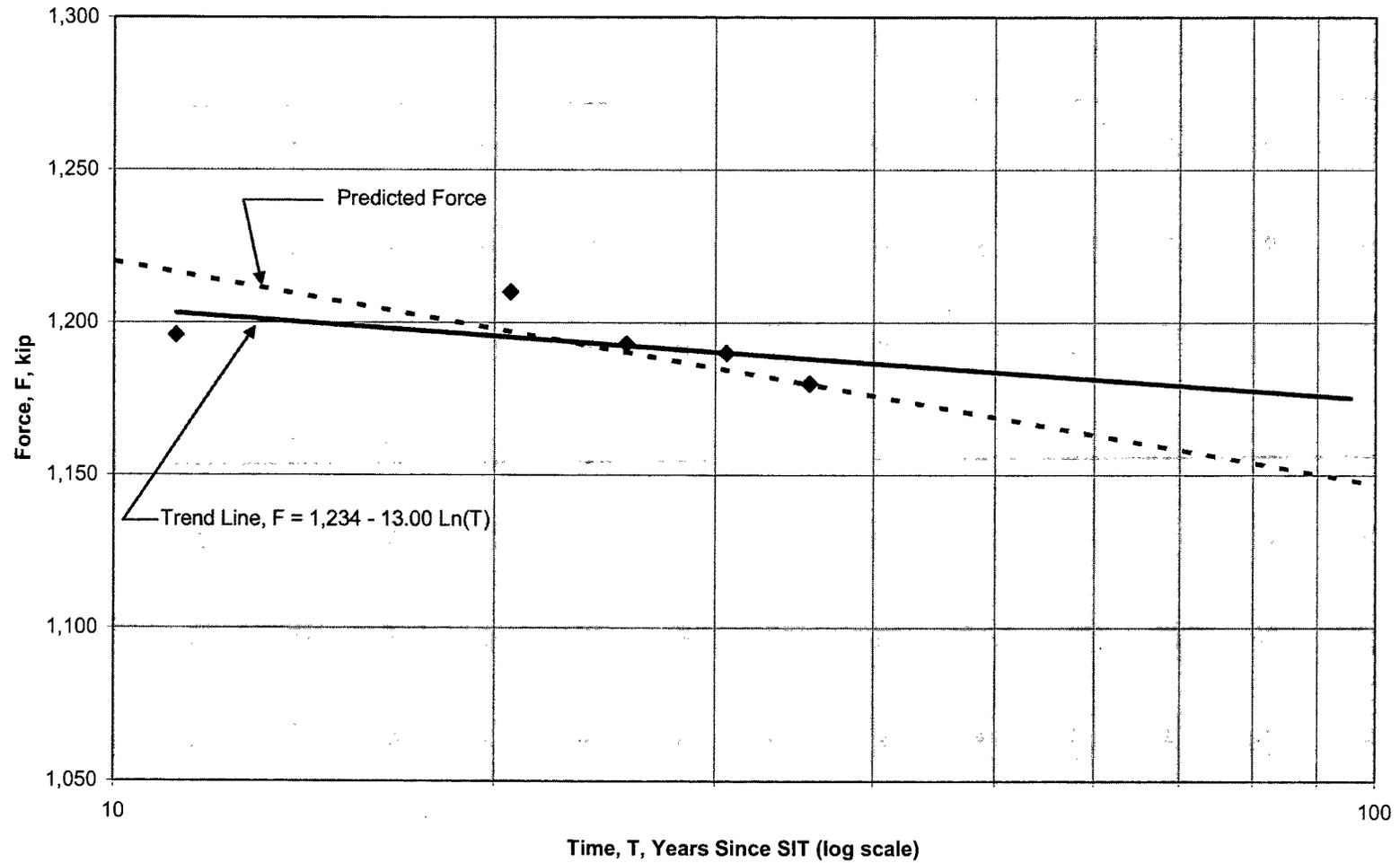


Figure 3-5 - Hoop Control Tendon H62-26

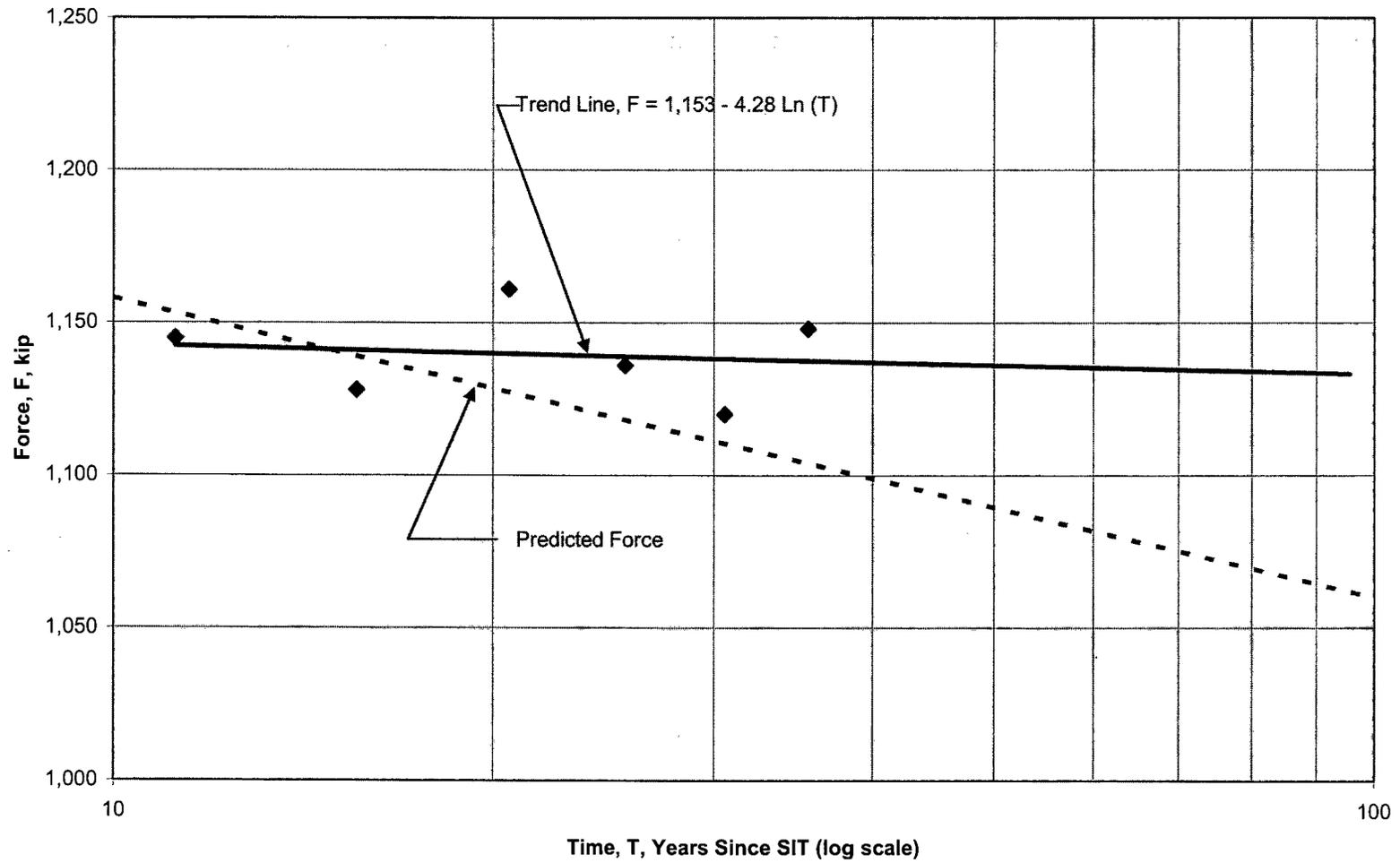
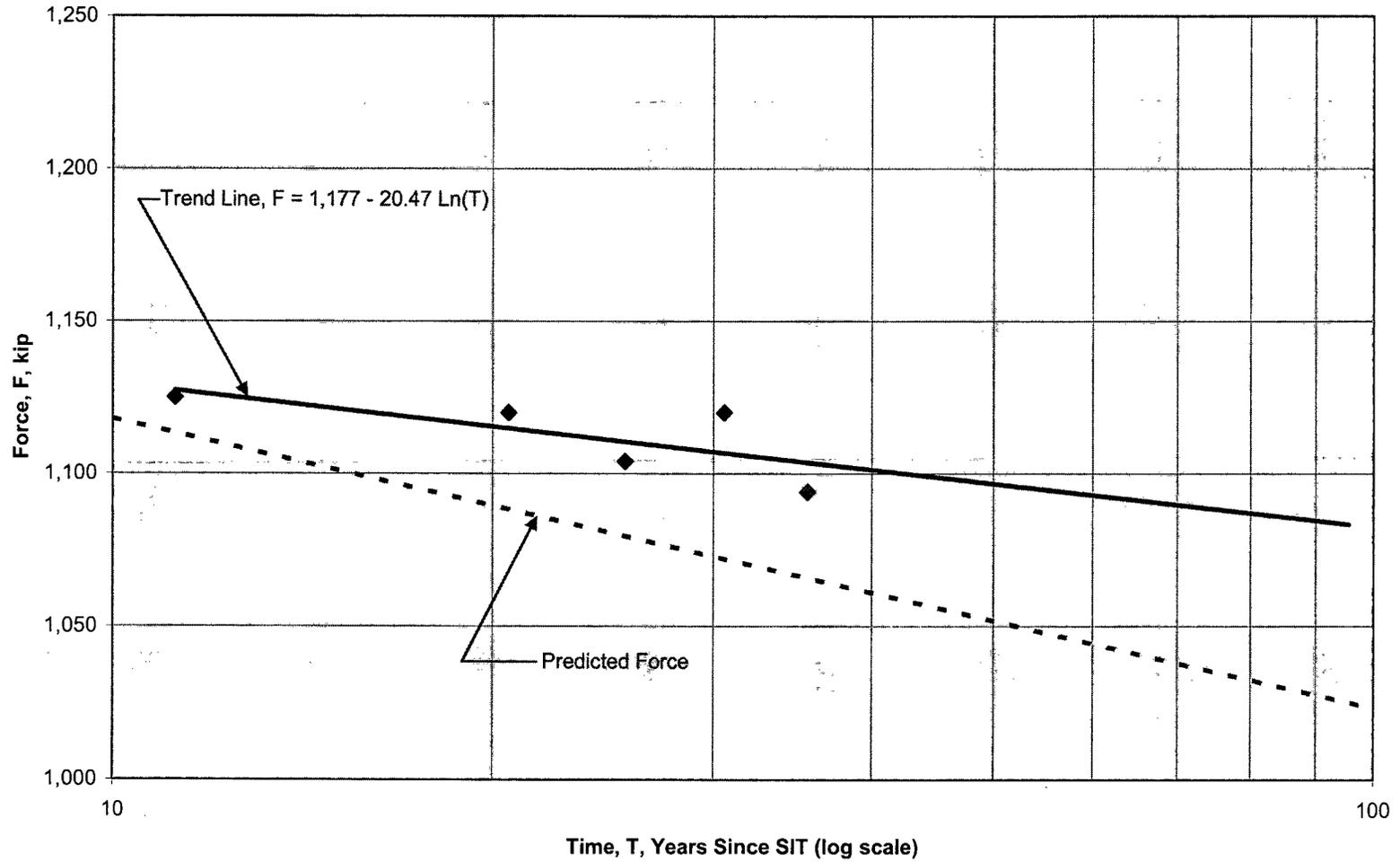


Figure 3-6 - Dome Control Tendon D-225



**Attachment 1: Final Report for the Three Mile Island Unit 1 35th Year
containment Building Tendon Surveillance**

Attachment 1 begins on the following page.



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ABSTRACT

The purpose of this report is to present the results of the 2009 Three Mile Island Unit 1 35TH Year In-Service Inspection on the containment structure post tensioning system. The results of this investigation are discussed in detail in the body of this report and are summarized as follows:

1. The sheathing filler (grease) samples were tested and found to have acceptable levels of water-soluble ions (Chlorides, Nitrates and Sulfides). The moisture contents were all below the acceptable limit of 10% water by weight. All neutralization numbers were acceptable.
2. No tendons showed presence of water during the removal of the grease cap, during anchorage inspection or during detensioning.
3. Acceptable corrosion levels were found on all tendon ends and no cracks were found on any anchorage components.
4. No missing or protruding buttonheads were identified during anchorage inspections. One protruding buttonhead was observed on the shop end of dome tendon D-322 after retensioning.
5. A detailed visual inspection was performed on the 24" of concrete surrounding the bearing plate of each tendon end inspected. No recordable indications were noted during these examinations.
6. A general visual inspection was performed on all accessible exterior surfaces of the containment building. The results of this inspection have been evaluated by the Utility. The general concrete inspection results are included in APPENDIX H of this report.
7. Threads measurements were taken to assure that the external threads of inspected tendon anchorages meet the minimum strength requirement of 120% of the minimum Guaranteed Ultimate Tensile Strength (GUTS) of the tendon, when coupled with a specific Stressing Adaptor. All measurements were within the acceptable ranges.
8. The hydraulic jacks used for liftoffs, detensioning and retensioning tendons were calibrated and found to be within an acceptable variation of +/- 1.5% as calculated using the maximum calibration force.
9. All of the tendons monitored for forces this inspection period were found to have forces greater than 95% of the corresponding predicted force. The normalized and as-found group averages were above the required minimum design force levels.
10. The detensioned tendons were retensioned with acceptable elongations and acceptable force levels. All test wires removed from detensioned tendons were found to have acceptable corrosion levels. All tendon test wire samples had acceptable diameter, yield stress, ultimate stress and elongation results.
11. All vertical tendons, except for V-132, were resealed and regreased to acceptable levels. Vertical tendon V-132 was part of the Steam Generator Replacement Project scope and as such was greased by SGT, no data was provided to PSC.
12. A comparison of as-found force levels to the original force levels was made in an effort to detect any evidence of system degradation. The force losses since original installation for each tendon group are reported as: 21.76% for the hoop tendons, 17.16% for the vertical tendons, and 21.32% for the dome tendons.

Based on the data gathered during the Three Mile Island Unit 1 35TH Year In-Service Inspection on the containment structure post tensioning system and reported herein, the conclusion is reached that no abnormal degradation of the post tensioning system has occurred.



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1.0 INTRODUCTION

- 1.1 This report details the 2009 Three Mile Island Unit 1 - 35TH Year containment structure post tensioning system tendon surveillance. The surveillance program is a systematic means of assessing the quality and structural performance of the post tensioning system.
- 1.2 The tendon surveillance program consists of a periodic inspection of the condition of a selected group of tendons. This program provides confidence in the condition and functional capability of the system, and an opportunity for timely corrective measures if adverse conditions are detected. The 2009 tendon surveillance at TMI began on August 11, 2009 and ended on January 22, 2010. This surveillance period consisted of a Physical Inspection of the post tensioning system. Physical tendon surveillance consists of: sheathing filler inspection and testing, inspection for water, thread measurement, anchorage inspection, concrete inspection around tendons, force monitoring, inspection and tensile testing of removed wire samples (for detensioned tendons), retensioning of detensioned tendons and replacement of sheathing filler after completion of all inspections.
- 1.3 Three Mile Island is currently committed to meet the requirements of the American Society of Mechanical Engineers, Boiler and Pressure Vessel Code, Section XI, 1992 Edition with 1992 Addenda and the applicable amendments as specified in 10CFR50.55a, Codes and Standard.
- 1.4 PSC Surveillance Procedures, TMI Surveillance Procedures 1301-9.1 Revision 20, the Code of Federal Regulations 10CFR50.55a, and ASME Section XI, Sub-Section IWL define the specific requirements for selection of the inspection tendons as well as acceptance criteria for the performance of the inspections. A copy of the PSC Surveillance Procedures is included in APPENDIX D of this Surveillance Report. A copy of the TMI Surveillance Procedure is attached in APPENDIX E of this report. The scope for the surveillance is included in Table 1-1.
- 1.5 Nine tendons were identified by TMI for Grease Leak / Gasket Repairs. These tendons only received a limited inspection of the grease coverage / condition and for the presence of water. If unacceptable conditions had been noted, a full visual inspection would have been performed. The tendons chosen and the inspections performed are listed in Table 1-2.



Table 1-1: Three Mile Island – Surveillance Tendons

| TENDON | END SHOP & FIELD | VISUAL | | | | | | PHISICAL | | | | | COMMENTS |
|--------|---------------------|--------|-------|-------|-------|------|-------|----------|--------|--------|--------|--------|---------------------------------------|
| | | SQ6.0 | SQ6.1 | SQ7.0 | SQ7.1 | VT-1 | VT-1C | 1301-9.1 | SQ10.2 | SQ10.3 | SQ12.0 | SQ12.1 | |
| H13-41 | BT 1 & BT 3 | • | • | • | • | • | • | • | | | • | • | |
| H24-33 | BT 2 & BT 4 | • | • | • | • | • | • | • | | | • | • | |
| H46-50 | BT 4 & BT 6 | • | • | • | • | • | • | • | | | • | • | |
| H51-49 | BT 1 & BT 5 | • | • | • | • | • | • | • | • | • | • | • | DETENSION |
| H62-26 | BT 2 & BT 6 | • | • | • | • | • | • | • | | | • | • | COMMON |
| V-11 | TOP & BOT | • | • | • | • | • | • | • | | | • | • | |
| V-32 | TOP & BOT | • | • | • | • | • | • | • | | | • | • | COMMON |
| V-90 | TOP & BOT | • | • | • | • | • | • | • | • | • | • | • | DETENSION |
| V-132 | TOP & BOT | • | • | • | • | • | • | • | | | • | • | |
| D-122 | BT 5 & BT 2 | • | • | • | • | • | • | • | | | • | • | |
| D-225 | BT 5 & BT 2 | • | • | • | • | • | • | • | | | • | • | COMMON |
| D-322 | N & S | • | • | • | • | • | • | • | • | • | • | • | DETENSION |
| D-342 | BT 6 / BT 4 | • | • | • | • | • | • | • | | | • | • | COMMITMENT FROM 30 TH YEAR |

Table 1-2: Three Mile Island – Gasket Repair Tendons

| TENDON | END FIELD | VISUAL | | | | | | PHISICAL | | | | | COMMENTS |
|--------|--------------|--------|-------|-------|-------|------|-------|----------|--------|--------|--------|--------|--------------------------|
| | | SQ6.0 | SQ6.1 | SQ7.0 | SQ7.1 | VT-1 | VT-1C | 1301-9.1 | SQ10.2 | SQ10.3 | SQ12.0 | SQ12.1 | |
| V-10 | BOTTOM | • | • | | | | | | | | • | • | GREASE LEAK REPAIR |
| V-55 | BOTTOM | • | • | | | | | | | | • | • | GREASE LEAK REPAIR |
| V-60 | BOTTOM | • | • | | | | | | | | • | • | GREASE LEAK REPAIR |
| V-62 | BOTTOM | • | • | | | | | | | | • | • | GREASE LEAK REPAIR |
| V-71 | BOTTOM | • | • | | | | | | | | • | • | GREASE LEAK REPAIR |
| V-84 | BOTTOM | • | • | | | | | | | | • | • | BEARING PLATE INSPECTION |
| V-88 | BOTTOM | • | • | | | | | | | | • | • | GREASE LEAK REPAIR |
| V-98 | BOTTOM | • | • | | | | | | | | • | • | GREASE LEAK REPAIR |
| V-99 | BOTTOM | • | • | | | | | | | | • | • | GREASE LEAK REPAIR |

LEGEND

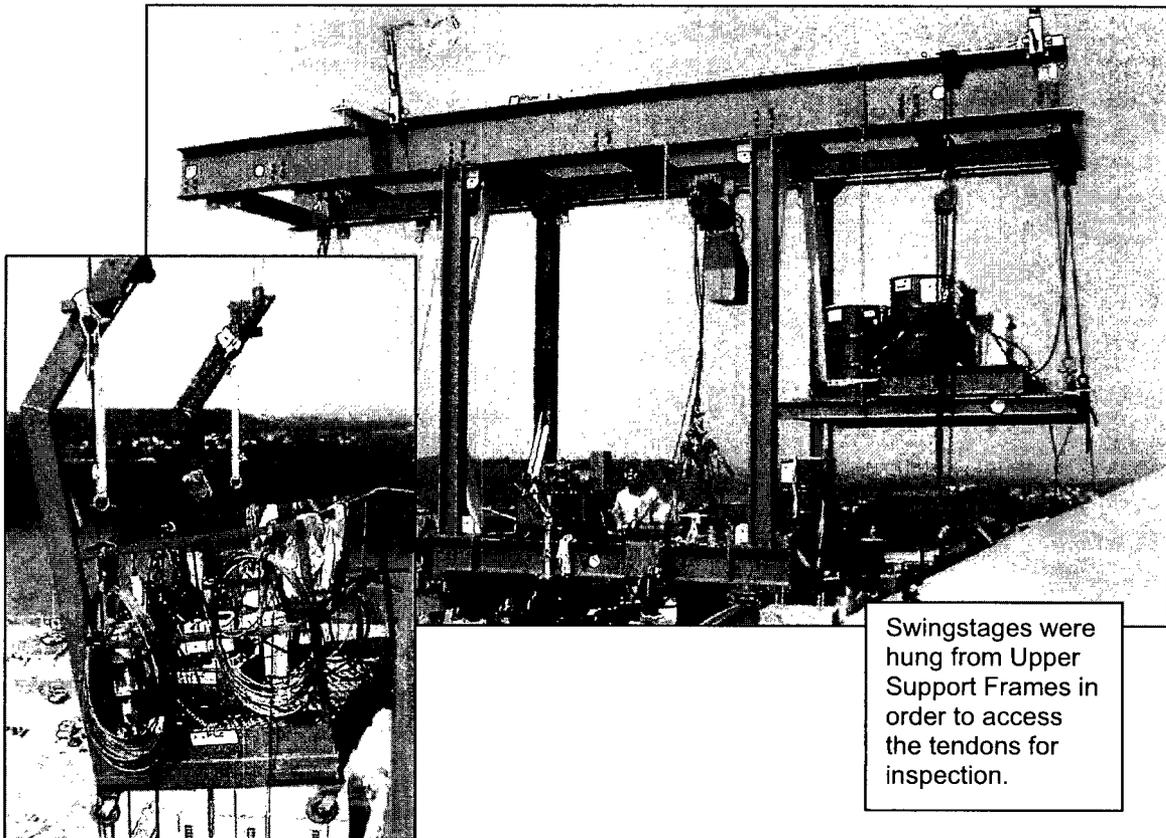
- | | |
|--|---|
| SQ 6.0 – GREASE CAP REMOVAL | 1301-9.1 – MONITOR TENDON FORCES (IWL Item L2.20) |
| SQ 6.1 – INSPECTION FOR WATER (IWL Item L2.50) | and RETENSION TENDONS |
| SQ 7.0 – GREASE SAMPLE ANALYSIS (IWL Item L2.40) | SQ 10.2 – TENDON WIRE INSPECTION (IWL Item L2.20) |
| SQ 7.1 – THREAD MEASUREMENT | SQ 10.3 – TESTING TENDON WIRES (IWL Item L2.20) |
| VT-1 / VT-1C – AS PER ER-AA-335-018 | SQ 12.0 – GREASE CAP REPLACEMENT |
| (IWL Items L2.40, L1.10, L1.11 and L1.12) | SQ 12.1 – GREASE REPLACEMENT |



2.0 SURVEILLANCE PROCEDURES

APPENDIX D and APPENDIX E of this Surveillance Report contain the detailed procedures for conducting the tendon surveillance. The surveillance consists of the following steps:

- 2.1 Grease cap removal and visual examination of sheathing filler (grease).
- 2.2 Analytical testing of sheathing filler (grease) samples.
- 2.3 Examination for the presence of water.
- 2.4 Inspection of the anchorage assembly of each surveillance tendon end for deleterious conditions such as corrosion, cracks, broken or missing wires or buttonheads.
- 2.5 Thread measurement for each tendon that is monitored for force.
- 2.6 Measurement of the liftoff force for each physical surveillance tendon.
- 2.7 Removal of one wire from surveillance tendons which are detensioned for examination and testing.
- 2.8 Retensioning of detensioned tendons and measuring of the corresponding tendon elongation.
- 2.9 Visual inspection for corrosion, pitting, or any significant physical change of the removed wires.
- 2.10 Testing of samples taken from wires removed from tendons for yield strength, ultimate strength, and percentage elongation at failure
- 2.11 Resealing tendon caps and replacement of lost sheathing filler (grease) into the tendon duct and cap.
- 2.12 Evaluation of test and inspection results to assess the general condition of the post tensioning system.



Swingstages were hung from Upper Support Frames in order to access the tendons for inspection.



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3.0 SHEATHING FILLER ANALYSIS

- 3.1 Two samples of sheathing filler (grease) were removed from each end of the surveillance tendons. Chemical tests were performed on a sample from each end by Suburban Laboratories, Inc. The results of the tests are presented in APPENDIX B and are summarized in Table 3-1.
- 3.2 The maximum acceptable test limits are:
- 3.2.1 *Maximum 10 parts per million for water-soluble chlorides, nitrates and sulfides.* All of the samples tested met these acceptance criteria.
- 3.2.2 *Maximum 10 percent by weight for water content.* All of the samples tested met this requirement.
- 3.2.3 *Reserve Alkalinity (Base Number) greater than zero.* The acceptance criteria for reserve alkalinity is determined by Table IWL-2525-1 and further explained and clarified by notes 3 and 4 from Enclosure 3 of TMI Procedure 1301-9.1. The reserve alkalinity is reported on the grease sample testing results as the Neutralization Number.
- 3.2.3.1 Four of the grease samples tested had neutralization numbers below the detection limits of the test (<0.5 mgKOH/g). Additional acid tests were conducted to verify the low numbers. These acid tests produced results <0.5 indicating a near neutral condition, as found in the original 2090-P grease, and therefore indicated no discernable change or deterioration in the grease. These four samples are acceptable per Note 4 or Enclosure 3 of TMI Procedure 1301-9.1.
- 3.2.3.2 All of the other grease samples tested had Neutralization Numbers confirmed greater than zero upon initial testing and are acceptable.
- 3.3 Sheathing filler samples were not taken or analyzed for Grease Leak Repair Tendons.



Grease samples were collected from all surveillance tendons.



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Table 3-1: Laboratory Analysis of Sheathing Filler

| TENDON | END | ION CONCENTRATION (PPM) | | | WATER CONTENT (%wt) | NEUTRAL No. (mg KOH/g) |
|--------|--------------|-------------------------|---------|---------|---------------------|------------------------|
| | | CHLORIDE | NITRATE | SULFIDE | | |
| H13-41 | SHOP / BT 1 | <0.50 | <0.50 | <0.50 | <0.10 | <0.50 |
| | FIELD / BT 3 | <0.50 | <0.50 | <0.50 | <0.10 | 0.570 |
| H24-33 | SHOP / BT 4 | <0.50 | <0.50 | <0.50 | <0.10 | <0.50 |
| | FIELD / BT 2 | <0.50 | <0.50 | <0.50 | <0.10 | 2.23 |
| H46-50 | SHOP / BT 6 | <0.50 | <0.50 | <0.50 | 0.58 | 2.21 |
| | FIELD / BT 4 | <0.50 | <0.50 | <0.50 | 0.20 | 2.51 |
| H51-49 | SHOP / BT 1 | <0.50 | <0.50 | <0.50 | <0.10 | <0.50 |
| | FIELD / BT 5 | <0.50 | <0.50 | <0.50 | <0.10 | 1.12 |
| H62-26 | SHOP / BT 6 | <0.50 | <0.50 | <0.50 | <0.10 | 44.60 |
| | FIELD / BT 2 | <0.50 | <0.50 | <0.50 | 0.15 | 34.70 |
| V-11 | SHOP / TOP | <0.50 | <0.50 | <0.50 | 0.21 | 31.90 |
| | FIELD / BOT | <0.50 | <0.50 | <0.50 | <0.10 | 1.40 |
| V-32 | SHOP / TOP | <0.50 | <0.50 | <0.50 | <0.10 | 50.60 |
| | FIELD / BOT | <0.50 | <0.50 | <0.50 | 0.48 | 39.70 |
| V-90 | SHOP / TOP | <0.50 | <0.50 | <0.50 | 0.50 | 2.82 |
| | FIELD / BOT | <0.50 | <0.50 | <0.50 | <0.10 | 3.43 |
| V-132 | SHOP / TOP | <0.50 | <0.50 | <0.50 | 0.30 | 46.80 |
| | FIELD / BOT | <0.50 | <0.50 | <0.50 | <0.10 | 5.11 |
| D-122 | SHOP / BT 5 | <0.50 | <0.50 | <0.50 | <0.10 | 2.79 |
| | FIELD / NE | <0.50 | <0.50 | <0.50 | <0.10 | 55.00 |
| D-225 | SHOP / BT 5 | <0.50 | <0.50 | <0.50 | <0.10 | 37.3 |
| | FIELD / BT 2 | <0.50 | <0.50 | <0.50 | <0.10 | 52.00 |
| D-322 | SHOP / N | <0.50 | <0.50 | <0.50 | <0.10 | <0.50 |
| | FIELD / S | <0.50 | <5.00 | <0.50 | <0.10 | 0.81 |
| D-342 | SHOP / BT 6 | <0.50 | <0.50 | <0.50 | <0.10 | 1.67 |
| | FIELD / BT 4 | <0.50 | <0.50 | <0.50 | <0.10 | 4.94 |



4.0 ANCHORAGE COMPONENTS

In the following discussion, all procedures referred to are included in APPENDIX D or APPENDIX E of this report and all data sheets are included in APPENDIX A.

4.1 SQ6.0 – GREASE CAP REMOVAL

4.1.1 Inspection of the anchorage components began by removing the grease cap of each surveillance tendon end (PSC Procedure SQ 6.0). Complete grease coating (100%) was found on all tendon ends inspected. The percentage of grease coverage for each anchorage component was recorded on Data Sheet SQ 6.0 with the results tabulated in Table 4-1 and Table 4-2.

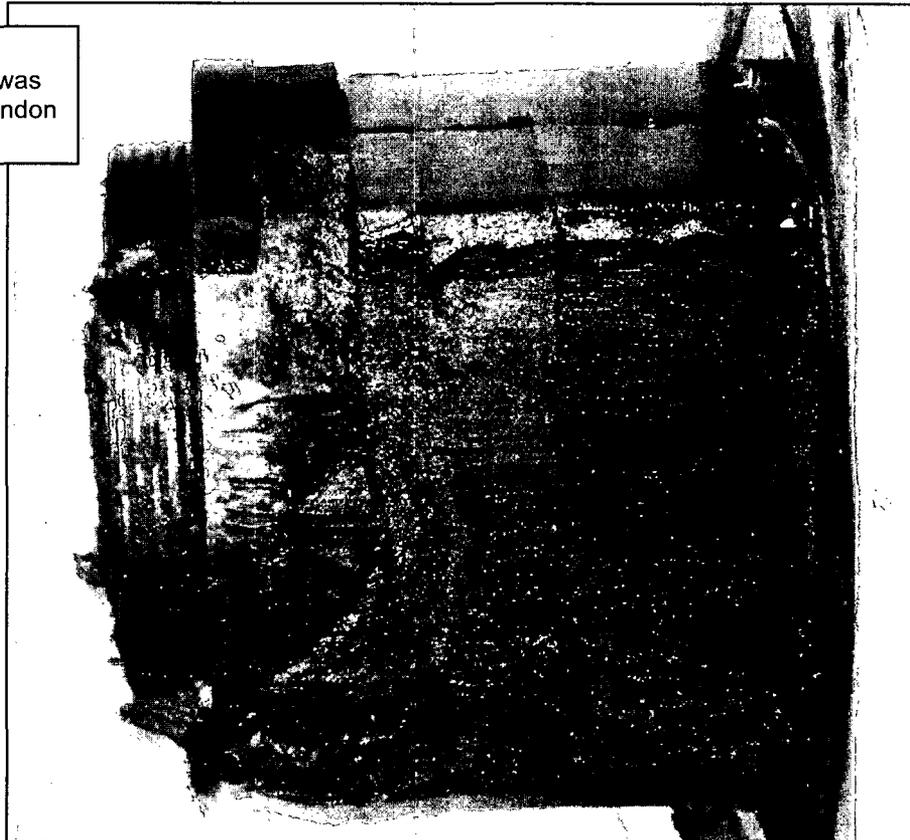
| Table 4-1: SQ6.0 – Grease Cap Removal – Surveillance Tendons | | | | | | |
|--|--------------|--------------------|--------------|-------------|-------|---------------|
| TENDON | END | GREASE COATING (%) | | | | |
| | | GREASE CAP | BUTTON HEADS | ANCHOR HEAD | SHIMS | BEARING PLATE |
| H13-41 | SHOP / BT 1 | 100 | 100 | 100 | 100 | 100 |
| | FIELD / BT 3 | 100 | 100 | 100 | 100 | 100 |
| H24-33 | SHOP / BT 4 | 100 | 100 | 100 | 100 | 100 |
| | FIELD / BT 2 | 100 | 100 | 100 | 100 | 100 |
| H46-50 | SHOP / BT 6 | 100 | 100 | 100 | 100 | 100 |
| | FIELD / BT 4 | 100 | 100 | 100 | 100 | 100 |
| H51-49 | SHOP / BT 1 | 100 | 100 | 100 | 100 | 100 |
| | FIELD / BT 5 | 100 | 100 | 100 | 100 | 100 |
| H62-26 | SHOP / BT 6 | 100 | 100 | 100 | 100 | 100 |
| | FIELD / BT 2 | 100 | 100 | 100 | 100 | 100 |
| V-11 | SHOP / TOP | 100 | 100 | 100 | 100 | 100 |
| | FIELD / BOT | 100 | 100 | 100 | 100 | 100 |
| V-32 | SHOP / TOP | 100 | 100 | 100 | 100 | 100 |
| | FIELD / BOT | 100 | 100 | 100 | 100 | 100 |
| V-90 | SHOP / TOP | 100 | 100 | 100 | 100 | 100 |
| | FIELD / BOT | 100 | 100 | 100 | 100 | 100 |
| V-132 | SHOP / TOP | 100 | 100 | 100 | 100 | 100 |
| | FIELD / BOT | 100 | 100 | 100 | 100 | 100 |
| D-122 | SHOP / BT 5 | 100 | 100 | 100 | 100 | 100 |
| | FIELD / NE | 100 | 100 | 100 | 100 | 100 |
| D-225 | SHOP / BT 5 | 100 | 100 | 100 | 100 | 100 |
| | FIELD / BT 2 | 100 | 100 | 100 | 100 | 100 |
| D-322 | SHOP / N | 100 | 100 | 100 | 100 | 100 |
| | FIELD / S | 100 | 100 | 100 | 100 | 100 |
| D-342 | SHOP / BT 6 | 100 | 100 | 100 | 100 | 100 |
| | FIELD / BT 4 | 100 | 100 | 100 | 100 | 100 |



Table 4-2: SQ6.0 – Grease Cap Removal – Gasket Repair Tendons

| TENDON | END | GREASE COATING (%) | | | | |
|--------|-------------|--------------------|--------------|-------------|-------|---------------|
| | | GREASE CAP | BUTTON HEADS | ANCHOR HEAD | SHIMS | BEARING PLATE |
| V-10 | FIELD / BOT | 100 | 100 | 100 | 100 | 100 |
| V-55 | FIELD / BOT | 100 | 100 | 100 | 100 | 100 |
| V-60 | FIELD / BOT | 100 | 100 | 100 | 100 | 100 |
| V-62 | FIELD / BOT | 100 | 100 | 100 | 100 | 100 |
| V-71 | FIELD / BOT | 100 | 100 | 100 | 100 | 100 |
| V-84 | FIELD / BOT | 100 | 100 | 100 | 100 | 100 |
| V-88 | FIELD / BOT | 100 | 100 | 100 | 100 | 100 |
| V-98 | FIELD / BOT | 100 | 100 | 100 | 100 | 100 |
| V-99 | FIELD / BOT | 100 | 100 | 100 | 100 | 100 |

Complete (100%) grease coverage was observed on all tendon ends inspected.





4.2 **SQ6.1 – INSPECT FOR WATER**

4.2.1 Throughout the inspection process, the presence of water on any anchorage components is monitored. Water Inspections were recorded on Data Sheet SQ 6.1 and are summarized in Table 4-3 and Table 4-4.

4.2.2 No water was observed during the cap removal or at any time during the inspections for all the grease caps removed.

Table 4-3: SQ6.1 – Inspection for Water – Surveillance Tendons

| SURVEILLANCE TENDONS | | | SURVEILLANCE TENDONS | | |
|----------------------|--------------|----------------------|----------------------|--------------|----------------------|
| TENDON | END | WATER QUANTITY (oz.) | TENDON | END | WATER QUANTITY (oz.) |
| H13-41 | SHOP / BT 1 | 0 | V-90 | SHOP / TOP | 0 |
| | FIELD / BT 3 | 0 | | FIELD / BOT | 0 |
| H24-33 | SHOP / BT 4 | 0 | V-132 | SHOP / TOP | 0 |
| | FIELD / BT 2 | 0 | | FIELD / BOT | 0 |
| H46-50 | SHOP / BT 6 | 0 | D-122 | SHOP / BT 5 | 0 |
| | FIELD / BT 4 | 0 | | FIELD / NE | 0 |
| H51-49 | SHOP / BT 1 | 0 | D-225 | SHOP / BT 5 | 0 |
| | FIELD / BT 5 | 0 | | FIELD / BT 2 | 0 |
| H62-26 | SHOP / BT 6 | 0 | D-322 | SHOP / N | 0 |
| | FIELD / BT 2 | 0 | | FIELD / S | 0 |
| V-11 | SHOP / TOP | 0 | D-342 | SHOP / BT 6 | 0 |
| | FIELD / BOT | 0 | | FIELD / BT 4 | 0 |
| V-32 | SHOP / TOP | 0 | | | |
| | FIELD / BOT | 0 | | | |

Table 4-4: SQ6.1 – Inspection for Water – Gasket Repair Tendons

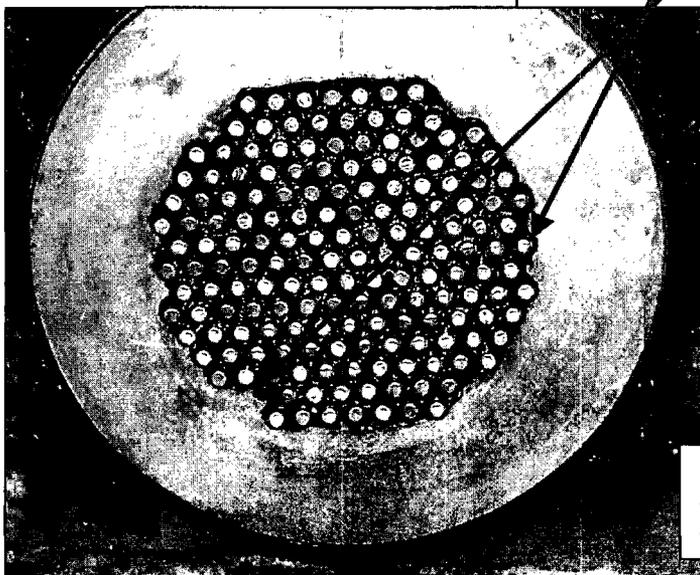
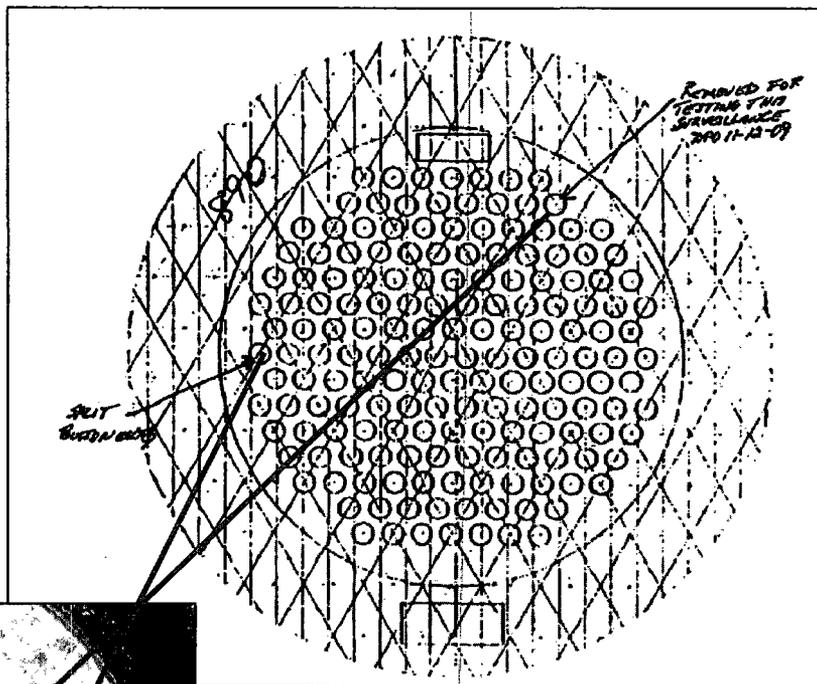
| SURVEILLANCE TENDONS | | | SURVEILLANCE TENDONS | | |
|----------------------|-------------|----------------------|----------------------|-------------|----------------------|
| TENDON | END | WATER QUANTITY (oz.) | TENDON | END | WATER QUANTITY (oz.) |
| V-10 | FIELD / BOT | 0 | V-84 | FIELD / BOT | 0 |
| V-55 | FIELD / BOT | 0 | V-88 | FIELD / BOT | 0 |
| V-60 | FIELD / BOT | 0 | V-98 | FIELD / BOT | 0 |
| V-62 | FIELD / BOT | 0 | V-99 | FIELD / BOT | 0 |
| V-71 | FIELD / BOT | 0 | | | |



4.3 ANCHORAGE VISUAL EXAMINATION

4.3.1 A detailed visual examination was performed on all of the anchorage components (anchorhead, buttonheads, bushing, shims and bearing plate) of each surveillance tendon end for recordable indications as outlined in Exelon Procedure ER-AA-335-018, which is included in APPENDIX E. The results were recorded on Data Sheet ER-AA-335-018, Attachment 5 and are summarized in Table 4-5.

4.3.2 No recordable indications were found during the initial inspection of any tendon ends. The only recordable indication noted was a protruding buttonhead found on the field end of tendon D322 after retensioning. The rest of the observations made were information only and consist of light inactive rust on the shims and/or bearing plate, split buttonheads, or test wires which were removed. Also, the shop end of dome tendon D-122 was noted as having a shim gap of 1.25" during the as-found inspection. The shim gap was remedied as much as conditions permitted.



During the anchorage inspections, any abnormalities in buttonheads are mapped for each tendon end.



Table 4-5: Detailed Anchorage Inspection – Surveillance tendons

| TENDON | END | ANCHOR/ BUSHING I.D. | RESULTS | | | EXPLANATION |
|--------|--------------|----------------------------|---------|---------|--------|---|
| | | | NI | RI TYPE | IO | |
| H13-41 | SHOP / BT 1 | 569 / 766 | X | | | |
| | FIELD / BT 3 | 132 | X | | | |
| H24-33 | SHOP / BT 4 | 1031 / 1249 | | | F | Light inactive surface rust on shims |
| | FIELD / BT 2 | 662 | X | | | |
| H46-50 | SHOP / BT 6 | 678 / 754 | X | | | |
| | FIELD / BT 4 | 900 | | | F | Light inactive surface rust on shims |
| H51-49 | SHOP / BT 1 | 1007 / 1156 | | | A | 1 wire removed for testing this surv. |
| | FIELD / BT 5 | 890 | | | O A | 1 split buttonhead (0.030") 1 wire removed for testing this surv. |
| H62-26 | SHOP / BT 6 | 837 / 924 | X | | | |
| | FIELD / BT 2 | 571 | X | | | |
| V-11 | SHOP / TOP | 519 / 1213 | X | | | |
| | FIELD / BOT | 555 | X | | | |
| V-32 | SHOP / TOP | 1036 / 1050 | X | | | |
| | FIELD / BOT | 657 | X | | | |
| V-90 | SHOP / TOP | 890 / 590 | | | A | 1 wire removed for testing this surv. |
| | FIELD / BOT | 728 | | | A | 1 wire removed for testing this surv. |
| V-132 | SHOP / TOP | 916 / 1098 | X | | | |
| | FIELD / BOT | 682 | X | | | |
| D-122 | SHOP / BT 5 | 547 / 1074 | | | L F | 1.25" shim gap at top of anchorage Light inactive surface rust on shims |
| | FIELD / NE | 754 | X | | | |
| D-225 | SHOP / BT 5 | 765 / 1137 | | | F | Light inactive surface rust on shims and bearing plate |
| | FIELD / BT 2 | 684 | X | | | |
| D-322 | SHOP / N | 668 / 1002 | | C | A | 1 protruding wire after retensioning 1 wire removed for testing this surv. |
| | FIELD / S | 1064 | | | A | 1 wire removed for testing this surv. |
| D-342 | SHOP / BT 6 | 1146 / 1183 | | | F | Light inactive surface rust on shims |
| | FIELD / BT 4 | 841 | X | | | |

NI – NO INDICATIONS RI – RECORDABLE INDICATION IO – INFORMATION ONLY

- A – Missing Wires
- B – Missing Buttonheads
- C – Protruding/ Unseated Wires
- D – Broken Wires
- E – Active Corrosion
- F – Other Corrosion
- G – Evidence of Free Water (Quantify)
- H – Cracks
- I – Pitting

- J – Nicks, Gouges, Mechanical Damage
- K – Uneven Shim Stack
- NI – No Indication
- K – Uneven Shim Stack
- L – Excessive Shim Gaps
- M – Gasket Seating Surface Damage
- N – Surface Discontinuities, Deflections
- O – Other (Explain)



4.4 **BUTTONHEAD COUNT**

- 4.4.1 An inspection for protruding and missing buttonheads was performed on each surveillance tendon end and documented per TMI Procedure 1301-9.1 Revision 20 - Tendon Buttonhead Inspection. This inspection is performed to acquire information on the function of the tendon since the original installation or previous surveillance. A missing and/or protruding buttonhead decreases the amount of effective wires in the tendon. The results of these inspections are recorded on Enclosure 6, Data Sheet 4 from TMI Procedure 1301-9.1 and are summarized in Table 4-6.
- 4.4.2 Upon completion of retensioning process, the shop end of tendon D-322 was identified with a protruding buttonhead (0.35"). No other protruding/missing buttonheads were detected on any of the inspected tendon ends, aside from those removed for testing.

Table 4-6: Buttonhead Count – Surveillance Tendons

| TENDON | END | PREVIOUSLY | | AS FOUND | | AS LEFT | | | EFFECTIVE WIRES AS FOUND | EFFECTIVE WIRES AS LEFT |
|--------|--------------|------------|------------------|----------|------------------|----------|------------------|---------------------|--------------------------|-------------------------|
| | | PROTRUDE | BROKEN / MISSING | PROTRUDE | BROKEN / MISSING | PROTRUDE | BROKEN / MISSING | REMOVED FOR TESTING | | |
| H13-41 | SHOP / BT 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 169 | 169 |
| | FIELD / BT 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 169 | 169 |
| H24-33 | SHOP / BT 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 169 | 169 |
| | FIELD / BT 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 169 | 169 |
| H46-50 | SHOP / BT 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 169 | 169 |
| | FIELD / BT 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 169 | 169 |
| H51-49 | SHOP / BT 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 169 | 168 |
| | FIELD / BT 5 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 169 | 168 |
| H62-26 | SHOP / BT 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 169 | 169 |
| | FIELD / BT 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 169 | 169 |
| V-11 | SHOP / TOP | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 169 | 169 |
| | FIELD / BOT | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 169 | 169 |
| V-32 | SHOP / TOP | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 169 | 169 |
| | FIELD / BOT | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 169 | 169 |
| V-90 | SHOP / TOP | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 169 | 168 |
| | FIELD / BOT | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 169 | 168 |
| V-132 | SHOP / TOP | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 169 | 169 |
| | FIELD / BOT | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 169 | 169 |
| D-122 | SHOP / BT 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 169 | 169 |
| | FIELD / NE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 169 | 169 |
| D-225 | SHOP / BT 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 169 | 169 |
| | FIELD / BT 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 169 | 169 |
| D-322 | SHOP / N | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 169 | 167 |
| | FIELD / S | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 169 | 168 |
| D-342 | SHOP / BT 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 169 | 169 |
| | FIELD / BT 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 169 | 169 |



4.5 DETAILED CONCRETE EXAMINATION

4.5.1 A detailed visual examination (VT-1C) was performed on the 24" around the bearing plate of each surveillance tendon end in accordance with Exelon Procedure ER-AA-335-018. The results were recorded on Exelon Procedure ER-AA-335-018, Attachment 6 and are summarized in Table 4-7. None of the inspected tendon ends exhibited concrete cracks exceeding 0.010" around any bearing plate inspected.

| Table 4-7: Detailed Concrete Inspection – Surveillance Tendons | | | | | |
|--|--------------|---------|---------|-------------|--|
| TENDON | END | RESULTS | | | RESULTS |
| | | NI | RI TYPE | IO | |
| H13-41 | SHOP / BT 1 | X | | | |
| | FIELD / BT 3 | X | | | |
| H24-33 | SHOP / BT 4 | | | A | 1 crack extending from the upper right corner of the bearing plate to the lower right corner of the bearing plate above 12" Long x < 0.010" wide. |
| | FIELD / BT 2 | X | | | |
| H46-50 | SHOP / BT 6 | X | | | |
| | FIELD / BT 4 | X | | | |
| H51-49 | SHOP / BT 1 | X | | | Exam Limited Due to Accesibility |
| | FIELD / BT 5 | X | | | |
| H62-26 | SHOP / BT 6 | X | | | |
| | FIELD / BT 2 | X | | | |
| V-11 | SHOP / TOP | X | | | Efflorescence on Exterior Wall. 4" strip around entire gallery. |
| | FIELD / BOT | Q | | | |
| V-32 | SHOP / TOP | X | | | |
| | FIELD / BOT | X | | | |
| V-90 | SHOP / TOP | X | | | 1 crack adjacent to the bearing plate 3' L x <0.010" wide 1 crack from corner of bearing plate to exterior wall 10" L x <0.010" wide. |
| | FIELD / BOT | | | A A | |
| V-132 | SHOP / TOP | | | P | Small bugholes present in the entire area. Efflorescence on inner wall. |
| | FIELD / BOT | | | Q | |
| D-122 | SHOP / BT 5 | | | M A A | Large area of light scaling above tendon Crack from top corner of bearing plate 4' Long x <0.010" wide. Crack from bottom center of bearing plate 6' Long x <0.010" wide. |
| | FIELD / NE | X | | | |
| D-225 | SHOP / BT 5 | | | A | Crack extending from right upper corner of bearing plate 49" long x <0.010" wide Crack from lower right corner 44" L x <0.010" wide. Grout patch from lower left to upper right of bearing plate separating from concrete. |
| | FIELD / BT 2 | | | A H | |
| D-322 | SHOP / N | X | | | |
| | FIELD / S | X | | | |
| D-342 | SHOP / BT 6 | | | A | 3 cracks. 2 at top and 1 at bottom of bearing plate. 12" max length x <0.010" wide. 1 crack above bearing plate 17" long x <0.010" wide. |
| | FIELD / BT 4 | | | A | |



4.5.2 The concrete examinations of the accessible exterior surfaces and areas previously identified for re-examination were completed. The results of these examinations are summarized in APPENDIX H and were evaluated by the Utility.

4.6 SQ 7.1 ANCHORHEAD THREAD MEASUREMENT

4.6.1 Threads measurements were taken to assure that the external threads of inspected tendon anchorages meet the minimum strength requirement of 120% of the minimum Guaranteed Ultimate Tensile Strength (GUTS) of the tendon, when coupled with a specific Stressing Adaptor. The results were recorded on Datasheet SQ7.1 and are summarized in Table 4-8. All measurements taken were in within acceptable limits.

Table 4-8: SQ7.1 - Thread Measurements - Surveillance Tendons

| TENDON | END | ANCHOR/ BUSHING I.D. | EXTERNAL MAJOR (inches) | EXTERNAL PITCH (inches) | EXTERNAL MINOR (inches) | ADAPTOR MARK | MINIMUM OR DIAMETER (IN) |
|--------|--------------|----------------------------|-------------------------------|-------------------------------|-------------------------------|-----------------|-----------------------------------|
| H13-41 | SHOP / BT 1 | 569 / 766 | 9.372 | 9.255 | 9.183 | A5 | 8.598 |
| | FIELD / BT 3 | 132 | 9.369 | 9.270 | 9.177 | A5 | 8.579 |
| H24-33 | SHOP / BT 4 | 1031 / 1249 | 9.374 | 9.249 | 9.179 | A5 | 8.598 |
| | FIELD / BT 2 | 662 | 9.390 | 9.261 | 9.204 | A5 | 8.598 |
| H46-50 | SHOP / BT 6 | 678 / 754 | 9.375 | 9.284 | 9.194 | A5 | 8.513 |
| | FIELD / BT 4 | 900 | 9.371 | 9.250 | 9.172 | A5 | 8.717 |
| H51-49 | SHOP / BT 1 | 1007 / 1156 | 9.397 | 9.264 | 9.200 | A5 | 8.443 |
| | FIELD / BT 5 | 890 | 9.378 | 9.270 | 9.166 | X2 | 8.755 |
| H62-26 | SHOP / BT 6 | 837 / 924 | 9.375 | 9.275 | 9.175 | A5 | 8.543 |
| | FIELD / BT 2 | 571 | 9.380 | 9.268 | 9.168 | A5 | 8.682 |
| V-11* | SHOP / TOP | 519 / 1213 | 9.371 | 9.250 | 9.184 | X2 | 8.677 |
| | FIELD / BOT | 555 | N/A | N/A | N/A | N/A | N/A |
| V-32* | SHOP / TOP | 1036 / 1050 | 9.363 | 9.252 | 9.164 | X2 | 8.720 |
| | FIELD / BOT | 657 | N/A | N/A | N/A | N/A | N/A |
| V-90* | SHOP / TOP | 890 / 590 | 9.362 | 9.254 | 9.190 | X2 | 8.720 |
| | FIELD / BOT | 728 | N/A | N/A | N/A | N/A | N/A |
| V-132* | SHOP / TOP | 916 / 1098 | 9.378 | 9.263 | 9.190 | A5 | 8.534 |
| | FIELD / BOT | 682 | N/A | N/A | N/A | N/A | N/A |
| D-122 | SHOP / BT 5 | 547 / 1074 | 9.379 | 9.258 | 9.187 | A5 | 8.598 |
| | FIELD / NE | 754 | 9.396 | 9.243 | 9.179 | A5 | 8.576 |
| D-225 | SHOP / BT 5 | 765 / 1137 | 9.369 | 9.199 | 9.193 | X2 | 8.750 |
| | FIELD / BT 2 | 684 | 9.366 | 9.244 | 9.175 | X2 | 8.695 |
| D-322 | SHOP / N | 668 / 1002 | 9.375 | 9.261 | 9.187 | A5 | 8.660 |
| | FIELD / S | 1064 | 9.379 | 9.256 | 9.183 | X2 | 8.733 |
| D-342 | SHOP / BT 6 | 1146 / 1183 | 9.356 | 9.245 | 9.917 | X2 | 8.736 |
| | FIELD / BT 4 | 841 | 9.372 | 9.254 | 9.170 | A5 | 8.598 |

*Measurements not taken for Field/Bottom end of vertical tendons because no stressing equipment was attached to these ends.



5.0 HYDRAULIC JACK CALIBRATIONS

- 5.1 Precision Surveillance Corporation has developed a program for calibrating hydraulic jacks utilizing regression analysis (PSC Procedure QA 12.8.G-W). This is a process where a straight line is mathematically best fit to a set of data points (in this case, force versus gauge pressure). This results in a linear equation which relates the ram area (slope) and constant (y-intercept) for each jack calibration, allowing the conversion of pressure to force and vice versa. Completed calibrations for all of the hydraulic jacks used are contained in APPENDIX C and are summarized in Table 5-1.
- 5.2 A before and after comparison of the stressing jacks' ram areas revealed that none of the hydraulic jacks' calibrations varied by more than 0.614%, indicating that they were in a properly calibrated status throughout the surveillance. Acceptable variation is 1.5%. The percent variation is obtained by comparing the maximum force calculated from the calibration data at the maximum pressure noted.
- 5.3 Due to the timing of the surveillance compared to the SGR Project, the stressing jacks used for the surveillance had to be calibrated in two phases. Phase one was the portion of the surveillance performed before the SGRP started and Phase two represents the tendons inspected once the unit was shutdown. A pre and post calibration was performed for each phase. It should be noted that the post calibration for phase one is used as the pre calibration for phase two.
- 5.4 The wire-testing ram, I.D.#7702 was calibrated before and after testing the wire samples and was also found within acceptable variation at -0.276% as compared using the maximum calibration forces.
- 5.5 Note that the force exerted by a jack can be calculated as follows:

$$\text{Force (K)} = \text{Area (in}^2\text{)} \times \text{Pressure (KSI)} + \text{Constant (K)}$$

| JACK I.D. | FIRST | | | | SECOND | | | | MAX PRESSURE | % VARIATION |
|-----------------------|----------|-------------------------|-----------------|-----------------------------|----------|-------------------------|-----------------|-----------------------------|--------------|-------------|
| | DATE | AREA (in ²) | CONSTANT (KIPS) | FORCE F _f (KIPS) | DATE | AREA (in ²) | CONSTANT (KIPS) | FORCE F _f (KIPS) | | |
| PHASE 1 CALIBRATIONS | | | | | | | | | | |
| 9370 | 7/14/09 | 218.894 | -2.248 | 1858.35 | 9/23/09 | 220.472 | -4.255 | 1869.76 | 8500 | +0.614 |
| 9371 | 7/9/09 | 220.008 | -3.524 | 1866.54 | 9/23/09 | 220.599 | -5.486 | 1869.61 | 8500 | +0.164 |
| PHASE 2 CALIBRATIONS | | | | | | | | | | |
| 9370 | 9/23/09 | 220.472 | -4.255 | 1869.76 | 12/22/09 | 219.313 | -1.189 | 1862.97 | 8500 | -0.363 |
| 9371 | 9/23/09 | 220.599 | -5.486 | 1869.61 | 12/22/09 | 219.509 | -0.624 | 1865.20 | 8500 | -0.236 |
| PSC SHOP CALIBRATIONS | | | | | | | | | | |
| 7702 | 12/23/09 | 1.696 | 0.091 | 14.507 | 12/29/09 | 1.697 | 0.123 | 14.548 | 8500 | +0.276 |



6.0 TENDON LIFTOFFS

6.1 MONITOR TENDON FORCES

- 6.1.1 A liftoff is defined as the force required to transfer the load on a tendon from the shim stack to the stressing ram and is representative of the force held by that tendon. A liftoff is performed on each surveillance tendon to monitor the force exerted by the tendon onto the containment structure. TMI procedure 1301-9.1 details the steps taken to perform a liftoff. The results were documented on Data Sheets 1, 2 and 5 from TMI Procedure 1301-9.1 and are summarized in Table 6-1.
- 6.1.1.1 It should be noted that performing a liftoff has only a localized effect on a tendon; therefore, it is acceptable to use the same jack for both ends of a tendon by executing the liftoff on separate occasions.
- 6.1.2 According to ASME, Section XI, subsection IWL-3221.1: *Tendon forces are acceptable if:*
- (a) *the average of all measured tendon forces, including those measured in IWL-3221.1(b)(2), for each type of tendon is equal to or greater than the minimum required prestress specified at the anchorage for that type of tendon;*
 - (b) *the measured force in each individual tendon is not less than 95% of the predicted force unless the following conditions are satisfied:*
 - (1) *the measured force in not more than one tendon is between 90% and 95% of the predicted force;*
 - (2) *The measured forces in two tendons located adjacent to the tendon in IWL-3221.1(b)(1) are not less than 95% of the predicted forces; and*
 - (3) *the measured forces in all the remaining sample tendons are not less than 95% of the predicted force.*
- 6.1.3 Per TMI Procedure 1301-9.1- RB Structural Integrity Tendon Surveillance, Revision 20, Section 9.3, the acceptance criteria for liftoff forces is:
- (9.3.1) *The average of all normalized tendon lift-off forces, including those measured in 9.3.2.2, for each type of tendon (vertical, dome, or hoop) is equal or greater than the required minimum average tendon force at the anchorage for that type of tendon.*
 - (9.3.2) *The measured force in each individual tendon is not less than 95% of the Predicted Base Value (Predicted Force) obtained from VM-TM-2485...*
- 6.1.4 All of the as-found tendon liftoff forces were above the 95% Predicted Base Value (Predicted Force) as required by IWL-3221.1.(a) and 9.3.1 of 1301-9.1, and were therefore deemed acceptable. The actual values for each tendon are summarized in Table 6-1.
- 6.1.5 The average of the normalized liftoff values, as well as the average of as-found liftoff values, were above the required minimum average force for each tendon group (vertical, dome, or hoop) and deemed acceptable. The normalized forces were obtained by applying the normalization factors provided by Exelon for each individual tendon to the as-found liftoff forces. These computations are summarized in Table 6-2.
- 6.1.6 Upon completion of the liftoff, a visual verification is performed to identify any changes in the condition of the tendon end. In addition, tendons that are detensioned undergo a visual examination after both detensioning and retensioning of the tendon. The shop end of tendon D-322 was identified with one protruding buttonhead (0.35") after retensioning. No additional protruding or broken wires were noted during or after liftoffs, detensioning or retensioning.



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Table 6-1: Monitoring Tendon Force

| TENDON | END | SHIM STACK HEIGHT (in) | EFFECTIVE WIRES | JACK I.D. | END LIFT-OFF FORCE (KIPS) | AVERAGE LIFT-OFF FORCE (KIPS) | PREDICTED FORCE (KIPS) | 95% P.F. (KIPS) | 90% P.F. (KIPS) | AS-FOUND ACCEPTANCE |
|---------------|--------------|------------------------|-----------------|-----------|---------------------------|-------------------------------|------------------------|-----------------|-----------------|---------------------|
| H13-41 | SHOP / BT 1 | 6.50 | 169 | 9371 | 1172.50 | 1151.01 | 1153 | 1095 | 1038 | YES |
| | FIELD / BT 3 | 6.70 | 169 | 9371 | 1129.51 | | | | | |
| H24-33 | SHOP / BT 4 | 6.50 | 169 | 9371 | 1157.38 | 1123.43 | 1068 | 1015 | 961 | YES |
| | FIELD / BT 2 | 7.60 | 169 | 9371 | 1089.47 | | | | | |
| H46-50 | SHOP / BT 6 | 6.40 | 169 | 9371 | 1204.31 | 1130.62 | 1116 | 1060 | 1004 | YES |
| | FIELD / BT 4 | 7.00 | 169 | 9371 | 1056.91 | | | | | |
| H51-49 | SHOP / BT 1 | 7.10 | 169 | 9371 | 1185.70 | 1154.28 | 1132 | 1075 | 1019 | YES |
| | FIELD / BT 5 | 6.60 | 169 | 9370 | 1122.86 | | | | | |
| H62-26 | SHOP / BT 6 | 6.80 | 169 | 9371 | 1130.98 | 1141.25 | 1105 | 1050 | 995 | YES |
| | FIELD / BT 2 | 7.30 | 169 | 9371 | 1151.51 | | | | | |
| V-11 | SHOP / TOP | 14.30 | 169 | 9370 | 1205.97 | 1205.97 | 1148 | 1091 | 1033 | YES |
| | FIELD / BOT | N/A | N/A | N/A | N/A | | | | | |
| V-32 | SHOP / TOP | 14.15 | 169 | 9370 | 1175.10 | 1175.10 | 1181 | 1122 | 1063 | YES |
| | FIELD / BOT | N/A | N/A | N/A | N/A | | | | | |
| V-90 | SHOP / TOP | 15.00 | 169 | 9371 | 1199.92 | 1199.92 | 1204 | 1144 | 1084 | YES |
| | FIELD / BOT | N/A | N/A | N/A | N/A | | | | | |
| V-132 | SHOP / TOP | 15.50 | 169 | 9371 | 1205.78 | 1205.78 | 1204 | 1144 | 1084 | YES |
| | FIELD / BOT | N/A | N/A | N/A | N/A | | | | | |
| D-122 | SHOP / BT 5 | 5.65 | 169 | 9371 | 1110.44 | 1119.42 | 1082 | 1028 | 974 | YES |
| | FIELD / NE | 7.00 | 169 | 9371 | 1128.39 | | | | | |
| D-225 | SHOP / BT 5 | 7.70 | 169 | 9370 | 1093.90 | 1088.25 | 1067 | 1014 | 960 | YES |
| | FIELD / BT 2 | 4.70 | 169 | 9370 | 1082.59 | | | | | |
| D-322 | SHOP / N | 6.65 | 169 | 9370 | 1137.78 | 1135.29 | 1128 | 1072 | 1015 | YES |
| | FIELD / S | 6.40 | 169 | 9371 | 1132.80 | | | | | |
| D-342 | SHOP / BT 6 | 5.40 | 169 | 9370 | 1118.12 | 1149.85 | 1116 | 1060 | 1004 | YES |
| | FIELD / BT 4 | 5.10 | 169 | 9371 | 1181.58 | | | | | |



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Table 6-2: Monitoring Tendon Force – Normalized Force

| TENDON | END | END LIFT-OFF FORCE (KIPS) | AS-FOUND LIFT-OFF FORCE (KIPS) | NORMALIZATION FACTOR | NORMALIZED FORCE (KIPS) | AS-FOUND AVERAGE (KIPS) | NORMALIZED FORCE-GROUP AVERAGE (KIPS) | MINIMUM DESIGN AVERAGE (KIPS) | ACCEPTABLE | | | | | | | | | | | | | | | | |
|---------------|--------------|---------------------------|--------------------------------|----------------------|-------------------------|-------------------------|---------------------------------------|-------------------------------|------------|---------|---------|------|-----|---------|---------|------|-----|---------|---------|------|-----|---------|---------|------|-----|
| H13-41 | SHOP / BT 1 | 1172.50 | 1151.01 | -47 | 1104.01 | 1140.12 | 1131.92 | 1108 | YES | | | | | | | | | | | | | | | | |
| | FIELD / BT 3 | 1129.51 | | | | | | | | | | | | | | | | | | | | | | | |
| H24-33 | SHOP / BT 4 | 1157.38 | 1123.43 | +38 | 1161.43 | | | | | 1196.69 | 1186.44 | 1033 | YES | | | | | | | | | | | | |
| | FIELD / BT 2 | 1089.47 | | | | | | | | | | | | | | | | | | | | | | | |
| H46-50 | SHOP / BT 6 | 1204.31 | 1130.62 | -9 | 1121.62 | | | | | | | | | 1196.69 | 1186.44 | 1033 | YES | | | | | | | | |
| | FIELD / BT 4 | 1056.91 | | | | | | | | | | | | | | | | | | | | | | | |
| H51-49 | SHOP / BT 1 | 1185.70 | 1154.28 | -25 | 1129.28 | | | | | | | | | | | | | 1196.69 | 1186.44 | 1033 | YES | | | | |
| | FIELD / BT 5 | 1122.86 | | | | | | | | | | | | | | | | | | | | | | | |
| H62-26 | SHOP / BT 6 | 1130.98 | 1141.25 | +2 | 1143.25 | | | | | | | | | | | | | | | | | 1196.69 | 1186.44 | 1033 | YES |
| | FIELD / BT 2 | 1151.51 | | | | | | | | | | | | | | | | | | | | | | | |
| V-11 | SHOP / TOP | 1205.97 | 1205.97 | +26 | 1231.97 | 1196.69 | 1186.44 | 1033 | YES | | | | | | | | | | | | | | | | |
| | FIELD / BOT | N/A | | | | | | | | | | | | | | | | | | | | | | | |
| V-32 | SHOP / TOP | 1175.10 | 1175.10 | -7 | 1168.1 | | | | | 1196.69 | 1186.44 | 1033 | YES | | | | | | | | | | | | |
| | FIELD / BOT | N/A | | | | | | | | | | | | | | | | | | | | | | | |
| V-90 | SHOP / TOP | 1199.92 | 1199.92 | -30 | 1169.92 | | | | | | | | | 1196.69 | 1186.44 | 1033 | YES | | | | | | | | |
| | FIELD / BOT | N/A | | | | | | | | | | | | | | | | | | | | | | | |
| V-132 | SHOP / TOP | 1205.78 | 1205.78 | -30 | 1175.78 | | | | | | | | | | | | | 1196.69 | 1186.44 | 1033 | YES | | | | |
| | FIELD / BOT | N/A | | | | | | | | | | | | | | | | | | | | | | | |
| D-122 | SHOP / BT 5 | 1110.44 | 1119.42 | +31 | 1150.42 | | | | | | | | | | | | | | | | | 1123.20 | 1137.70 | 1064 | YES |
| | FIELD / NE | 1128.39 | | | | | | | | | | | | | | | | | | | | | | | |
| D-225 | SHOP / BT 5 | 1093.90 | 1088.25 | +45 | 1133.25 | 1123.20 | 1137.70 | 1064 | YES | | | | | | | | | | | | | | | | |
| | FIELD / BT 2 | 1082.59 | | | | | | | | | | | | | | | | | | | | | | | |
| D-322 | SHOP / N | 1137.78 | 1135.29 | -15 | 1120.29 | | | | | 1123.20 | 1137.70 | 1064 | YES | | | | | | | | | | | | |
| | FIELD / S | 1132.80 | | | | | | | | | | | | | | | | | | | | | | | |
| D-342 | SHOP / BT 6 | 1118.12 | 1149.85 | -3 | 1146.85 | | | | | | | | | 1123.20 | 1137.70 | 1064 | YES | | | | | | | | |
| | FIELD / BT 4 | 1181.58 | | | | | | | | | | | | | | | | | | | | | | | |



7.0 WIRE INSPECTION AND WIRE TESTING

- 7.1 One tendon from each group (Vertical, Hoop and Dome) was completely detensioned. A single wire was removed from each detensioned tendon for inspection and testing. Each removed wire was examined over its entire length for corrosion and mechanical damage. Three samples from each wire were tested for diameter, yield strength, ultimate tensile strength and elongation at failure. PSC SQ 10.2 outlines the details and acceptance criteria pertaining to the wire inspection and testing. All data was recorded on Data Sheets SQ10.2 and SQ10.3 and the results are summarized in Table 7-1.
- 7.1.1 Wire diameter measurements were all within acceptable limits of 0.250" ± 0.002". No mechanical damage was noted on any of the wires.
- 7.1.2 The corrosion levels for the tested wires were:
1 – No visible corrosion. Or 2 – Metal reddish brown color, no pitting.
 Which are both acceptable corrosion levels.
- 7.1.3 The ultimate stress of the wires exceeded the minimum strength criteria of 240 ksi on all test samples. The lowest recorded ultimate stress was 278.244ksi. The percent elongation at sample failure was above the required minimum of 4.0% on all samples tested. The recorded elongation values on the samples varied from 5.10% to 5.60%.
- 7.1.4 It was noted during the review process, by the Utility, that the sample ultimate break strengths were higher than had been reported in all the historical data. An additional sample was tested from each wire for confirmation and the results were consistent with the initial tests. For further confirmation, a different hydraulic ram was calibrated using a different load cell and one more sample from each wire was tested. The results using this independent equipment were again consistent with the initial and supplemental results.
- 7.1.5 The utility performed a review of the calibration data for both hydraulic rams as well as the NIST calibration data for the load cells used. The calibration procedures from the 30th Year and 35th Year Surveillances as well as the wire testing procedure and datasheets from the 30th Year and 35th Year Surveillances were reviewed by the Utility with no significant changes or discrepancies.
- 7.1.6 The measured elongations at break and measured wire stress at 1% elongation were consistent between the current surveillance and historical data. All of the wire test results for the 35th Year Surveillance meet or exceed the specified minimum requirements and the Utility has deemed the results acceptable.

Table 7-1: Visual Inspection And Tensile Testing Of Wires

| TENDON | SAMPLE NUMBER | CORROSION LEVEL | SAMPLE LOCATION (ft) | DIAMETER (in.) | YIELD STRENGTH (ksi) | ULTIMATE STRENGTH (ksi) | ELONGATION (%) | ACCEPT? |
|--------|---------------|-----------------|----------------------|----------------|----------------------|-------------------------|----------------|---------|
| H51-49 | 1 | 2 | 20-29 | 0.250 | 222.275 | 282.389 | 5.40 | YES |
| | 2 | 2 | 70-79 | 0.250 | 220.893 | 279.625 | 5.20 | YES |
| | 3 | 2 | 140-149 | 0.250 | 227.111 | 278.244 | 5.10 | YES |
| V-90 | 1 | 1 | 0-10 | 0.250 | 236.785 | 287.226 | 5.30 | YES |
| | 2 | 1 | 70-80 | 0.250 | 229.184 | 287.226 | 5.30 | YES |
| | 3 | 1 | 170-180 | 0.250 | 231.257 | 286.535 | 5.30 | YES |
| D-322 | 1 | 2 | 20-29 | 0.250 | 235.403 | 282.389 | 5.30 | YES |
| | 2 | 2 | 70-79 | 0.250 | 231.257 | 280.316 | 5.30 | YES |
| | 3 | 2 | 130-139 | 0.250 | 232.639 | 281.007 | 5.60 | YES |



8.0 TENDON RETENSIONING AND RESEALING

8.1 TENDON RETENSIONING

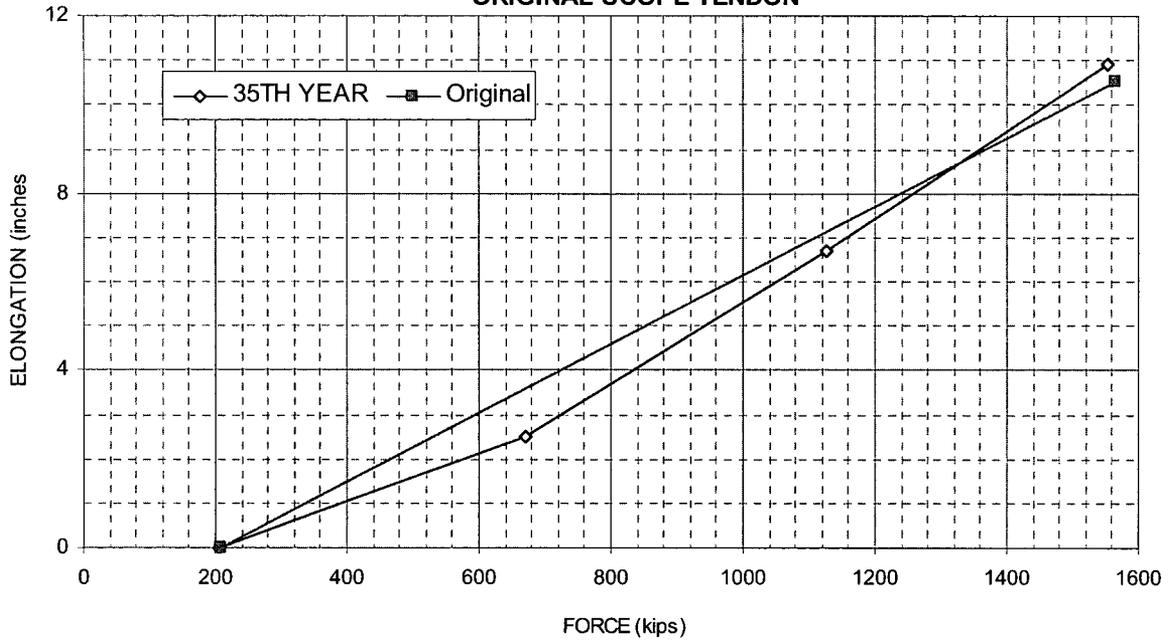
- 8.1.1 The tendons that were detensioned for test wire removal were retensioned per TMI Surveillance Procedures 1301-9.1 in order to restore them to an acceptable working force. The results of the retensioning process were recorded on Data Sheet 4 of TMI Procedure 1301-9.1 and the results are summarized in Table 8-1. In Table 8-1, "N/A" indicates restressing occurred from the opposite end only.
- 8.1.2 According to ASME, Section XI, subsection IWL-3221.1.(d): *Tendon forces and elongation are acceptable if the following conditions are met:*
- (d) *The measured tendon elongation varies from the last measurement, adjusted for effective wires or strands, by less than 10%.*
- 8.1.2.1 All retensioned tendons elongations were compared to original elongation and found to be acceptable.
- 8.1.3 A force versus elongation graph of each retensioning is plotted to show the comparison of retensioning compared with original stressing force and elongation values.
- 8.1.4 All tendons were retensioned to acceptable force values greater than as found.
- 8.1.5 Retensioning forces (PTF, Step 1, Step 2 and OSF) are adjusted from original, for the surveillance, taking into account the amount of wires removed in order to compare the observed elongation to the original elongation accurately.

Table 8-1: Retensioning

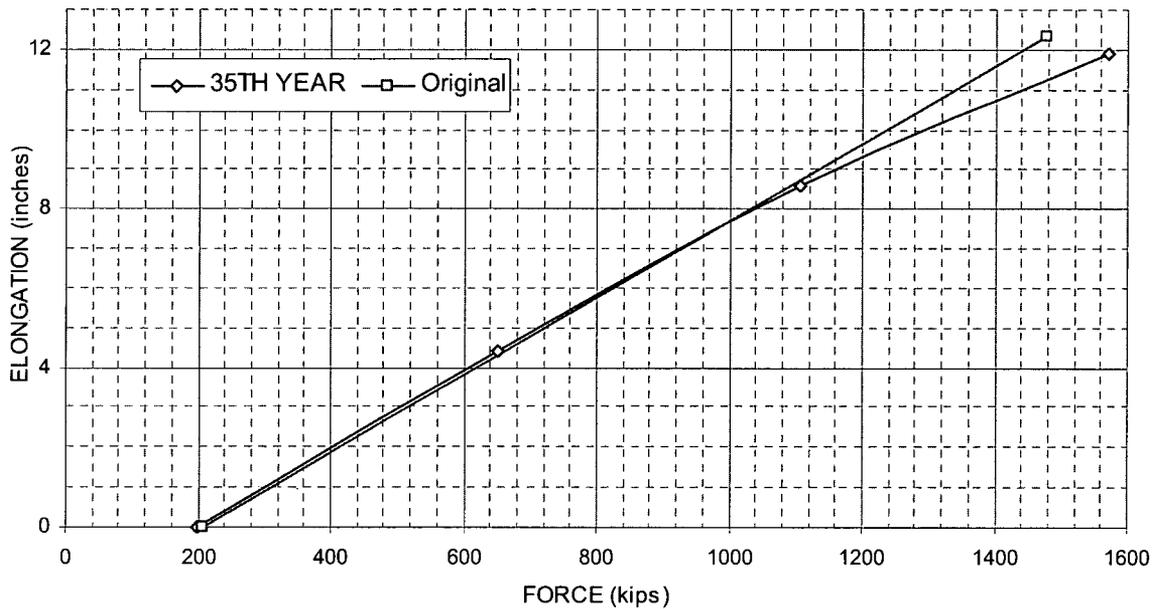
| TENDON | END | ORIGINAL ELONGATION TOTAL (in) | OBSERVED ELONGATION TOTAL (in) | % VARIATION | AS-FOUND LIFTOFF | | | RETENSIONING | | | % VARIATION | ACCPTET ? |
|--------|------------|--------------------------------|--------------------------------|-------------|------------------|------------------|---------------------|--------------|------------------|---------------------|-------------|-----------|
| | | | | | JACK | END FORCE (kips) | TENDON FORCE (kips) | JACK | END FORCE (kips) | TENDON FORCE (kips) | | |
| H51-49 | SHOP/BT 1 | 10.55 | 10.90 | +3.32 | 9371 | 1185.70 | 1154.28 | 9371 | 1225.40 | 1214.65 | +5.230 | YES |
| | FIELD/BT 5 | | | | 9370 | 1122.86 | | 9370 | 1203.90 | | | |
| V-90 | SHOP/TOP | 12.35 | 11.90 | -3.64 | 9371 | 1199.92 | 1199.92 | 9370 | 1238.14 | 1238.14 | +3.185 | YES |
| | FIELD/BOT | | | | N/A | N/A | | N/A | N/A | | | |
| D-322 | SHOP/N | 10.70 | 10.00 | -6.54 | 9370 | 1137.78 | 1135.29 | 9370 | 1168.60 | 1170.56 | +3.107 | YES |
| | FIELD/S | | | | 9371 | 1132.80 | | 9371 | 1172.51 | | | |



**ELONGATION FOR H51-49
ORIGINAL SCOPE TENDON**

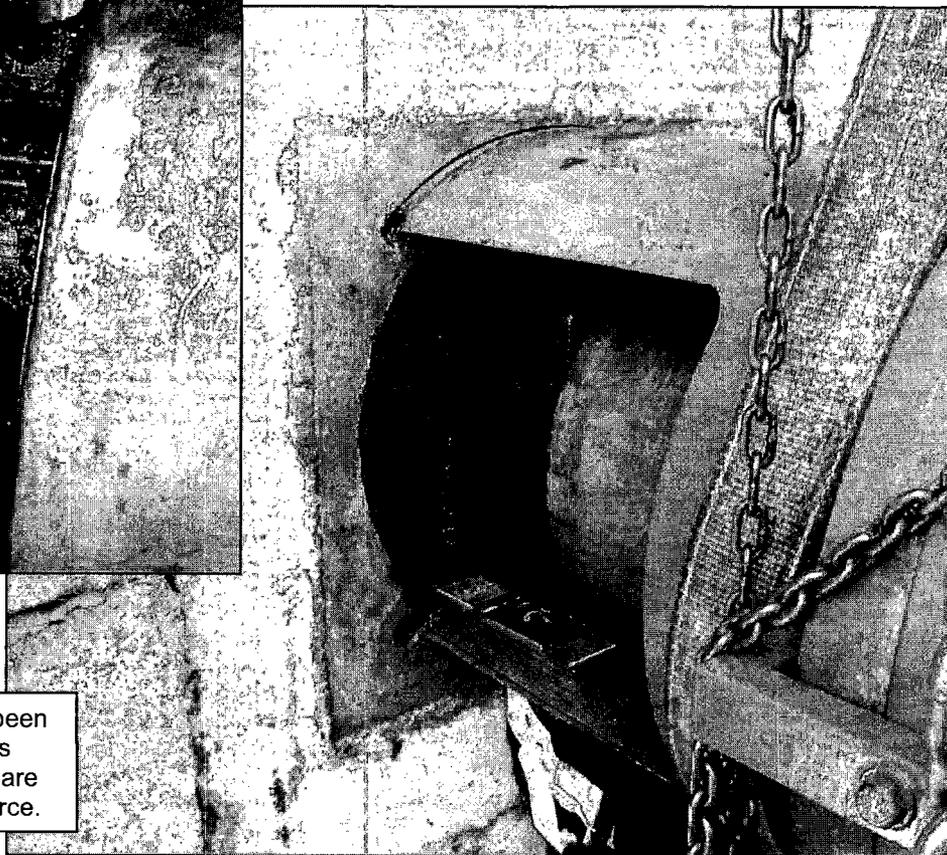
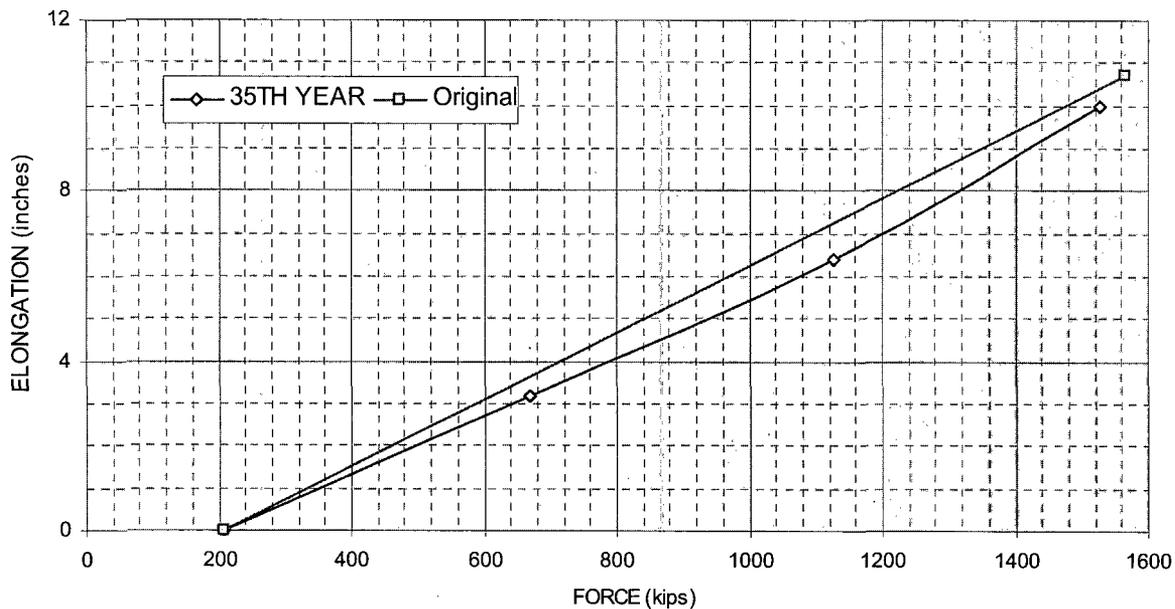


**ELONGATION FOR V-90
ORIGINAL SCOPE TENDON**





ELONGATION FOR D-322 ORIGINAL SCOPE TENDON



Once a test wire has been removed, the tendon is restressed and shims are added to restore its force.



8.2 SQ12.0 TENDON CAP RESEALING

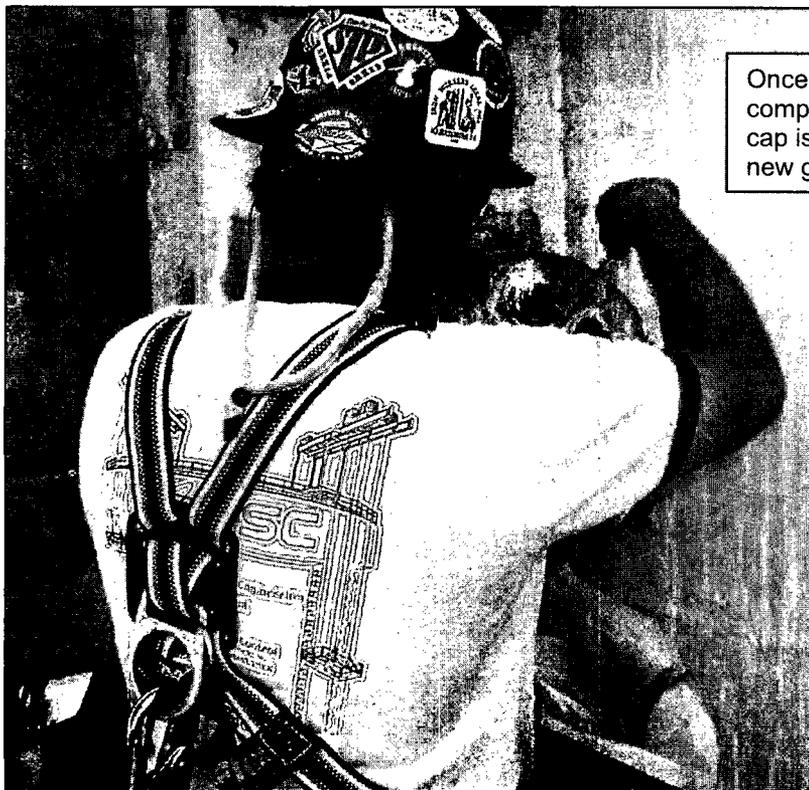
8.2.1 After completion of all inspections, the anchorage components were hand coated with cold grease to ensure complete coverage. The caps were reinstalled with new gaskets. The results of the grease cap replacement were recorded on Data Sheet SQ 12.0 and are summarized in Table 8-2 and Table 8-3.

| Table 8-2: SQ12.0 - Grease Cap Replacement - Surveillance Tendons | | | | | | | |
|---|--------------|---|--------------------------------------|---|-----------------------------------|---------------------------------------|------------|
| TENDON | END | BEARING PLATE SURFACE PROPERLY PREPARED | GREASE CAP SURFACE PROPERLY PREPARED | GASKET MATING SURFACE PROPERLY PREPARED | STUD/BOLT HOLES PROPERLY PREPARED | FOREIGN MATERIAL EXCLUSION CONTROLLED | ACCEPTABLE |
| H13-41 | SHOP / BT 1 | YES | YES | YES | YES | YES | YES |
| | FIELD / BT 3 | YES | YES | YES | YES | YES | YES |
| H24-33 | SHOP / BT 4 | YES | YES | YES | YES | YES | YES |
| | FIELD / BT 2 | YES | YES | YES | YES | YES | YES |
| H46-50 | SHOP / BT 6 | YES | YES | YES | YES | YES | YES |
| | FIELD / BT 4 | YES | YES | YES | YES | YES | YES |
| H51-49 | SHOP / BT 1 | YES | YES | YES | YES | YES | YES |
| | FIELD / BT 5 | YES | YES | YES | YES | YES | YES |
| H62-26 | SHOP / BT 6 | YES | YES | YES | YES | YES | YES |
| | FIELD / BT 2 | YES | YES | YES | YES | YES | YES |
| V-11 | SHOP / TOP | YES | YES | YES | YES | YES | YES |
| | FIELD / BOT | YES | YES | YES | YES | YES | YES |
| V-32 | SHOP / TOP | YES | YES | YES | YES | YES | YES |
| | FIELD / BOT | YES | YES | YES | YES | YES | YES |
| V-90 | SHOP / TOP | YES | YES | YES | YES | YES | YES |
| | FIELD / BOT | YES | YES | YES | YES | YES | YES |
| V-132 | SHOP / TOP | YES | YES | YES | YES | YES | YES |
| | FIELD / BOT | YES | YES | YES | YES | YES | YES |
| D-122 | SHOP / BT 5 | YES | YES | YES | YES | YES | YES |
| | FIELD / NE | YES | YES | YES | YES | YES | YES |
| D-225 | SHOP / BT 5 | YES | YES | YES | YES | YES | YES |
| | FIELD / BT 2 | YES | YES | YES | YES | YES | YES |
| D-322 | SHOP / N | YES | YES | YES | YES | YES | YES |
| | FIELD / S | YES | YES | YES | YES | YES | YES |
| D-342 | SHOP / BT 6 | YES | YES | YES | YES | YES | YES |
| | FIELD / BT 4 | YES | YES | YES | YES | YES | YES |



Table 8-3: SQ12.0 - Grease Cap Replacement - Gasket Repair Tendons

| TENDON | END | BEARING PLATE SURFACE PROPERLY PREPARED | GREASE CAP SURFACE PROPERLY PREPARED | GASKET MATING SURFACE PROPERLY PREPARED | STUD/BOLT HOLES PROPERLY PREPARED | FOREIGN MATERIAL EXCLUSION CONTROLLED | ACCEPTABLE |
|--------|-------------|---|--------------------------------------|---|-----------------------------------|---------------------------------------|------------|
| V-10 | FIELD / BOT | YES | YES | YES | YES | YES | YES |
| V-55 | FIELD / BOT | YES | YES | YES | YES | YES | YES |
| V-60 | FIELD / BOT | YES | YES | YES | YES | YES | YES |
| V-62 | FIELD / BOT | YES | YES | YES | YES | YES | YES |
| V-71 | FIELD / BOT | YES | YES | YES | YES | YES | YES |
| V-84 | FIELD / BOT | YES | YES | YES | YES | YES | YES |
| V-88 | FIELD / BOT | YES | YES | YES | YES | YES | YES |
| V-98 | FIELD / BOT | YES | YES | YES | YES | YES | YES |
| V-99 | FIELD / BOT | YES | YES | YES | YES | YES | YES |



Once all inspections are complete, the grease cap is reinstalled with a new gasket.



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Exelon
Nuclear

8.3 SQ12.1 TENDON DUCT AND CAP RE-GREASING

- 8.3.1 Upon acceptable grease cap replacement, the necessary amount of sheathing filler (grease) was replaced. All of the inspected tendons were refilled within the acceptable limits as stated in PSC Procedure SQ12.1. The results of the grease replacement were recorded on Data Sheet SQ 12.1 and are summarized in Table 8-4 and Table 8-5. In Table 8-4 and Table 8-5, "N/A" indicates grease was not required to be added to the end identified according to PSC Procedure SQ12.1.
- 8.3.2 The absolute difference between the amount of grease removed/lost and the amount of grease replaced in the subject tendon shall not exceed 10% of the net duct volume per PSC Procedure SQ 12.1. This requirement was met at all tendon ends and all refills were deemed acceptable.
- 8.3.3 Tendon V-132 was part of the scope of the Steam Generator Replacement Project and as such the grease replacement was performed under that Project. No data was given to PSC regarding the refilling of V-132.



Tendons are refilled with sheathing filler (grease) in order to replace what was removed during inspections.



Table 8-4: SQ12.1 - Grease Loss vs. Grease Replacement - Surveillance Tendons

| TENDON | END | GREASE REMOVED (GALLONS) | | GREASE REPLACED (GALLONS) | | DIFF. (GAL.) | DUCT VOLUME (GAL.) | % DIFF. | ACCEPT |
|---------------|--------------|--------------------------|-------|---------------------------|-------|--------------|--------------------|---------|--------|
| | | END | TOTAL | END | TOTAL | | | | |
| H13-41 | SHOP / BT 1 | 6.50 | 11.50 | 7.96 | 13.27 | 1.77 | 103.50 | 1.71 | YES |
| | FIELD / BT 3 | 5.00 | | 5.31 | | | | | |
| H24-33 | SHOP / BT 4 | 5.00 | 9.00 | 7.96 | 12.38 | 3.38 | 103.20 | 3.27 | YES |
| | FIELD / BT 2 | 4.00 | | 4.42 | | | | | |
| H46-50 | SHOP / BT 6 | 4.50 | 9.00 | 7.08 | 15.04 | 6.04 | 103.4 | 5.84 | YES |
| | FIELD / BT 4 | 4.50 | | 7.96 | | | | | |
| H51-49 | SHOP / BT 1 | 4.00 | 8.00 | 7.08 | 14.16 | 6.16 | 103.40 | 5.96 | YES |
| | FIELD / BT 5 | 4.00 | | 7.08 | | | | | |
| H62-26 | SHOP / BT 6 | 4.00 | 9.25 | 7.08 | 13.27 | 4.02 | 103.2 | 3.89 | YES |
| | FIELD / BT 2 | 5.25 | | 6.19 | | | | | |
| V-11 | SHOP / TOP | 4.00 | 61.50 | N/A | 68.55 | 7.05 | 123.8 | 5.69 | YES |
| | FIELD / BOT | 57.50 | | 68.55 | | | | | |
| V-32 | SHOP / TOP | 4.50 | 12.50 | 23.01 | 23.01 | 10.51 | 125.2 | 8.39 | YES |
| | FIELD / BOT | 8.00 | | N/A | | | | | |
| V-90 | SHOP / TOP | 4.00 | 74.50 | N/A | 76.85 | 2.35 | 124.90 | 1.88 | YES |
| | FIELD / BOT | 70.50 | | 76.85 | | | | | |
| V-132 | SHOP / TOP | 2.00 | 58.50 | N/A* | N/A* | N/A* | N/A* | N/A* | N/A* |
| | FIELD / BOT | 56.50 | | N/A* | | | | | |
| D-122 | SHOP / BT 5 | 34.50 | 40.00 | 44.02 | 44.02 | 4.02 | 118.70 | 3.38 | YES |
| | FIELD/BT NE | 5.50 | | N/A | | | | | |
| D-225 | SHOP / BT 5 | 7.00 | 15.75 | 7.96 | 18.58 | 2.83 | 119.90 | 2.36 | YES |
| | FIELD / BT 2 | 8.75 | | 10.62 | | | | | |
| D-322 | SHOP / N | 8.50 | 15.00 | 10.62 | 19.47 | 4.47 | 120.20 | 3.72 | YES |
| | FIELD / S | 6.50 | | 8.85 | | | | | |
| D-342 | SHOP / BT 6 | 10.00 | 50.00 | 58.72 | 58.72 | 8.72 | 107.8 | 8.09 | YES |
| | FIELD / BT 4 | 40.00 | | N/A | | | | | |

* Tendon V-132 was part of the scope of the Steam Generator Replacement Project and as such the grease replacement was performed under that Project. No data was given to PSC regarding the refilling of V-132.



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Table 8-5: SQ12.1 – Grease Loss vs. Grease Replacement – Casket Repair Tendons

| TENDON | END | GREASE REMOVED (GALLONS) | | GREASE REPLACED (GALLONS) | | DIFF. (GAL.) | DUCT VOLUME (GAL.) | % DIFF. | ACCEPT |
|--------|-------------|--------------------------|-------|---------------------------|-------|--------------|--------------------|---------|--------|
| | | END | TOTAL | END | TOTAL | | | | |
| V-10 | SHOP / TOP | N/A | | N/A | | | | | |
| | FIELD / BOT | 53.00 | 53.00 | 54.94 | 54.94 | 1.94 | 124.80 | 1.55 | YES |
| V-55 | SHOP / TOP | N/A | | 1.77 | | | | | |
| | FIELD / BOT | 0.25 | 0.25 | N/A | 1.77 | 1.52 | 120.00 | 1.26 | YES |
| V-60 | SHOP / TOP | N/A | | 14.61 | | | | | |
| | FIELD / BOT | 34.25 | 34.25 | 19.91 | 34.52 | 0.27 | 120.00 | 0.22 | YES |
| V-62 | SHOP / TOP | N/A | | 30.09 | | | | | |
| | FIELD / BOT | 46.50 | 46.50 | 17.04 | 47.13 | 0.63 | 120.00 | 0.52 | YES |
| V-71 | SHOP / TOP | N/A | | N/A | | | | | |
| | FIELD / BOT | 46.00 | 46.00 | 46.20 | 46.20 | 0.20 | 120.00 | 0.16 | YES |
| V-84 | SHOP / TOP | N/A | | 1.77 | | | | | |
| | FIELD / BOT | 0.25 | 0.25 | N/A | 1.77 | 1.52 | 120.00 | 1.26 | YES |
| V-88 | SHOP / TOP | N/A | | N/A | | | | | |
| | FIELD / BOT | 53.56 | 53.56 | 53.50 | 53.50 | 0.06 | 120.00 | 0.05 | YES |
| V-98 | SHOP / TOP | N/A | | 35.40 | | | | | |
| | FIELD / BOT | 40.28 | 40.28 | 14.61 | 50.01 | 9.73 | 120.00 | 8.10 | YES |
| V-99 | SHOP / TOP | N/A | | N/A | | | | | |
| | FIELD / BOT | 44.25 | 44.25 | 45.20 | 45.20 | 0.95 | 120.00 | 0.75 | YES |



9.0 COMPARISON WITH ORIGINAL INSTALLATION DATA

- 9.1 A comparison of the liftoff forces from this surveillance to the original installation lock-off forces for the tendons physically inspected is made in an effort to detect any evidence of system degradation. The forces are compared in order to detect any abnormal force loss that would possibly indicate an underestimation of the creep, shrinkage and/or elastic shortening effects in the Containment Building. This comparison is summarized in Table 9-1.
- 9.2 The losses since original installation for each tendon group are reported as: 21.76% for the hoop tendons, 17.16% for the vertical tendons, and 21.32% for the dome tendons.

| Table 9-1: Comparison with Original Installation Data | | | | | |
|---|---------------|-----------|-------------|--------|----------------------|
| TENDON | LIFTOFF FORCE | | LOSS (KIPS) | % LOSS | GROUP AVERAGE LOSS % |
| | ORIGINAL | @35 YEARS | | | |
| H13-41 | 1447.42 | 1151.01 | 296.41 | 20.48 | 21.76 |
| H24-33 | 1446.38 | 1123.43 | 322.95 | 28.17 | |
| H46-50 | 1443.26 | 1130.62 | 312.64 | 21.66 | |
| H51-49 | 1426.60 | 1154.28 | 272.32 | 19.09 | |
| H62-26 | 1416.19 | 1141.25 | 274.94 | 19.41 | |
| V-11 | 1437.01 | 1205.97 | 231.04 | 16.08 | 17.16 |
| V-32 | 1457.84 | 1175.10 | 282.74 | 19.39 | |
| V-90 | 1437.01 | 1199.92 | 237.09 | 16.50 | |
| V-132 | 1447.42 | 1205.78 | 241.64 | 16.69 | |
| D-122 | 1407.86 | 1119.42 | 288.44 | 20.49 | 21.32 |
| D-225 | 1426.60 | 1088.25 | 338.35 | 23.71 | |
| D-322 | 1460.44 | 1135.29 | 325.15 | 22.26 | |
| D-342 | 1416.19 | 1149.85 | 266.34 | 18.81 | |



10.0 CONCLUSION

A review of this surveillance was conducted per IWL-3221 Unbonded Post-Tensioning Systems and is outlined below:

IWL-3221 Acceptance by Examination

IWL-3221.1 Tendon Force *Tendon forces are acceptable if:*

- (a) *the average of all measured tendon forces, including those measured in IWL-3221.1(b)(2), for each type of tendon is equal to or greater than the minimum required prestress specified at the anchorage for that type of tendon;*

Results: The normalized, as well as as-found, group averages for each group of tendons (hoop, vertical, dome) were all above the corresponding required minimum design force values.

- (b) *the measured force in each individual tendon is not less than 95% of the predicted force unless the following conditions are satisfied:*

- (1) *the measured force in not more than one tendon is between 90% and 95% of the predicted force;*
- (2) *the measured forces in two tendons located adjacent to the tendon in IWL-3221.1(b)(1) are not less than 95% of the predicted forces; and*
- (3) *the measured forces in all the remaining sample tendons are not less than 95% of the predicted force.*

Results: All of the hoop, vertical and dome tendon liftoffs were found to be above their corresponding 95% Predicted Base Value (Predicted Force) and were deemed acceptable.

IWL-3221.2 Tendon Wire or Strand Samples. *The condition of wire or strand samples is acceptable if:*

- (a) *samples are free of physical damage;*

Results: All of the tendon wire test samples were free of physical damage.

- (b) *sample ultimate tensile strength and elongation are not less than minimum specified values.*

Results: All of the tendon test wire samples had acceptable results for ultimate tensile stress (≥ 240 ksi) and elongation ($\geq 4\%$).

IWL-3221.3 Tendon Anchorage Areas. *The condition of tendon anchorage areas is acceptable if:*

- (a) *there is no evidence of cracking in anchor heads, shims, or bearing plates;*

Results: Detailed inspections did not reveal any cracks in the anchorage components for any inspected tendon end.

- (b) *there is no evidence of active corrosion;*

Results: Detailed inspections did not reveal any active corrosion on the anchorage components for any inspected tendon end.

- (c) *broken or unseated wires, broken strands, and detached buttonheads were documented and accepted during a pre-service examination or during a previous in-service examination;*

Results: No missing or protruding wires/buttonheads were discovered during initial examinations of surveillance tendon ends. One protruding buttonhead was identified on the shop end of dome tendon D-322 after retensioning.



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Exelon
Nuclear

(d) *cracks in the concrete adjacent to the bearing plates do not exceed 0.01 in. in width;*

Results: No cracks exceeding 0.010" were detected in the 24" of concrete adjacent to the bearing plates.

IWL-3221.4 Corrosion Protection Medium. *Corrosion protection medium is acceptable when the reserve alkalinity, water content and soluble ion concentrations of all samples are within the limits specified in Table IWL-2525-1.*

Results: All sheathing filler (grease) samples were tested and found to have acceptable levels of water-soluble ions (Chlorides, Nitrates and Sulfides). All neutralization numbers were above the IWL requirement of 0.0 mg KOH/g and acceptable. Water content values were below 10% by weight and acceptable for all samples tested.

Additionally

All tendons which were detensioned exhibited elongations within $\pm 10\%$ of their original elongation values when they were restressed and were deemed acceptable. All of the detensioned tendons were restored to acceptable force levels.

No water was detected on any of the inspected tendons at any point during inspections.

The absolute difference between the amount of grease removed and replaced was less than 10% of the net duct volume and deemed acceptable for all tendon ends.

Based upon the evaluation of the In-Service Inspection results for the Three Mile Island Unit 1 35th Year Containment Building Tendon Surveillance reported herein, PSC concludes that the containment structure has experienced no abnormal degradation of the post-tensioning system. The containment post-tensioning system is performing in accordance with the design requirements and is expected to continue to do so for the life of the unit.



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11.0 REFERENCE DOCUMENTS

- 11.1 American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, "Rules for In-Service Inspection of Nuclear Power Plant Components", 1992 Edition, with 1992 addenda.
- 11.2 Code of Federal Regulation 10 CFR 50.55a
- 11.3 PSC Post Tensioning System In-Service Inspection Manual (N1043) for Exelon – Three Mile Island - Nuclear Plant Unit 1 Unit 1 Physical 35th Year Containment Building Tendon Surveillance.
- 11.4 Three Mile Island Surveillance Procedures 1301-9.1 - RB Structural Integrity Tendon Surveillance, Revision 20
- 11.5 Exelon Nuclear ER-AA-335-018, Revision 5 - Detail, General, VT-1, VT-1C, VT-3 and VT-3C Visual Examination of ASME Class MC and CC Containment Surface and Components

ct: TMI 35TH YEAR TENDON SURVEILLANCE

UNIT 1

2) Tendon No.: H13-41

Tendon End: SNP/BUT 1

Shop

Field

Grease Cap Removal

(7.5) Date Removal Started: 11-12-09 Q.C. Signoff

(7.6) Dry Ice Used on Grease Cap and/or Anchorage Yes No

(7.7) Temp. of Concrete: 48 °F Thermometer No.: ST-92 Re-Cal Date: 7-27-10
Ambient Temp.: 46 °F Thermometer No.: PX104 Re-Cal Date: 7-27-10 SR011-12-09

(8.4) Anchorhead I.D.: 569 / 766 Anchorhead Verification: Match No-Match SR011-12-09

(8.5) Grease Coating

| | | | | | | | |
|--------------------------------|----------|-------------------------------------|---------|--------------------------|----------|--------------------------|---|
| Grease Cap - | Complete | <input checked="" type="checkbox"/> | Partial | <input type="checkbox"/> | Uncoated | <input type="checkbox"/> | % |
| Buttonheads - | Complete | <input checked="" type="checkbox"/> | Partial | <input type="checkbox"/> | Uncoated | <input type="checkbox"/> | % |
| Anchorhead - | Complete | <input checked="" type="checkbox"/> | Partial | <input type="checkbox"/> | Uncoated | <input type="checkbox"/> | % |
| Shims - | Complete | <input checked="" type="checkbox"/> | Partial | <input type="checkbox"/> | Uncoated | <input type="checkbox"/> | % |
| Bearing Plate - ⁽¹⁾ | Complete | <input checked="" type="checkbox"/> | Partial | <input type="checkbox"/> | Uncoated | <input type="checkbox"/> | % |

⁽¹⁾ - Limited within the inside diameter of the grease cap. SR011-12-09

6) Unusual Conditions: NONE SR011-12-09

(8.7) Grease Color Match: Yes No Grease Color: Dark Brown
Comments: NONE SR011-12-09

(8.8) Quantity of Samples 2 Quart Samples identified per Step 8.8.1? Yes No
Location of Removal A.H. B.P. Shims Cap Duct SR011-12-09

(8.9) Qty. of Grease lost during removal of cap: 0 gal. SR011-12-09
(8.9.1) Grease from cap to be reused? Yes No Qty. of Grease removed from cap: 5 gal. SR011-12-09

(9.6) Qty. of Grease removed from anchorage: 1 gal. SR011-12-09

(9.7) Damage during cap removal or anchorage cleaning? Yes No Describe: NONE SR011-12-09

(10.3) Method of Tendon Protection: COATED W/ GREASE & CAP INSTALLED SR011-12-09

(10.4) Amount of Grease Loss from Tendon duct: 0 gal. SR011-12-09

(10.5) Total quantity of lost grease (below):
(8.8) 12 + (8.9) 0 + (8.9.1) 5 + (9.6) 1 + (10.4) 0 = 18 TOTAL SR011-12-09

(11.1.2) Document TOTAL grease lost on Data Sheet 12.1, GREASE REPLACEMENT. Yes No SR011-12-09

Reviewed: A. Bussone

Level: III

Date: 2/2/10



Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1
 (7.2) Tendon No.: H-13-41 Tendon End: Buttress 3 Shop Field

Grease Cap Removal

(7.5) Date Removal Started: 8-26-09 Q.C. Signoff
 (7.6) Dry Ice Used on Grease Cap and/or Anchorage Yes No
 (7.7) Temp. of Concrete: 104 °F Thermometer No.: ST-82 Re-Cal Date: 7-27-10
 Ambient Temp.: 99 °F Thermometer No.: PK-102 Re-Cal Date: 7-27-10
 (8.4) Anchorhead I.D. 766 132 Anchorhead Verification: Match No-Match

(8.5) Grease Coating

| Component | Complete | Partial | Uncoated | % |
|--------------------------------|-------------------------------------|--------------------------|--------------------------|---|
| Grease Cap - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Buttonheads - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Anchorhead - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Shims - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Bearing Plate - ⁽¹⁾ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

⁽¹⁾ - Limited within the inside diameter of the grease cap.

(6) Unusual Conditions: NONE

(8.7) Grease Color Match: Yes No Grease Color: DARK BROWN
 Comments: NONE

(8.8) Quantity of Samples 2 Quart Samples identified per Step 8.8.1? Yes No
 Location of Removal A.H. B.P. Shims Cap Duct

(8.9) Qty. of Grease lost during removal of cap: .5 gal.

(8.9.1) Grease from cap to be reused? Yes No Qty. of Grease removed from cap: 3.5 gal.

(9.6) Qty. of Grease removed from anchorage: .5 gal.

(9.7) Damage during cap removal or anchorage cleaning? Yes No Describe: NONE

(10.3) Method of Tendon Protection: Reinstalled the grease can w/ a new gasket

(10.4) Amount of Grease Loss from Tendon duct: 0 gal.

(10.5) Total quantity of lost grease (below):
 (8.8) .5 + (8.9) .5 + (8.9.1) 3.5 + (9.6) .5 + (10.4) 0 = 5 TOTAL

(11.1.2) Document TOTAL grease lost on Data Sheet 12.1, GREASE REPLACEMENT. Yes No

Reviewed: [Signature] Level: II Date: 8-26-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(7.2) Tendon No.: H24-33 Tendon End: Butt. 4 Shop Field

Grease Cap Removal

(7.5) Date Removal Started: 8-11-09 Q.C. Signoff

(7.6) Dry Ice Used on Grease Cap and/or Anchorage Yes No

(7.7) Temp. of Concrete: 95 °F Thermometer No.: ST 82 Re-Cal Date: 7-27-10
Ambient Temp.: 93 °F Thermometer No.: PK102 Re-Cal Date: 7-27-10 WRR 8-11-09

(8.4) Anchorhead I.D.: 1249 Anchorhead Verification: Match No-Match WRR 8-11-09

(8.5) Grease Coating

| Component | Complete | Partial | Uncoated | % |
|--------------------------------|-------------------------------------|--------------------------|--------------------------|---|
| Grease Cap - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Buttonheads - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Anchorhead - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Shims - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Bearing Plate - ⁽¹⁾ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

⁽¹⁾ - Limited within the inside diameter of the grease cap. WRR 8-11-09

(6) Unusual Conditions: NONE WRR 8-11-09

(8.7) Grease Color Match: Yes No Grease Color: DARK BROWN
Comments: NONE WRR 8-11-09

(8.8) Quantity of Samples 2 Quart Samples identified per Step 8.8.1? Yes No
Location of Removal A.H. B.P. Shims Cap Duct WRR 8-11-09

(8.9) Qty. of Grease lost during removal of cap: 2 gal. WRR 8-11-09
(8.9.1) Grease from cap to be reused? Yes No Qty. of Grease removed from cap: 2 gal. WRR 8-11-09
(9.6) Qty. of Grease removed from anchorage: .5 gal. WRR 8-11-09
(9.7) Damage during cap removal or anchorage cleaning? Yes No Describe: NONE WRR 8-11-09

(10.3) Method of Tendon Protection: Reinstalled the grease can w/a new gasket WRR 8-11-09
(10.4) Amount of Grease Loss from Tendon duct: 0 gal. WRR 8-11-09

(10.5) Total quantity of lost grease (below):
(8.8) .5 + (8.9) 2 + (8.9.1) 2 + (9.6) .5 + (10.4) 0 = 5 TOTAL WRR 8-11-09

(11.1.2) Document TOTAL grease lost on Data Sheet 12.1, GREASE REPLACEMENT. Yes No WRR 8-11-09

Reviewed: Thomas C. Duda Level: I Date: 8-11-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(7.2) Tendon No.: H24-33 Tendon End: Buttress 2 Shop Field

Grease Cap Removal

(7.5) Date Removal Started: 8-24-09 Q.C. Signoff

(7.6) Dry Ice Used on Grease Cap and/or Anchorage Yes No

(7.7) Temp. of Concrete: 99 °F Thermometer No.: ST-83 Re-Cal Date: 3-26-09

Ambient Temp.: 92 °F Thermometer No.: PK-104 Re-Cal Date: 7-22-09

(8.4) Anchorhead I.D.: 662 Anchorhead Verification: Match No-Match

(8.5) Grease Coating

| | Complete | Partial | Uncoated | % |
|--------------------------------|-------------------------------------|--------------------------|--------------------------|---|
| Grease Cap - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Buttonheads - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Anchorhead - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Shims - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Bearing Plate - ⁽¹⁾ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

⁽¹⁾ - Limited within the inside diameter of the grease cap.

(6) Unusual Conditions: None

(8.7) Grease Color Match: Yes No Grease Color: Dark brown

Comments: None

(8.8) Quantity of Samples 2 Quart Samples identified per Step 8.8.1? Yes No

Location of Removal A.H. B.P. Shims Cap Duct

(8.9) Qty. of Grease lost during removal of cap: 0 gal.

(8.9.1) Grease from cap to be reused? Yes No Qty. of Grease removed from cap: 3 gal.

(9.6) Qty. of Grease removed from anchorage: .50 gal.

(9.7) Damage during cap removal or anchorage cleaning? Yes No Describe: N/A

(10.3) Method of Tendon Protection: Reinstall grease can with new gasket

(10.4) Amount of Grease Loss from Tendon duct: 0 gal.

(10.5) Total quantity of lost grease (below):

(8.8) .5 + (8.9) 0 + (8.9.1) 3 + (9.6) .50 + (10.4) 0 = 4 TOTAL

(11.1.2) Document TOTAL grease lost on Data Sheet 12.1, GREASE REPLACEMENT. Yes No

Reviewed: W. Pance Polh

Level: II

Date: 8-24-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE

UNIT 1

(7.2) Tendon No.: H46-50

Tendon End: Butt. 6

Shop

Field

Grease Cap Removal

(7.5) Date Removal Started: 8-12-09

Q.C. Signoff

(7.6) Dry Ice Used on Grease Cap and/or Anchorage Yes No

(7.7) Temp. of Concrete: 83 °F Thermometer No.: ST-82 Re-Cal Date: 7-27-10

Ambient Temp.: 76 °F Thermometer No.: PK-102 Re-Cal Date: 7-27-10

WRR 8-12-09

(8.4) Anchorhead I.D.: 754 Anchorhead Verification: Match No-Match

WRR 8-12-09

(8.5) Grease Coating

| Component | Complete | Partial | Uncoated | % |
|---------------------|-------------------------------------|--------------------------|--------------------------|---|
| Grease Cap - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Buttonheads - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Anchorhead - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Shims - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Bearing Plate - (1) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

(1) - Limited within the inside diameter of the grease cap.

WRR 8-12-09

(6) Unusual Conditions: NONE

WRR 8-12-09

(8.7) Grease Color Match: Yes No Grease Color: DARK BROWN

Comments: NONE

WRR 8-12-09

(8.8) Quantity of Samples 2 Quart Samples identified per Step 8.8.1? Yes No

Location of Removal A.H. B.P. Shims Cap Duct

WRR 8-12-09

(8.9) Qty. of Grease lost during removal of cap: 1 gal.

(8.9.1) Grease from cap to be reused? Yes No Qty. of Grease removed from cap: 2 gal.

(9.6) Qty. of Grease removed from anchorage: .5 gal.

(9.7) Damage during cap removal or anchorage cleaning? Yes No Describe: NONE

WRR 8-12-09

WRR 8-12-09

WRR 8-12-09

WRR 8-12-09

(10.3) Method of Tendon Protection: Reinstalled the grease can w/a new gasket

WRR 8-12-09

(10.4) Amount of Grease Loss from Tendon duct: .5 gal.

WRR 8-12-09

(10.5) Total quantity of lost grease (below):

(8.8) .5 + (8.9) 1 + (8.9.1) 2 + (9.6) .5 + (10.4) .5 = 4.5 TOTAL

WRR 8-12-09

(11.1.2) Document TOTAL grease lost on Data Sheet 12.1, GREASE REPLACEMENT. Yes No

WRR 8-12-09

Reviewed: [Signature]

Level: I

Date: 8-13-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(7.2) Tendon No.: H46-50 Tendon End: Butt. 4 Shop Field

Grease Cap Removal

(7.5) Date Removal Started: 8-11-09 Q.C. Signoff

(7.6) Dry Ice Used on Grease Cap and/or Anchorage Yes No

(7.7) Temp. of Concrete: 84 °F Thermometer No.: ST82 Re-Cal Date: 7-27-10

Ambient Temp.: 79 °F Thermometer No.: PK102 Re-Cal Date: 7-27-10

WRR 8-11-09

(8.4) Anchorhead I.D.: 900 Anchorhead Verification: Match No-Match

WRR 8-11-09

(8.5) Grease Coating

| Component | Complete | Partial | Uncoated | % |
|--------------------------------|-------------------------------------|--------------------------|--------------------------|---|
| Grease Cap - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Buttonheads - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Anchorhead - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Shims - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Bearing Plate - ⁽¹⁾ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

WRR 8-11-09

(1) - Limited within the inside diameter of the grease cap.

(6) Unusual Conditions: NONE

WRR 8-11-09

(8.7) Grease Color Match: Yes No Grease Color: DARK BROWN

Comments: NONE

WRR 8-11-09

(8.8) Quantity of Samples 2 Quart Samples identified per Step 8.8.1? Yes No

Location of Removal A.H. B.P. Shims Cap Duct

WRR 8-11-09

(8.9) Qty. of Grease lost during removal of cap: 1 gal.

(8.9.1) Grease from cap to be reused? Yes No Qty. of Grease removed from cap: 2.5 gal.

(9.6) Qty. of Grease removed from anchorage: .5 gal.

(9.7) Damage during cap removal or anchorage cleaning? Yes No Describe: NONE

WRR 8-11-09

WRR 8-11-09

WRR 8-11-09

WRR 8-11-09

(10.3) Method of Tendon Protection: Reinstalled the grease can w/a new gasket

WRR 8-11-09

(10.4) Amount of Grease Loss from Tendon duct: 0 gal.

WRR 8-11-09

(10.5) Total quantity of lost grease (below):

(8.8) .5 + (8.9) 1 + (8.9.1) 2.5 + (9.6) .5 + (10.4) 0 = 4.5 TOTAL

WRR 8-11-09

(11.1.2) Document TOTAL grease lost on Data Sheet 12.1, GREASE REPLACEMENT. Yes No

WRR 8-11-09

Reviewed: Timothy C. Mata

Level: I

Date: 8-11-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE

UNIT 1

(7.2) Tendon No.: H51-49

Tendon End: SHOP / BUTT 1

Shop

Field

Grease Cap Removal

(7.5) Date Removal Started: 11-11-09

Q.C. Signoff

(7.6) Dry Ice Used on Grease Cap and/or Anchorage Yes No

(7.7) Temp. of Concrete: 54 °F Thermometer No.: ST-82 Re-Cal Date: 7-27-10

Ambient Temp.: 52 °F Thermometer No.: PK104 Re-Cal Date: 7-27-10

(8.4) Anchorhead I.D.: 1007 / 1156 Anchorhead Verification: Match No-Match

(8.5) Grease Coating

| Component | Complete | Partial | Uncoated | % |
|--------------------------------|-------------------------------------|--------------------------|--------------------------|---|
| Grease Cap - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Bulthead - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Anchorhead - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Shims - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Bearing Plate - ⁽¹⁾ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

⁽¹⁾ - Limited within the inside diameter of the grease cap.

6) Unusual Conditions: NONE

(8.7) Grease Color Match: Yes No Grease Color: DARK BROWN

Comments: NONE

(8.8) Quantity of Samples 2 Quart Samples identified per Step 8.8.1? Yes No

Location of Removal A.H. B.P. Shims Cap Duct

(8.9) Qty. of Grease lost during removal of cap: 0 gal.

(8.9.1) Grease from cap to be reused? Yes No Qty. of Grease removed from cap: 5 gal.

(9.6) Qty. of Grease removed from anchorage: 1/2 gal.

(9.7) Damage during cap removal or anchorage cleaning? Yes No Describe: NONE

(10.3) Method of Tendon Protection: COATED w/ GREASE & CAP INSTALLED

(10.4) Amount of Grease Loss from Tendon duct: 0 gal.

(10.5) Total quantity of lost grease (below):

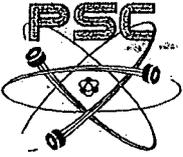
(8.8) 2 + (8.9) 0 + (8.9.1) 5 + (9.6) 1/2 + (10.4) 0 = 7 TOTAL

(11.1.2) Document TOTAL grease lost on Data Sheet 12.1, GREASE REPLACEMENT. Yes No

Reviewed: A. Busson

Level: III

Date: 2/2/10



Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(7.2) Tendon No.: H51-49 Tendon End: Buttress 5 Shop Field

Grease Cap Removal

(7.5) Date Removal Started: 8-26-09 Q.C. Signoff

(7.6) Dry Ice Used on Grease Cap and/or Anchorage Yes No

(7.7) Temp. of Concrete: 86 °F Thermometer No.: ST-82 Re-Cal Date: 7-27-10
Ambient Temp.: 69 °F Thermometer No.: PK-102 Re-Cal Date: 7-27-10

(8.4) Anchorhead I.D.: WRR 8-26-09 7150 89D Anchorhead Verification: Match No-Match WRR 8-26-09

(8.5) Grease Coating

| Component | Complete | Partial | Uncoated | % |
|--------------------------------|-------------------------------------|--------------------------|--------------------------|---|
| Grease Cap - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Buttonheads - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Anchorhead - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Shims - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Bearing Plate - ⁽¹⁾ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

⁽¹⁾ - Limited within the inside diameter of the grease cap. WRR 8-26-09

(6) Unusual Conditions: None WRR 8-26-09

(8.7) Grease Color Match: Yes No Grease Color: DARK BROWN
Comments: None WRR 8-26-09

(8.8) Quantity of Samples 2 Quart Samples identified per Step 8.8.1? Yes No
Location of Removal A.H. B.P. Shims Cap Duct WRR 8-26-09

(8.9) Qty. of Grease lost during removal of cap: 1 gal. WRR 8-26-09
(8.9.1) Grease from cap to be reused? Yes No Qty. of Grease removed from cap: 2 gal. WRR 8-26-09
(9.6) Qty. of Grease removed from anchorage: .5 gal. WRR 8-26-09
(9.7) Damage during cap removal or anchorage cleaning? Yes No Describe: None WRR 8-26-09
Reinstalled the grease cap w/old gasket WRR 8-26-09

(10.3) Method of Tendon Protection: _____

(10.4) Amount of Grease Loss from Tendon duct: 0 gal. WRR 8-26-09

(10.5) Total quantity of lost grease (below):
(8.8) .5 + (8.9) 1 + (8.9.1) 2 + (9.6) .5 + (10.4) 0 = 4 TOTAL WRR 8-26-09

(11.1.2) Document TOTAL grease lost on Data Sheet 12.1, GREASE REPLACEMENT. Yes No WRR 8-26-09

Reviewed: Timothy C. Juts Level: I Date: 8-26-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(7.2) Tendon No.: H62-26 Tendon End: Butt. 6 Shop Field

Grease Cap Removal

(7.5) Date Removal Started: 8-12-09 Q.C. Signoff

(7.6) Dry Ice Used on Grease Cap and/or Anchorage Yes No

(7.7) Temp. of Concrete: 90 °F Thermometer No.: ST-82 Re-Cal Date: 7-27-10

Ambient Temp.: 85 °F Thermometer No.: PK-102 Re-Cal Date: 7-27-10

WRP 8-12-09

(8.4) Anchorhead I.D.: 924 Anchorhead Verification: Match No-Match

WRP 8-12-09

(8.5) Grease Coating

| Component | Complete | Partial | Uncoated | % |
|--------------------------------|-------------------------------------|--------------------------|--------------------------|---|
| Grease Cap - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Buttonheads - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Anchorhead - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Shims - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Bearing Plate - ⁽¹⁾ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

⁽¹⁾ - Limited within the inside diameter of the grease cap.

WRP 8-12-09

(6) Unusual Conditions: None

WRP 8-12-09

(8.7) Grease Color Match: Yes No Grease Color: Med. Brown

Comments: None

WRP 8-12-09

(8.8) Quantity of Samples 2 Quart Samples identified per Step 8.8.1? Yes No

Location of Removal A.H. B.P. Shims Cap Duct

WRP 8-12-09

(8.9) Qty. of Grease lost during removal of cap: 1 gal.

(8.9.1) Grease from cap to be reused? Yes No Qty. of Grease removed from cap: 2 gal.

(9.6) Qty. of Grease removed from anchorage: .5 gal.

(9.7) Damage during cap removal or anchorage cleaning? Yes No Describe: None

WRP 8-12-09

WRP 8-12-09

WRP 8-12-09

WRP 8-12-09

(10.3) Method of Tendon Protection: Reinstalled the grease can w/ a new gasket

WRP 8-12-09

(10.4) Amount of Grease Loss from Tendon duct: 0 gal.

WRP 8-12-09

(10.5) Total quantity of lost grease (below):

(8.8) .5 + (8.9) 1 + (8.9.1) 2 + (9.6) .5 + (10.4) 0 = 4 TOTAL

WRP 8-12-09

(11.1.2) Document TOTAL grease lost on Data Sheet 12.1, GREASE REPLACEMENT. Yes No

WRP 8-12-09

Reviewed: [Signature]

Level: I

Date: 8-13-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(7.2) Tendon No.: H 62-26 Tendon End: Buttress 2 Shop Field

Grease Cap Removal

(7.5) Date Removal Started: 8-28-09 Q.C. Signoff

(7.6) Dry Ice Used on Grease Cap and/or Anchorage Yes No

(7.7) Temp. of Concrete: 97 °F Thermometer No.: ST-82 Re-Cal Date: 7-27-10
Ambient Temp.: 89 °F Thermometer No.: PK-102 Re-Cal Date: 7-27-10 WRR 8-28-09

(8.4) Anchorhead I.D.: 924 571 Anchorhead Verification: Match No-Match WRR 8-28-09

(8.5) Grease Coating

| Component | Complete | Partial | Uncoated | % |
|--------------------------------|-------------------------------------|--------------------------|--------------------------|---|
| Grease Cap - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Buttonheads - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Anchorhead - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Shims - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Bearing Plate - ⁽¹⁾ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

⁽¹⁾ - Limited within the inside diameter of the grease cap. WRR 8-28-09

(6) Unusual Conditions: NONE WRR 8-28-09

(8.7) Grease Color Match: Yes No Grease Color: Med. Brown
Comments: NONE WRR 8-28-09

(8.8) Quantity of Samples 2 Quart Samples identified per Step 8.8.1? Yes No
Location of Removal A.H. B.P. Shims Cap Duct WRR 8-28-09

(8.9) Qty. of Grease lost during removal of cap: .5 gal. WRR 8-28-09
(8.9.1) Grease from cap to be reused? Yes No Qty. of Grease removed from cap: 4 gal. WRR 8-28-09
(9.6) Qty. of Grease removed from anchorage: .25 gal. WRR 8-28-09
(9.7) Damage during cap removal or anchorage cleaning? Yes No Describe: NONE WRR 8-28-09

(10.3) Method of Tendon Protection: Reinstalled the grease cap w/a new gasket WRR 8-28-09
(10.4) Amount of Grease Loss from Tendon duct: 0 gal. WRR 8-28-09

(10.5) Total quantity of lost grease (below):
(8.8) .5 + (8.9) .5 + (8.9.1) 4 + (9.6) .25 + (10.4) 0 = 5.25 TOTAL WRR 8-28-09

(11.1.2) Document TOTAL grease lost on Data Sheet 12.1, GREASE REPLACEMENT. Yes No WRR 8-28-09

Reviewed: [Signature] Level: I Date: 8-28-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(7.2) Tendon No.: V-11 Tendon End: Butt. 1 Top Shop Field

Grease Cap Removal

(7.5) Date Removal Started: 8-14-09 Q.C. Signoff

(7.6) Dry Ice Used on Grease Cap and/or Anchorage Yes No

(7.7) Temp. of Concrete: 98 °F Thermometer No.: ST-83 Re-Cal Date: 3-26-10

Ambient Temp.: 91 °F Thermometer No.: PK-104 Re-Cal Date: 7-27-10

(8.4) Anchorhead I.D.: 1213 Anchorhead Verification: Match No-Match

J.C.J. 8-14-09
J.C.J. 8-14-09

(8.5) Grease Coating

| Component | Complete | Partial | Uncoated | % |
|--------------------------------|-------------------------------------|--------------------------|--------------------------|---|
| Grease Cap - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Buttonheads - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Anchorhead - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Shims - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Bearing Plate - ⁽¹⁾ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

⁽¹⁾ - Limited within the inside diameter of the grease cap.

J.C.J. 8-14-09

(6) Unusual Conditions: None

J.C.J. 8-14-09

(8.7) Grease Color Match: Yes No Grease Color: Dark brown

Comments: None

J.C.J. 8-14-09

(8.8) Quantity of Samples 2 Quart Samples identified per Step 8.8.1? Yes No

Location of Removal A.H. B.P. Shims Cap Duct

J.C.J. 8-14-09

(8.9) Qty. of Grease lost during removal of cap: 0 gal.

J.C.J. 8-14-09

(8.9.1) Grease from cap to be reused? Yes No Qty. of Grease removed from cap: 3 gal.

J.C.J. 8-14-09

(9.6) Qty. of Grease removed from anchorage: .5 gal.

J.C.J. 8-14-09

(9.7) Damage during cap removal or anchorage cleaning? Yes No Describe: N/A

J.C.J. 8-14-09

(10.3) Method of Tendon Protection: coat with grease and cover with plastic - 8-14-09
Install grease can with new gasket

J.C.J. 8-18-09

(10.4) Amount of Grease Loss from Tendon duct: 0 gal.

J.C.J. 8-14-09

(10.5) Total quantity of lost grease (below):

(8.8) .5 + (8.9) 0 + (8.9.1) 3 + (9.6) .5 + (10.4) 0 = 4 TOTAL

J.C.J. 8-14-09

(11.1.2) Document TOTAL grease lost on Data Sheet 12.1, GREASE REPLACEMENT. Yes No

J.C.J. 8-14-09

Reviewed: W. Bruce Pollock

Level: II

Date: 8-18-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(7.2) Tendon No.: V-11 Tendon End: Bottom Shop Field

Grease Cap Removal

(7.5) Date Removal Started: 8-13-09 Q.C. Signoff

(7.6) Dry Ice Used on Grease Cap and/or Anchorage Yes No

(7.7) Temp. of Concrete: 83 °F Thermometer No.: ST82 Re-Cal Date: 7-27-10

Ambient Temp.: 80 °F Thermometer No.: PK102 Re-Cal Date: 7-27-10

WRR 8-13-09

(8.4) Anchorhead I.D.: 555 Anchorhead Verification: Match No-Match

WRR 8-13-09

(8.5) Grease Coating

| Component | Complete | Partial | Uncoated | % |
|--------------------------------|-------------------------------------|--------------------------|--------------------------|---|
| Grease Cap - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Buttonheads - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Anchorhead - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Shims - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Bearing Plate - ⁽¹⁾ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

⁽¹⁾ - Limited within the inside diameter of the grease cap.

WRR 8-13-09

(6) Unusual Conditions: NONE

WRR 8-13-09

(8.7) Grease Color Match: Yes No Grease Color: DARK BROWN

Comments: NONE

WRR 8-13-09

(8.8) Quantity of Samples 2 Quart Samples identified per Step 8.8.1? Yes No

Location of Removal A.H. B.P. Shims Cap Duct

WRR 8-13-09

(8.9) Qty. of Grease lost during removal of cap: 0 gal.

(8.9.1) Grease from cap to be reused? Yes No Qty. of Grease removed from cap: 3 gal.

(9.6) Qty. of Grease removed from anchorage: 1 gal.

(9.7) Damage during cap removal or anchorage cleaning? Yes No Describe: NONE

WRR 8-13-09

WRR 8-13-09

WRR 8-13-09

WRR 8-13-09

(10.3) Method of Tendon Protection: Reinstalled the grease cap w/a new gasket

WRR 8-13-09

(10.4) Amount of Grease Loss from Tendon duct: 53 gal.

WRR 8-13-09

(10.5) Total quantity of lost grease (below):

(8.8) .5 + (8.9) 0 + (8.9.1) 3 + (9.6) 1 + (10.4) 53 = 57.5 TOTAL

WRR 8-13-09

(11.1.2) Document TOTAL grease lost on Data Sheet 12.1, GREASE REPLACEMENT. Yes No

WRR 8-13-09

Reviewed: [Signature] Level: I Date: 8-13-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(7.2) Tendon No.: V-32 Tendon End: Butt. 2/Top Shop Field

Grease Cap Removal

(7.5) Date Removal Started: 8-14-09 Q.C. Signoff
 (7.6) Dry Ice Used on Grease Cap and/or Anchorage Yes No
 (7.7) Temp. of Concrete: 98 °F Thermometer No.: ST-83 Re-Cal Date: 3-26-10
 Ambient Temp.: 91 °F Thermometer No.: PK-104 Re-Cal Date: 7-27-10 JCS 8-14-09
 (8.4) Anchorhead I.D.: 1050 Anchorhead Verification: Match No-Match JCS 8-14-09

(8.5) Grease Coating

| Item | Complete | Partial | Uncoated | % |
|--------------------------------|-------------------------------------|--------------------------|--------------------------|---|
| Grease Cap - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Buttonheads - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Anchorhead - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Shims - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Bearing Plate - ⁽¹⁾ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

(1) - Limited within the inside diameter of the grease cap. JCS 8-14-09

(6) Unusual Conditions: None JCS 8-14-09

(8.7) Grease Color Match: Yes No Grease Color: Med. Brown
 Comments: None JCS 8-14-09

(8.8) Quantity of Samples 2 Quart Samples identified per Step 8.8.1? Yes No
 Location of Removal A.H. B.P. Shims Cap Duct JCS 8-14-09

(8.9) Qty. of Grease lost during removal of cap: 0 gal. JCS 8-14-09

(8.9.1) Grease from cap to be reused? Yes No Qty. of Grease removed from cap: 3.5 gal. JCS 8-14-09

(9.6) Qty. of Grease removed from anchorage: .5 gal. JCS 8-14-09

(9.7) Damage during cap removal or anchorage cleaning? Yes No Describe: N/A JCS 8-14-09

(10.3) Method of Tendon Protection: Installed grease can with new gasket JCS 8-18-09

(10.4) Amount of Grease Loss from Tendon duct: 0 gal. JCS 8-18-09

(10.5) Total quantity of lost grease (below):
 (8.8) 5 + (8.9) 0 + (8.9.1) 3.5 + (9.6) .5 + (10.4) 0 = 4.5 TOTAL JCS 8-14-09

(11.1.2) Document TOTAL grease lost on Data Sheet 12.1, GREASE REPLACEMENT. Yes No JCS 8-14-09

Reviewed: W. Bruce Robb Level: II Date: 8-20-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(7.2) Tendon No.: V-32 Tendon End: Bottom Shop Field

Grease Cap Removal

(7.5) Date Removal Started: 8-13-09 Q.C. Signoff

(7.6) Dry Ice Used on Grease Cap and/or Anchorage Yes No

(7.7) Temp. of Concrete: 84 °F Thermometer No.: ST 82 Re-Cal Date: 7-27-10
Ambient Temp.: 79 °F Thermometer No.: PK 102 Re-Cal Date: 7-27-10

(8.4) Anchorhead I.D.: 657 957 ^{WRR 8-13-09} Anchorhead Verification: Match No-Match ^{WRR 8-13-09}

(8.5) Grease Coating

| | | | | | | | |
|--------------------------------|----------|-------------------------------------|---------|-------|----------|-------|---|
| Grease Cap - | Complete | <input checked="" type="checkbox"/> | Partial | _____ | Uncoated | _____ | % |
| Buttonheads - | Complete | <input checked="" type="checkbox"/> | Partial | _____ | Uncoated | _____ | % |
| Anchorhead - | Complete | <input checked="" type="checkbox"/> | Partial | _____ | Uncoated | _____ | % |
| Shims - | Complete | <input checked="" type="checkbox"/> | Partial | _____ | Uncoated | _____ | % |
| Bearing Plate - ⁽¹⁾ | Complete | <input checked="" type="checkbox"/> | Partial | _____ | Uncoated | _____ | % |

⁽¹⁾ - Limited within the inside diameter of the grease cap. ^{WRR 8-13-09}

(6) Unusual Conditions: NONE ^{WRR 8-13-09}

(8.7) Grease Color Match: Yes No Grease Color: Med. Brown
Comments: NONE ^{WRR 8-13-09}

(8.8) Quantity of Samples 2 Quart Samples identified per Step 8.8.1? Yes No
Location of Removal A.H. B.P. Shims Cap Duct ^{WRR 8-13-09}

(8.9) Qty. of Grease lost during removal of cap: 2 gal. ^{WRR 8-13-09}
(8.9.1) Grease from cap to be reused? Yes No Qty. of Grease removed from cap: 4 gal. ^{WRR 8-13-09}

(9.6) Qty. of Grease removed from anchorage: .5 gal. ^{WRR 8-13-09}

(9.7) Damage during cap removal or anchorage cleaning? Yes No Describe: NONE ^{WRR 8-13-09}

(10.3) Method of Tendon Protection: Reinstalled the grease can w/a new gasket ^{WRR 8-13-09}

(10.4) Amount of Grease Loss from Tendon duct: 1 gal. ^{WRR 8-13-09}

(10.5) Total quantity of lost grease (below):
(8.8) .5 + (8.9) 2 + (8.9.1) 4 + (9.6) .5 + (10.4) 1 = 8 TOTAL ^{WRR 8-13-09}

(11.1.2) Document TOTAL grease lost on Data Sheet 12.1, GREASE REPLACEMENT. Yes No ^{WRR 8-13-09}

Reviewed: [Signature] Level: I Date: 8-13-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(7.2) Tendon No.: V-90 Tendon End: Butt. 4/Top Shop Field

Grease Cap Removal

(7.5) Date Removal Started: 8-14-09 Q.C. Signoff
 (7.6) Dry Ice Used on Grease Cap and/or Anchorage Yes No
 (7.7) Temp. of Concrete: 99 °F Thermometer No.: ST-83 Re-Cal Date: 3-26-10
 Ambient Temp.: 91 °F Thermometer No.: PK-104 Re-Cal Date: 7-27-10
 (8.4) Anchorhead I.D.: 590 Anchorhead Verification: Match No-Match

(8.5) Grease Coating

| | | | | | | | |
|--------------------------------|----------|-------------------------------------|---------|-------|----------|-------|---|
| Grease Cap - | Complete | <input checked="" type="checkbox"/> | Partial | _____ | Uncoated | _____ | % |
| Buttonheads - | Complete | <input checked="" type="checkbox"/> | Partial | _____ | Uncoated | _____ | % |
| Anchorhead - | Complete | <input checked="" type="checkbox"/> | Partial | _____ | Uncoated | _____ | % |
| Shims - | Complete | <input checked="" type="checkbox"/> | Partial | _____ | Uncoated | _____ | % |
| Bearing Plate - ⁽¹⁾ | Complete | <input checked="" type="checkbox"/> | Partial | _____ | Uncoated | _____ | % |

⁽¹⁾ - Limited within the inside diameter of the grease cap.

(6) Unusual Conditions: None

(8.7) Grease Color Match: Yes No Grease Color: Med. Brown
 Comments: None

(8.8) Quantity of Samples 2 Quart Samples identified per Step 8.8.1? Yes No
 Location of Removal A.H. B.P. Shims Cap Duct

(8.9) Qty. of Grease lost during removal of cap: 0 gal.

(8.9.1) Grease from cap to be reused? Yes No Qty. of Grease removed from cap: 3 gal.

(9.6) Qty. of Grease removed from anchorage: .5 gal.

(9.7) Damage during cap removal or anchorage cleaning? Yes No Describe: N/A

(10.3) Method of Tendon Protection: Replace grease can with new gasket

(10.4) Amount of Grease Loss from Tendon duct: 0 gal.

(10.5) Total quantity of lost grease (below):
 (8.8) .5 + (8.9) 0 + (8.9.1) 3 + (9.6) .5 + (10.4) 0 = 4 TOTAL

(11.1.2) Document TOTAL grease lost on Data Sheet 12.1, GREASE REPLACEMENT. Yes No

Reviewed: W. Lance Pollock Level: II Date: 8-20-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(7.2) Tendon No.: V-90 Tendon End: Gallery Shop Field

Grease Cap Removal

(7.5) Date Removal Started: 8-13-09 Q.C. Signoff

(7.6) Dry Ice Used on Grease Cap and/or Anchorage Yes No

(7.7) Temp. of Concrete: 84 °F Thermometer No.: ST 82 Re-Cal Date: 7-27-10

Ambient Temp.: 80 °F Thermometer No.: PK 102 Re-Cal Date: 7-27-10 WRR 8-13-09

(8.4) Anchorhead I.D.: 728 Anchorhead Verification: Match No-Match WRR 8-13-09

(8.5) Grease Coating

| | | | | | | | |
|--------------------------------|----------|-------------------------------------|---------|-------|----------|-------|---|
| Grease Cap - | Complete | <input checked="" type="checkbox"/> | Partial | _____ | Uncoated | _____ | % |
| Buttonheads - | Complete | <input checked="" type="checkbox"/> | Partial | _____ | Uncoated | _____ | % |
| Anchorhead - | Complete | <input checked="" type="checkbox"/> | Partial | _____ | Uncoated | _____ | % |
| Shims - | Complete | <input checked="" type="checkbox"/> | Partial | _____ | Uncoated | _____ | % |
| Bearing Plate - ⁽¹⁾ | Complete | <input checked="" type="checkbox"/> | Partial | _____ | Uncoated | _____ | % |

⁽¹⁾ - Limited within the inside diameter of the grease cap.

WRR 8-13-09

6) Unusual Conditions: NONE WRR 8-13-09

(8.7) Grease Color Match: Yes No Grease Color: DARK BROWN

Comments: NONE WRR 8-13-09

(8.8) Quantity of Samples 2 Quart Samples identified per Step 8.8.1? Yes No

Location of Removal A.H. B.P. Shims Cap Duct WRR 8-13-09

(8.9) Qty. of Grease lost during removal of cap: 1 gal. WRR 8-13-09

(8.9.1) Grease from cap to be reused? Yes No Qty. of Grease removed from cap: 4 gal. WRR 8-13-09

(9.6) Qty. of Grease removed from anchorage: 1 gal. WRR 8-13-09

(9.7) Damage during cap removal or anchorage cleaning? Yes No Describe: NONE WRR 8-13-09

(10.3) Method of Tendon Protection: Reinstalled the grease can w/a new gasket WRR 8-20-09

(10.4) Amount of Grease Loss from Tendon duct: 64 gal. WRR 8-19-09

(10.5) Total quantity of lost grease (below):
(8.8) 0.5 + (8.9) 1.0 + (8.9.1) 4.0 + (9.6) 1.0 + (10.4) 64.0 = 70.5 TOTAL WRR 8-19-09

(11.1.2) Document TOTAL grease lost on Data Sheet 12.1, GREASE REPLACEMENT. Yes No WRR 8-19-09

Reviewed: [Signature] Level: I Date: 8-21-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(7.2) Tendon No.: V-132 Tendon End: Top Shop Field

Grease Cap Removal

(7.5) Date Removal Started: 8-13-09 Q.C. Signoff

(7.6) Dry Ice Used on Grease Cap and/or Anchorage Yes No

(7.7) Temp. of Concrete: 79 °F Thermometer No.: ST82 Re-Cal Date: 7-27-10

Ambient Temp.: 71 °F Thermometer No.: PK102 Re-Cal Date: 7-27-10

(8.4) Anchorhead I.D.: 1098 Anchorhead Verification: Match No-Match

WRR 8-13-09
WRR 8-13-09

(8.5) Grease Coating

| Item | Complete | Partial | Uncoated | % |
|--------------------------------|-------------------------------------|--------------------------|--------------------------|---|
| Grease Cap - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Buttonheads - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Anchorhead - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Shims - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Bearing Plate - ⁽¹⁾ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

⁽¹⁾ - Limited within the inside diameter of the grease cap.

WRR 8-13-09

(6) Unusual Conditions: None

WRR 8-13-09

(8.7) Grease Color Match: Yes No Grease Color: Med Brown

Comments: None

WRR 8-13-09

(8.8) Quantity of Samples 2 Quart Samples identified per Step 8.8.1? Yes No

Location of Removal A.H. B.P. Shims Cap Duct

WRR 8-13-09

(8.9) Qty. of Grease lost during removal of cap: 2 gal.

(8.9.1) Grease from cap to be reused? Yes No Qty. of Grease removed from cap: .5 gal.

(9.6) Qty. of Grease removed from anchorage: 1.5 gal.

(9.7) Damage during cap removal or anchorage cleaning? Yes No Describe: None

Light coat of grease and covered with grease cap

WRR 8-13-09
WRR 8-13-09
WRR 8-13-09
WRR 8-13-09

(10.3) Method of Tendon Protection:

(10.4) Amount of Grease Loss from Tendon duct: 0 gal.

WRR 8-13-09

(10.5) Total quantity of lost grease (below):

(8.8) .5 + (8.9) 2 + (8.9.1) .5 + (9.6) 1.5 + (10.4) 0 = 4.5 TOTAL

(11.1.2) Document TOTAL grease lost on Data Sheet 12.1, GREASE REPLACEMENT. Yes No

WRR 8-13-09
WRR 8-13-09

Reviewed: [Signature]

Level: I

Date: 8-19-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(7.2) Tendon No.: V-132 Tendon End: Bottom Shop Field

Grease Cap Removal

(7.5) Date Removal Started: 8-13-09 Q.C. Signoff

(7.6) Dry Ice Used on Grease Cap and/or Anchorage Yes No

(7.7) Temp. of Concrete: 83 °F Thermometer No.: ST 82 Re-Cal Date: 7-27-10

Ambient Temp.: 79 °F Thermometer No.: PK-102 Re-Cal Date: 7-27-10

WRR 8-13-09

(8.4) Anchorhead I.D.: 682 Anchorhead Verification: Match No-Match

WRR 8-13-09

(8.5) Grease Coating

| Component | Complete | Partial | Uncoated | % |
|--------------------------------|-------------------------------------|--------------------------|--------------------------|---|
| Grease Cap - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Buttonheads - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Anchorhead - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Shims - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Bearing Plate - ⁽¹⁾ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

⁽¹⁾ - Limited within the inside diameter of the grease cap.

WRR 8-13-09

(6) Unusual Conditions: None

WRR 8-13-09

(8.7) Grease Color Match: Yes No Grease Color: Dark Brown

Comments: None

WRR 8-13-09

(8.8) Quantity of Samples 2 Quart Samples identified per Step 8.8.1? Yes No

Location of Removal A.H. B.P. Shims Cap Duct

WRR 8-13-09

(8.9) Qty. of Grease lost during removal of cap: 0 gal.

(8.9.1) Grease from cap to be reused? Yes No Qty. of Grease removed from cap: 3 gal.

(9.6) Qty. of Grease removed from anchorage: 1 gal.

(9.7) Damage during cap removal or anchorage cleaning? Yes No Describe: None

WRR 8-13-09

WRR 8-13-09

WRR 8-13-09

WRR 8-13-09

(10.3) Method of Tendon Protection: light coat of grease, left open to drain - WRR 8-13-09
Reinstalled the grease can w/a new gasket

WRR 8-13-09

(10.4) Amount of Grease Loss from Tendon duct: 52 gal.

WRR 8-13-09

(10.5) Total quantity of lost grease (below):

(8.8) 5 + (8.9) 0 + (8.9.1) 3 + (9.6) 1 + (10.4) 52 = 56.5 TOTAL

WRR 8-13-09

(11.1.2) Document TOTAL grease lost on Data Sheet 12.1, GREASE REPLACEMENT. Yes No

WRR 8-13-09

Reviewed: [Signature] Level: I Date: 8-13-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(7.2) Tendon No.: D-122 Tendon End: Buttress 5 Shop Field

Grease Cap Removal

(7.5) Date Removal Started: 8-17-09 Q.C. Signoff

(7.6) Dry Ice Used on Grease Cap and/or Anchorage Yes No

(7.7) Temp. of Concrete: 82 °F Thermometer No.: ST 82 Re-Cal Date: 7-27-10

Ambient Temp.: 71 °F Thermometer No.: PK 102 Re-Cal Date: 7-27-10

WRR 8-17-09

(8.4) Anchorhead I.D.: 1074 Anchorhead Verification: Match No-Match

WRR 8-17-09

(8.5) Grease Coating

| Component | Complete | Partial | Uncoated | % |
|--------------------------------|-------------------------------------|--------------------------|--------------------------|---|
| Grease Cap - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Buttonheads - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Anchorhead - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Shims - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Bearing Plate - ⁽¹⁾ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

⁽¹⁾ - Limited within the inside diameter of the grease cap.

WRR 8-17-09

(6) Unusual Conditions: NONE

WRR 8-17-09

(8.7) Grease Color Match: Yes No Grease Color: DARK BROWN

Comments: GREASE CONSISTENCY IS ABOUT LIKE 30wt. oil

WRR 8-17-09

(8.8) Quantity of Samples 2 Quart Samples identified per Step 8.8.1? Yes No

Location of Removal A.H. B.P. Shims Cap Duct

WRR 8-17-09

(8.9) Qty. of Grease lost during removal of cap: 3 gal.

WRR 8-17-09

(8.9.1) Grease from cap to be re-used? Yes No Qty. of Grease removed from cap: 2 gal.

WRR 8-17-09

(9.6) Qty. of Grease removed from anchorage: 1 gal.

WRR 8-17-09

(9.7) Damage during cap removal or anchorage cleaning? Yes No Describe: NONE

WRR 8-17-09

(10.3) Method of Tendon Protection: Reinstalled the grease can w/a new gasket

WRR 8-17-09

(10.4) Amount of Grease Loss from Tendon duct: 28 gal.

WRR 8-17-09

(10.5) Total quantity of lost grease (below):

(8.8) .5 + (8.9) 3 + (8.9.1) 2 + (9.6) 1 + (10.4) 28 = 34.5 TOTAL

WRR 8-17-09

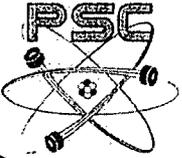
(11.1.2) Document TOTAL grease lost on Data Sheet 12.1, GREASE REPLACEMENT. Yes No

WRR 8-17-09

Reviewed: Tommy C. [Signature]

Level: I

Date: 8-17-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE

UNIT 1

(7.2) Tendon No.: D122

Tendon End: FIELD / NE

Shop

Field

Grease Cap Removal

(7.5) Date Removal Started: 11-13-09

Q.C. Signoff

(7.6) Dry Ice Used on Grease Cap and/or Anchorage Yes No

(7.7) Temp. of Concrete: 46 °F Thermometer No.: ST-82 Re-Cal Date: 7-27-10

Ambient Temp.: 44 °F Thermometer No.: PK104 Re-Cal Date: 7-27-10

280 11-13-09

(8.4) Anchorhead I.D.: 754 Anchorhead Verification: Match No-Match

280 11-13-09

(8.5) Grease Coating

| | | | | | | | |
|--------------------------------|----------|-------------------------------------|---------|--------------------------|----------|--------------------------|---|
| Grease Cap - | Complete | <input checked="" type="checkbox"/> | Partial | <input type="checkbox"/> | Uncoated | <input type="checkbox"/> | % |
| Buttonheads - | Complete | <input checked="" type="checkbox"/> | Partial | <input type="checkbox"/> | Uncoated | <input type="checkbox"/> | % |
| Anchorhead - | Complete | <input checked="" type="checkbox"/> | Partial | <input type="checkbox"/> | Uncoated | <input type="checkbox"/> | % |
| Shims - | Complete | <input checked="" type="checkbox"/> | Partial | <input type="checkbox"/> | Uncoated | <input type="checkbox"/> | % |
| Bearing Plate - ⁽¹⁾ | Complete | <input checked="" type="checkbox"/> | Partial | <input type="checkbox"/> | Uncoated | <input type="checkbox"/> | % |

280 11-13-09

⁽¹⁾ - Limited within the inside diameter of the grease cap.

6) Unusual Conditions: NONE

280 11-13-09

(8.7) Grease Color Match: Yes No Grease Color: BROWN

Comments: NONE

280 11-13-09

(8.8) Quantity of Samples 2 Quart Samples identified per Step 8.8.1? Yes No
Location of Removal A.H. B.P. Shims Cap Duct

280 11-13-09

(8.9) Qty. of Grease lost during removal of cap: 0 gal.

(8.9.1) Grease from cap to be reused? Yes No Qty. of Grease removed from cap: 4 gal.

(9.6) Qty. of Grease removed from anchorage: 1 gal.

(9.7) Damage during cap removal or anchorage cleaning? Yes No Describe: NONE

280 11-13-09

280 11-13-09

280 11-13-09

280 11-13-09

(10.3) Method of Tendon Protection: COATED w/ GREASE & CAP INSTALLED

280 11-13-09

(10.4) Amount of Grease Loss from Tendon duct: 0 gal.

280 11-13-09

(10.5) Total quantity of lost grease (below):

(8.8) 2 + (8.9) 0 + (8.9.1) 4 + (9.6) 1 + (10.4) 0 = 5 1/2 TOTAL

280 11-13-09

(11.1.2) Document TOTAL grease lost on Data Sheet 12.1, GREASE REPLACEMENT. Yes No

280 11-13-09

Reviewed: J. Busson

Level: III

Date: 2/2/10



Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(7.2) Tendon No.: D225 Tendon End: Butt. 5 Shop Field

Grease Cap Removal

(7.5) Date Removal Started: 8-11-09

Q.C. Signoff

(7.6) Dry Ice Used on Grease Cap and/or Anchorage Yes No

(7.7) Temp. of Concrete: 80 °F Thermometer No.: ST-83 Re-Cal Date: 3-26-10

Ambient Temp.: 79 °F Thermometer No.: PK-104 Re-Cal Date: 7-27-10

T.C.S. 8-11-09
T.C.S. 8-11-09

(8.4) Anchorhead I.D.: 1137 Anchorhead Verification: Match No-Match

(8.5) Grease Coating

| Component | Complete | Partial | Uncoated | % |
|--------------------------------|------------|---------|----------|---|
| Grease Cap - | <u>100</u> | | | |
| Buttonheads - | <u>100</u> | | | |
| Anchorhead - | <u>100</u> | | | |
| Shims - | <u>100</u> | | | |
| Bearing Plate - ⁽¹⁾ | <u>100</u> | | | |

⁽¹⁾ - Limited within the inside diameter of the grease cap.

T.C.S. 8-11-09

(6) Unusual Conditions: None

T.C.S. 8-11-09

(8.7) Grease Color Match: Yes No Grease Color: Med. Brown

Comments: None

T.C.S. 8-11-09

(8.8) Quantity of Samples 2 Quart Samples identified per Step 8.8.1? Yes No

Location of Removal A.H. B.P. Shims Cap Duct

T.C.S. 8-11-09

(8.9) Qty. of Grease lost during removal of cap: .5 gal.

(8.9.1) Grease from cap to be reused? Yes No Qty. of Grease removed from cap: 5 gal.

(9.6) Qty. of Grease removed from anchorage: .5 gal.

(9.7) Damage during cap removal or anchorage cleaning? Yes No Describe: None

T.C.S. 8-11-09
T.C.S. 8-11-09
T.C.S. 8-11-09
T.C.S. 8-11-09

(10.3) Method of Tendon Protection: Replaced can with new gasket

T.C.S. 8-11-09

(10.4) Amount of Grease Loss from Tendon duct: .5 gal.

T.C.S. 8-11-09

(10.5) Total quantity of lost grease (below):
(8.8) .5 + (8.9) .5 + (8.9.1) 0.5 + (9.6) .5 + (10.4) .5 = 7 TOTAL

T.C.S. 8-11-09

(11.1.2) Document TOTAL grease lost on Data Sheet 12.1, GREASE REPLACEMENT. Yes No

T.C.S. 8-11-09

QC Reviewed: W. Vance Peltz

Level: II

Date: 8-11-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(7.2) Tendon No.: D-225 Tendon End: Batt. 2 Shop Field

Grease Cap Removal

(7.5) Date Removal Started: 8-12-09 Q.C. Signoff

(7.6) Dry Ice Used on Grease Cap and/or Anchorage Yes No

(7.7) Temp. of Concrete: 91 °F Thermometer No.: ST-83 Re-Cal Date: 3-26-10

Ambient Temp.: 90 °F Thermometer No.: PK-104 Re-Cal Date: 7-27-10

7.6.8-12-09
7.6.8-12-09

(8.4) Anchorhead I.D.: 684 Anchorhead Verification: Match No-Match

(8.5) Grease Coating

| Component | Complete | Partial | Uncoated | % |
|--------------------------------|--|----------------------------------|-----------------------------------|---|
| Grease Cap - | Complete <input checked="" type="checkbox"/> | Partial <input type="checkbox"/> | Uncoated <input type="checkbox"/> | % |
| Buttonheads - | Complete <input checked="" type="checkbox"/> | Partial <input type="checkbox"/> | Uncoated <input type="checkbox"/> | % |
| Anchorhead - | Complete <input checked="" type="checkbox"/> | Partial <input type="checkbox"/> | Uncoated <input type="checkbox"/> | % |
| Shims - | Complete <input checked="" type="checkbox"/> | Partial <input type="checkbox"/> | Uncoated <input type="checkbox"/> | % |
| Bearing Plate - ⁽¹⁾ | Complete <input checked="" type="checkbox"/> | Partial <input type="checkbox"/> | Uncoated <input type="checkbox"/> | % |

(1) - Limited within the inside diameter of the grease cap.

7.6.8-12-09

(6) Unusual Conditions: None

7.6.8-12-09

(8.7) Grease Color Match: Yes No Grease Color: Med. Brown

Comments: None

7.6.8-12-09

(8.8) Quantity of Samples 2 Quart Samples identified per Step 8.8.1? Yes No

Location of Removal A.H. B.P. Shims Cap Duct

7.6.8-12-09

(8.9) Qty. of Grease lost during removal of cap: 0 gal.

(8.9.1) Grease from cap to be reused? Yes No Qty. of Grease removed from cap: 8 gal.

(9.6) Qty. of Grease removed from anchorage: .25 gal.

(9.7) Damage during cap removal or anchorage cleaning? Yes No Describe: NONE

7.6.8-12-09
7.6.8-12-09
7.6.8-12-09
7.6.8-12-09

(10.3) Method of Tendon Protection: Replaced grease cap with new gasket

(10.4) Amount of Grease Loss from Tendon duct: 0 gal.

7.6.8-12-09
7.6.8-12-09

(10.5) Total quantity of lost grease (below):
(8.8) .5 + (8.9) 0 + (8.9.1) 8 + (9.6) .25 + (10.4) 0 = 8.75 TOTAL

(11.1.2) Document TOTAL grease lost on Data Sheet 12.1, GREASE REPLACEMENT. Yes No

7.6.8-12-09
7.6.8-12-09

Reviewed: W. Lance Polt Level: IV Date: 8-18-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(7.2) Tendon No.: D-322 Tendon End: SWP / NORTH Shop Field

Grease Cap Removal

(7.5) Date Removal Started: 11-16-09 Q.C. Signoff

(7.6) Dry Ice Used on Grease Cap and/or Anchorage Yes No

(7.7) Temp. of Concrete: 48 °F Thermometer No.: 3T-82 Re-Cal Date: 7-27-10

Ambient Temp.: 46 °F Thermometer No.: PK104 Re-Cal Date: 7-27-10

(8.4) Anchorhead I.D.: 668/1002 Anchorhead Verification: Match No-Match SRD 11-16-09

(8.5) Grease Coating

| Component | Complete | Partial | Uncoated | % |
|--------------------------------|-------------------------------------|--------------------------|--------------------------|---|
| Grease Cap - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Buttonheads - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Anchorhead - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Shims - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Bearing Plate - ⁽¹⁾ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

⁽¹⁾ - Limited within the inside diameter of the grease cap.

SRD 11-16-09

6) Unusual Conditions: NONE

SRD 11-16-09

(8.7) Grease Color Match: Yes No Grease Color: DARK BROWN

Comments: NONE

SRD 11-16-09

(8.8) Quantity of Samples 2 Quart Samples identified per Step 8.8.1? Yes No

Location of Removal A.H. B.P. Shims Cap Duct

SRD 11-16-09

(8.9) Qty. of Grease lost during removal of cap: 0 gal.

SRD 11-16-09

(8.9.1) Grease from cap to be reused? Yes No Qty. of Grease removed from cap: 4 gal.

SRD 11-16-09

(9.6) Qty. of Grease removed from anchorage: 1 gal.

SRD 11-16-09

(9.7) Damage during cap removal or anchorage cleaning? Yes No Describe: NONE

SRD 11-16-09

(10.3) Method of Tendon Protection: COVERED w/ GREASEY CAP INSTALLED

SRD 11-17-09

(10.4) Amount of Grease Loss from Tendon duct: 3 gal.

SRD 11-17-09

(10.5) Total quantity of lost grease (below):

(8.8) 4 + (8.9) 0 + (8.9.1) 4 + (9.6) 1 + (10.4) 3 = 8 1/2 TOTAL

SRD 11-17-09

(11.1.2) Document TOTAL grease lost on Data Sheet 12.1, GREASE REPLACEMENT. Yes No

SRD 11-17-09

Reviewed: ABussone Level: III Date: 2/2/10



Project: TMI 35TH YEAR TENDON SURVEILLANCE

UNIT 1

(7.2) Tendon No.: D-322

Tendon End: FIELD / SWIM

Shop

Field

Grease Cap Removal

(7.5) Date Removal Started: 11-16-09

Q.C. Signoff

(7.6) Dry Ice Used on Grease Cap and/or Anchorage

Yes No

(7.7) Temp. of Concrete: 54 °F

Thermometer No.: ST-82

Re-Cal Date: 7-27-10

Ambient Temp.: 56 °F

Thermometer No.: PK104

Re-Cal Date: 7-27-10

28011-16-09

(8.4) Anchorhead I.D.: 1004

Anchorhead Verification:

Match

No-Match

28011-16-09

(8.5) Grease Coating

| Component | Complete | Partial | Uncoated | % |
|--------------------------------|--|----------------------------------|-----------------------------------|---|
| Grease Cap - | Complete <input checked="" type="checkbox"/> | Partial <input type="checkbox"/> | Uncoated <input type="checkbox"/> | % |
| Buttonheads - | Complete <input checked="" type="checkbox"/> | Partial <input type="checkbox"/> | Uncoated <input type="checkbox"/> | % |
| Anchorhead - | Complete <input checked="" type="checkbox"/> | Partial <input type="checkbox"/> | Uncoated <input type="checkbox"/> | % |
| Shims - | Complete <input checked="" type="checkbox"/> | Partial <input type="checkbox"/> | Uncoated <input type="checkbox"/> | % |
| Bearing Plate - ⁽¹⁾ | Complete <input checked="" type="checkbox"/> | Partial <input type="checkbox"/> | Uncoated <input type="checkbox"/> | % |

28011-16-09

⁽¹⁾ - Limited within the inside diameter of the grease cap.

6) Unusual Conditions: NONE

28011-16-09

(8.7) Grease Color Match:

Yes

No

Grease Color: Dark Brown

Comments: NONE

28011-16-09

(8.8) Quantity of Samples 2 Quart

Quart

Samples identified per Step 8.8.1?

Yes

No

Location of Removal

A.H.

B.P.

Shims

Cap

Duct

28011-16-09

(8.9) Qty. of Grease lost during removal of cap:

0 gal.

28011-16-09

(8.9.1) Grease from cap to be reused?

Yes

No

Qty. of Grease removed from cap: 5 gal.

5 gal.

28011-16-09

(9.6) Qty. of Grease removed from anchorage: 1 gal.

1 gal.

28011-16-09

(9.7) Damage during cap removal or anchorage cleaning?

Yes

No

Describe: NONE

NONE

28011-16-09

(10.3) Method of Tendon Protection: Coated w/GREASE & CAP INSTALLED

Coated w/GREASE & CAP INSTALLED

28011-17-09

(10.4) Amount of Grease Loss from Tendon duct: 0 gal.

0 gal.

28011-17-09

(10.5) Total quantity of lost grease (below):

(8.8) 2 + (8.9) 0 + (8.9.1) 5 + (9.6) 1 + (10.4) 0 = 6 1/2 TOTAL

28011-17-09

(11.1.2) Document TOTAL grease lost on Data Sheet 12.1, GREASE REPLACEMENT.

Yes

No

28011-17-09

Reviewed: L. Bussone

L. Bussone

Level: III

III

Date: 2/2/10

2/2/10



Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(7.2) Tendon No.: D342 Tendon End: Butt. 6 Shop Field

Grease Cap Removal

(7.5) Date Removal Started: 8-17-09 Q.C. Signoff

(7.6) Dry Ice Used on Grease Cap and/or Anchorage Yes No

(7.7) Temp. of Concrete: 81 °F Thermometer No.: ST-83 Re-Cal Date: 3-26-10

Ambient Temp.: 79 °F Thermometer No.: PK-104 Re-Cal Date: 9-27-10

7.6.8 8-17-09

(8.4) Anchorhead I.D.: 1183 Anchorhead Verification: Match No-Match

7.6.8 8-17-09

(8.5) Grease Coating

| Component | Complete | Partial | Uncoated | % |
|--------------------------------|-------------------------------------|--------------------------|--------------------------|---|
| Grease Cap - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Buttonheads - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Anchorhead - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Shims - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Bearing Plate - ⁽¹⁾ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

⁽¹⁾ - Limited within the inside diameter of the grease cap.

7.6.8 8-17-09

6) Unusual Conditions: None

7.6.8 8-17-09

(8.7) Grease Color Match: Yes No Grease Color: Dark brown

Comments: None

7.6.8 8-17-09

(8.8) Quantity of Samples 2 Quart Samples Identified per Step 8.8.1? Yes No

Location of Removal A.H. B.P. Shims Cap Duct

7.6.8 8-17-09

(8.9) Qty. of Grease lost during removal of cap: 2 gal.

(8.9.1) Grease from cap to be reused? Yes No Qty. of Grease removed from cap: 6 gal.

(9.6) Qty. of Grease removed from anchorage: .5 gal.

(9.7) Damage during cap removal or anchorage cleaning? Yes No Describe: N/A

7.6.8 8-17-09

7.6.8 8-17-09

7.6.8 8-17-09

7.6.8 8-17-09

(10.3) Method of Tendon Protection: Install grease can with new gasket

7.6.8 8-17-09

(10.4) Amount of Grease Loss from Tendon duct: 31 gal.

7.6.8 8-17-09

(10.5) Total quantity of lost grease (below):

(8.8) .5 + (8.9) 2 + (8.9.1) 6 + (9.6) .5 + (10.4) 31 = 40 TOTAL

7.6.8 8-17-09

(11.1.2) Document TOTAL grease lost on Data Sheet 12.1, GREASE REPLACEMENT. Yes No

7.6.8 8-17-09

Reviewed: W. Lance Pollett

Level: II

Date: 8-17-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(7.2) Tendon No.: D342 Tendon End: Buttress 4 Shop Field

Grease Cap Removal

(7.5) Date Removal Started: 8-17-09 Q.C. Signoff

(7.6) Dry Ice Used on Grease Cap and/or Anchorage Yes No

(7.7) Temp. of Concrete: 110 °F Thermometer No.: ST-82 Re-Cal Date: 7-27-10

Ambient Temp.: 92 °F Thermometer No.: PK-102 Re-Cal Date: 7-27-10

(8.4) Anchorhead I.D.: 841 Anchorhead Verification: Match No-Match

(8.5) Grease Coating

| | | | | | |
|--------------------------------|----------|-------------------------------------|---------|----------|---|
| Grease Cap - | Complete | <input checked="" type="checkbox"/> | Partial | Uncoated | % |
| Buttonheads - | Complete | <input checked="" type="checkbox"/> | Partial | Uncoated | % |
| Anchorhead - | Complete | <input checked="" type="checkbox"/> | Partial | Uncoated | % |
| Shims - | Complete | <input checked="" type="checkbox"/> | Partial | Uncoated | % |
| Bearing Plate - ⁽¹⁾ | Complete | <input checked="" type="checkbox"/> | Partial | Uncoated | % |

⁽¹⁾ - Limited within the inside diameter of the grease cap.

(8.6) Unusual Conditions: None

(8.7) Grease Color Match: Yes No Grease Color: Dark Brown

Comments: None

(8.8) Quantity of Samples 2 Quart Samples identified per Step 8.8.1? Yes No

Location of Removal A.H. B.P. Shims Cap Duct

(8.9) Qty. of Grease lost during removal of cap: .5 gal.

(8.9.1) Grease from cap to be reused? Yes No Qty. of Grease removed from cap: 5 gal.

(9.6) Qty. of Grease removed from anchorage: 1 gal.

(9.7) Damage during cap removal or anchorage cleaning? Yes No Describe: None

(10.3) Method of Tendon Protection: Reinstalled the greascan w/a new gasket

(10.4) Amount of Grease Loss from Tendon duct: 3 gal.

(10.5) Total quantity of lost grease (below):

(8.8) .5 + (8.9) .5 + (8.9.1) 5 + (9.6) 1 + (10.4) 3 = 10 TOTAL

(11.1.2) Document TOTAL grease lost on Data Sheet 12.1, GREASE REPLACEMENT. Yes No

Reviewed:

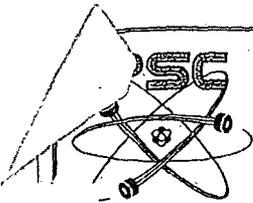
[Signature]

Level:

II

Date:

8-17-09



Gasket Repair

Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(7.2) Tendon No.: V-10 Tendon End: Gallery Shop Field

Grease Cap Removal

(7.5) Date Removal Started: 8-21-09 Q.C. Signoff

(7.6) Dry Ice Used on Grease Cap and/or Anchorage Yes No

(7.7) Temp. of Concrete: 84 °F Thermometer No.: ST-83 Re-Cal Date: 3-26-09 ^{10 6/15 11/26/10}

Ambient Temp.: 82 °F Thermometer No.: PK-104 Re-Cal Date: 7-27-09 ^{10 6/15 11/26/10}

(8.4) Anchorhead I.D.: N/A Anchorhead Verification: Match N/A No-Match

(8.5) Grease Coating

| | | | | | | | |
|--------------------------------|----------|-------------------------------------|---------|--------------------------|----------|--------------------------|---|
| Grease Cap - | Complete | <input checked="" type="checkbox"/> | Partial | <input type="checkbox"/> | Uncoated | <input type="checkbox"/> | % |
| Buttonheads - | Complete | <input checked="" type="checkbox"/> | Partial | <input type="checkbox"/> | Uncoated | <input type="checkbox"/> | % |
| Anchorhead - | Complete | <input checked="" type="checkbox"/> | Partial | <input type="checkbox"/> | Uncoated | <input type="checkbox"/> | % |
| Shims - | Complete | <input checked="" type="checkbox"/> | Partial | <input type="checkbox"/> | Uncoated | <input type="checkbox"/> | % |
| Bearing Plate - ⁽¹⁾ | Complete | <input checked="" type="checkbox"/> | Partial | <input type="checkbox"/> | Uncoated | <input type="checkbox"/> | % |

⁽¹⁾ - Limited within the inside diameter of the grease cap.

6) Unusual Conditions: None

(8.7) Grease Color Match: Yes No Grease Color: Dark brown

Comments: None

(8.8) Quantity of Samples N/A Quart Samples identified per Step 8.8.1? Yes N/A No

Location of Removal N/A A.H. B.P. Shims Cap Duct

(8.9) Qty. of Grease lost during removal of cap: 0 gal.

(8.9.1) Grease from cap to be reused? Yes No Qty. of Grease removed from cap: 4 gal.

(9.6) Qty. of Grease removed from anchorage: .25 gal.

(9.7) Damage during cap removal or anchorage cleaning? Yes No Describe: N/A

(10.3) Method of Tendon Protection: Reinstalled the grease can w/a new gasket

(10.4) Amount of Grease Loss from Tendon duct: 48.75 gal.

(10.5) Total quantity of lost grease (below):

(8.8) 0 + (8.9) 0 + (8.9.1) 4 + (9.6) .25 + (10.4) 48.75 = 53 TOTAL

(11.1.2) Document TOTAL grease lost on Data Sheet 12.1, GREASE REPLACEMENT. Yes No

Reviewed: W. Ponce Robles Level: II Date: 8-21-09



GREASE LEAK REPAIR

Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(7.2) Tendon No.: V55 Tendon End: FIELD / BOTTOM Shop Field

Grease Cap Removal

(7.5) Date Removal Started: 11-19-09 Q.C. Signoff

(7.6) Dry Ice Used on Grease Cap and/or Anchorage Yes No

(7.7) Temp. of Concrete: 68 °F Thermometer No.: ST-82 Re-Cal Date: 7-27-10
Ambient Temp.: 74 °F Thermometer No.: PK104 Re-Cal Date: 7-27-10

(8.4) Anchorhead I.D.: N/A Anchorhead Verification Match No-Match

(8.5) Grease Coating

| Component | Complete | Partial | Uncoated | % |
|--------------------------------|-------------------------------------|--------------------------|--------------------------|---|
| Grease Cap | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Bulthead | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Anchorhead | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Shims | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Bearing Plate - ⁽¹⁾ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

⁽¹⁾ - Limited within the inside diameter of the grease cap.

6) Unusual Conditions: GREASE LEAKING FROM GASKET

(8.7) Grease Color Match: Yes No Grease Color: DARK BROWN
Comments: NONE

(8.8) Quantity of Samples N/A Quart Samples identified per Step 8.8.1? Yes No
Location of Removal N/A A.H. B.P. Shims Cap Duct

(8.9) Qty. of Grease lost during removal of cap: 0 gal.

(8.9.1) Grease from cap to be reused? Yes No Qty. of Grease removed from cap: 44 gal.

(9.6) Qty. of Grease removed from anchorage: 0 gal.

(9.7) Damage during cap removal or anchorage cleaning? Yes No Describe: NONE

(10.3) Method of Tendon Protection: REPLACED GASKET + CAP INSTALLED

(10.4) Amount of Grease Loss from Tendon duct: 0 gal.

(10.5) Total quantity of lost grease (below):
(8.8) 0 + (8.9) 0 + (8.9.1) 44 + (9.6) 0 + (10.4) 0 = 44 TOTAL

(11.1.2) Document TOTAL grease lost on Data Sheet 12.1. GREASE REPLACEMENT. Yes No

Reviewed: A. Bussone Level: III Date: 11/26/10



Gasket Repair

Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(7.2) Tendon No.: V-60 Tendon End: Gallery Shop Field

Grease Cap Removal

(7.5) Date Removal Started: 8-21-09 Q.C. Signoff

(7.6) Dry Ice Used on Grease Cap and/or Anchorage Yes No

(7.7) Temp. of Concrete: 84 °F Thermometer No.: ST-83 Re-Cal Date: 3-26-09¹⁰ ^{06/12/10}
 Ambient Temp.: 82 °F Thermometer No.: PK-104 Re-Cal Date: 7-27-09¹⁰ ^{06/12/10}

(8.4) Anchorhead I.D.: N/A Anchorhead Verification: Match N/A No-Match

(8.5) Grease Coating

| | | | | | | | |
|--------------------------------|----------|-------------------------------------|---------|--------------------------|----------|--------------------------|---|
| Grease Cap - | Complete | <input checked="" type="checkbox"/> | Partial | <input type="checkbox"/> | Uncoated | <input type="checkbox"/> | % |
| Buttonheads - | Complete | <input checked="" type="checkbox"/> | Partial | <input type="checkbox"/> | Uncoated | <input type="checkbox"/> | % |
| Anchorhead - | Complete | <input checked="" type="checkbox"/> | Partial | <input type="checkbox"/> | Uncoated | <input type="checkbox"/> | % |
| Shims - | Complete | <input checked="" type="checkbox"/> | Partial | <input type="checkbox"/> | Uncoated | <input type="checkbox"/> | % |
| Bearing Plate - ⁽¹⁾ | Complete | <input checked="" type="checkbox"/> | Partial | <input type="checkbox"/> | Uncoated | <input type="checkbox"/> | % |

⁽¹⁾ - Limited within the inside diameter of the grease cap.

(6) Unusual Conditions: None

(8.7) Grease Color Match: Yes No Grease Color: Dark brown
 Comments: Dark brown None

(8.8) Quantity of Samples N/A Quart Samples identified per Step 8.8.1? Yes N/A No
 Location of Removal N/A A.H. B.P. Shims Cap Duct

(8.9) Qty. of Grease lost during removal of cap: 0 gal.

(8.9.1) Grease from cap to be reused? Yes No Qty. of Grease removed from cap: 4 gal.

(9.6) Qty. of Grease removed from anchorage: .25 gal.

(9.7) Damage during cap removal or anchorage cleaning? Yes No Describe: N/A

(10.3) Method of Tendon Protection: Reinstalled the grease can w/a new gasket

(10.4) Amount of Grease Loss from Tendon duct: 30.00 gal.

(10.5) Total quantity of lost grease (below):
 (8.8) 0 + (8.9) 0 + (8.9.1) 4 + (9.6) .25 + (10.4) 30.00 = 34.25 TOTAL

(11.1.2) Document TOTAL grease lost on Data Sheet 12.1, GREASE REPLACEMENT. Yes No

Reviewed: W. Lance Polite Level: II Date: 8-21-09



Gasket Repair

Project: TMI 35TH YEAR TENDON SURVEILLANCE

UNIT 1

(7.2) Tendon No.: V-62

Tendon End: Gallery

Shop

Field

Grease Cap Removal

(7.5) Date Removal Started: 8-21-09

Q.C. Signoff

(7.6) Dry Ice Used on Grease Cap and/or Anchorage Yes No

(7.7) Temp. of Concrete: 84 °F Thermometer No.: ST-83

Re-Cal Date: 3-26-09 10 ^{off} 12/10

Ambient Temp.: 82 °F Thermometer No.: PK-104

Re-Cal Date: 7-27-09 10 ^{off} 12/10

268 8-21-09

(8.4) Anchorhead I.D.: N/A Anchorhead Verification: Match N/A No-Match

268 8-21-09

(8.5) Grease Coating

| Item | Complete | Partial | Uncoated | % |
|--------------------------------|-------------------------------------|--------------------------|--------------------------|---|
| Grease Cap - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Buttonheads - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Anchorhead - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Shims - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Bearing Plate - ⁽¹⁾ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

⁽¹⁾ - Limited within the inside diameter of the grease cap.

268 8-21-09

268 8-21-09

(8) Unusual Conditions: None

268 8-21-09

(8.7) Grease Color Match: Yes No

Grease Color: Dark Brown

Comments: None

268 8-21-09

(8.8) Quantity of Samples N/A Quart Samples identified per Step 8.8.1? Yes N/A No

Location of Removal N/A A.H. B.P. Shims Cap Duct

268 8-21-09

(8.9) Qty. of Grease lost during removal of cap: 0 gal.

268 8-21-09

(8.9.1) Grease from cap to be reused? Yes No Qty. of Grease removed from cap: 4 gal.

268 8-21-09

(9.6) Qty. of Grease removed from anchorage: .25 gal.

268 8-21-09

(9.7) Damage during cap removal or anchorage cleaning? Yes No Describe: N/A

268 8-21-09

(10.3) Method of Tendon Protection: Reinstalled the grease can w/a new gasket

268 8-21-09

(10.4) Amount of Grease Loss from Tendon duct: 42.25 gal.

268 8-21-09

(10.5) Total quantity of lost grease (below):

(8.8) 0 + (8.9) 0 + (8.9.1) 4 + (9.6) .25 + (10.4) 42.25 = 46.50 TOTAL

268 8-21-09

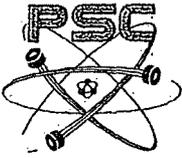
(11.1.2) Document TOTAL grease lost on Data Sheet 12.1, GREASE REPLACEMENT. Yes No

268 8-21-09

Reviewed: W. Lance Robb

Level: II

Date: 8-21-09



Gasket Repair

Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(7.2) Tendon No.: V-71 Tendon End: Gallery Shop Field

Grease Cap Removal

(7.5) Date Removal Started: 8-20-09 Q.C. Signoff

(7.6) Dry Ice Used on Grease Cap and/or Anchorage Yes No

(7.7) Temp. of Concrete: 84 °F Thermometer No.: ST-83 Re-Cal Date: 3-26-09 ¹⁰ CSB 1/26/10

Ambient Temp.: 82 °F Thermometer No.: PK-104 Re-Cal Date: 7-27-09 ¹⁰ CSB 1/26/10

(8.4) Anchorhead I.D.: N/A Anchorhead Verification: Match N/A No-Match

(8.5) Grease Coating

| | | | | | | | |
|--------------------------------|----------|-------------------------------------|---------|-------|----------|-------|---|
| Grease Cap - | Complete | <input checked="" type="checkbox"/> | Partial | _____ | Uncoated | _____ | % |
| Buttonheads - | Complete | <input checked="" type="checkbox"/> | Partial | _____ | Uncoated | _____ | % |
| Anchorhead - | Complete | <input checked="" type="checkbox"/> | Partial | _____ | Uncoated | _____ | % |
| Shims - | Complete | <input checked="" type="checkbox"/> | Partial | _____ | Uncoated | _____ | % |
| Bearing Plate - ⁽¹⁾ | Complete | <input checked="" type="checkbox"/> | Partial | _____ | Uncoated | _____ | % |

⁽¹⁾ - Limited within the inside diameter of the grease cap.

(8.6) Unusual Conditions: NONE

(8.7) Grease Color Match: Yes No Grease Color: Dark brown

Comments: NONE

(8.8) Quantity of Samples N/A Quart Samples identified per Step 8.8.1? Yes N/A No

Location of Removal N/A A.H. B.P. Shims Cap Duct

(8.9) Qty. of Grease lost during removal of cap: 0 gal.

(8.9.1) Grease from cap to be reused? Yes No Qty. of Grease removed from cap: 4 gal.

(9.6) Qty. of Grease removed from anchorage: .25 gal.

(9.7) Damage during cap removal or anchorage cleaning? Yes No Describe: N/A

(10.3) Method of Tendon Protection: Reinstalled the grease can w/a new gasket

(10.4) Amount of Grease Loss from Tendon duct: 41.25 gal.

(10.5) Total quantity of lost grease (below):
(8.8) 0 + (8.9) 0 + (8.9.1) 4 + (9.6) .25 + (10.4) 41.25 = 46 TOTAL

(11.1.2) Document TOTAL grease lost on Data Sheet 12.1, GREASE REPLACEMENT. Yes No

Reviewed: W. Bruce Robb Level: II Date: 8-21-09



GREASE LEAK REPAIR

Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(7.2) Tendon No.: V84 Tendon End: FIELD/BOTTOM Shop Field

Grease Cap Removal

(7.5) Date Removal Started: 11-19-09 Q.C. Signoff

(7.6) Dry Ice Used on Grease Cap and/or Anchorage Yes No

(7.7) Temp. of Concrete: 68 °F Thermometer No.: ST-82 Re-Cal Date: 7-27-10

Ambient Temp.: 74 °F Thermometer No.: PK104 Re-Cal Date: 7-27-10

(8.4) Anchorhead I.D.: N/A Anchorhead Verification: N/A Match No-Match

(8.5) Grease Coating

| Component | Complete | Partial | Uncoated | % |
|--------------------------------|------------|---------|----------|---|
| Grease Cap - | Complete ✓ | Partial | Uncoated | % |
| Buttonheads - | Complete ✓ | Partial | Uncoated | % |
| Anchorhead - | Complete ✓ | Partial | Uncoated | % |
| Shims - | Complete ✓ | Partial | Uncoated | % |
| Bearing Plate - ⁽¹⁾ | Complete ✓ | Partial | Uncoated | % |

⁽¹⁾ - Limited within the inside diameter of the grease cap.

6) Unusual Conditions: HEAVY RUST ON GREASE CAP FLANGE AND EDGE OF BEARING PLATE OUTSIDE BASKET AREA

(8.7) Grease Color Match: Yes No Grease Color: DARK BROWN

Comments: NONE

(8.8) Quantity of Samples N/A Quart Samples identified per Step 8.8.1? N/A Yes No

Location of Removal: N/A A.H. B.P. Shims Cap Duct

(8.9) Qty. of Grease lost during removal of cap: 0 gal.

(8.9.1) Grease from cap to be reused? Yes No Qty. of Grease removed from cap: 1/4 gal.

(9.6) Qty. of Grease removed from anchorage: 0 gal.

(9.7) Damage during cap removal or anchorage cleaning? Yes No Describe: NONE

(10.3) Method of Tendon Protection: REPLACED BASKET & CAP INSTALLED

(10.4) Amount of Grease Loss from Tendon duct: 0 gal.

(10.5) Total quantity of lost grease (below):

(8.8) 0 + (8.9) 0 + (8.9.1) 1/4 + (9.6) 0 + (10.4) 0 = 1/4 TOTAL

(11.1.2) Document TOTAL grease lost on Data Sheet 12.1, GREASE REPLACEMENT. Yes No

Reviewed: L. P. Bussone

Level: III

Date: 1/26/10



Gasket Repair

Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(7.2) Tendon No.: V-88 Tendon End: Gallery Shop Field

Grease Cap Removal

(7.5) Date Removal Started: 8-20-09 Q.C. Signoff

(7.6) Dry Ice Used on Grease Cap and/or Anchorage Yes No

(7.7) Temp. of Concrete: 84 °F Thermometer No.: ST-83 Re-Cal Date: 3-26-09¹⁰ *OKS 11/24/10*
 Ambient Temp.: 82 °F Thermometer No.: PK-104 Re-Cal Date: 7-27-09¹⁰ *OKS 11/24/10*

(7.8) Anchorhead I.D.: N/A Anchorhead Verification: Match N/A No-Match *2008 8-20-09*
2008 8-20-09

(8.5) Grease Coating

| | | | | | | | |
|--------------------------------|----------|-------------------------------------|---------|--------------------------|----------|--------------------------|---|
| Grease Cap - | Complete | <input checked="" type="checkbox"/> | Partial | <input type="checkbox"/> | Uncoated | <input type="checkbox"/> | % |
| Buttonheads - | Complete | <input checked="" type="checkbox"/> | Partial | <input type="checkbox"/> | Uncoated | <input type="checkbox"/> | % |
| Anchorhead - | Complete | <input checked="" type="checkbox"/> | Partial | <input type="checkbox"/> | Uncoated | <input type="checkbox"/> | % |
| Shims - | Complete | <input checked="" type="checkbox"/> | Partial | <input type="checkbox"/> | Uncoated | <input type="checkbox"/> | % |
| Bearing Plate - ⁽¹⁾ | Complete | <input checked="" type="checkbox"/> | Partial | <input type="checkbox"/> | Uncoated | <input type="checkbox"/> | % |

⁽¹⁾ - Limited within the inside diameter of the grease cap. *2008 8-20-09*

(6) Unusual Conditions: None *2008 8-20-09*

(8.7) Grease Color Match: Yes No Grease Color: Dark brown
 Comments: None *2008 8-20-09*

(8.8) Quantity of Samples N/A Quart Samples identified per Step 8.8.1? Yes N/A No
 Location of Removal N/A A.H. B.P. Shims Cap Duct *2008 8-20-09*

(8.9) Qty. of Grease lost during removal of cap: 0 gal. *2008 8-20-09*
 (8.9.1) Grease from cap to be reused? Yes No Qty. of Grease removed from cap: 4 gal. *2008 8-20-09*
 (9.6) Qty. of Grease removed from anchorage: .25 gal. *2008 8-20-09*
 (9.7) Damage during cap removal or anchorage cleaning? Yes No Describe: N/A *2008 8-20-09*

(10.3) Method of Tendon Protection: Reinstalled the grease can w/a new gasket *2008 8-20-09*
 (10.4) Amount of Grease Loss from Tendon duct: 49.31 gal. *2008 8-20-09*

(10.5) Total quantity of lost grease (below):
 (8.8) 0 + (8.9) 0 + (8.9.1) 4.0 + (9.6) .25 + (10.4) 49.31 = 53.56 TOTAL *2008 8-20-09*

(11.1.2) Document TOTAL grease lost on Data Sheet 12.1, GREASE REPLACEMENT. Yes No *2008 8-20-09*

Reviewed: W. Rene Pelt Level: II Date: 8-21-09



Gasket Repair

Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(7.2) Tendon No.: V-98 Tendon End: Gallery Shop Field

Grease Cap Removal

(7.5) Date Removal Started: 8-20-09 Q.C. Signoff

(7.6) Dry Ice Used on Grease Cap and/or Anchorage Yes No

(7.7) Temp. of Concrete: 84 °F Thermometer No.: ST-83 Re-Cal Date: 3-26-09¹⁰
Ambient Temp.: 82 °F Thermometer No.: PK-104 Re-Cal Date: 7-22-09¹⁰

(8.4) Anchorhead I.D.: N/A Anchorhead Verification: Match No-Match

(8.5) Grease Coating

| Item | Complete | Partial | Uncoated | % |
|--------------------------------|-------------------------------------|--------------------------|--------------------------|---|
| Grease Cap - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Buttonheads - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Anchorhead - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Shims - | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Bearing Plate - ⁽¹⁾ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

⁽¹⁾ - Limited within the inside diameter of the grease cap.

(6) Unusual Conditions: None

(8.7) Grease Color Match: Yes No Grease Color: Dark brown
Comments: None

(8.8) Quantity of Samples N/A Quart Samples identified per Step 8.8.1? Yes No
Location of Removal N/A A.H. B.P. Shims Cap Duct

(8.9) Qty. of Grease lost during removal of cap: 0 gal.

(8.9.1) Grease from cap to be reused? Yes No Qty. of Grease removed from cap: 4 gal.

(9.6) Qty. of Grease removed from anchorage: .25 gal.

(9.7) Damage during cap removal or anchorage cleaning? Yes No Describe: N/A

(10.3) Method of Tendon Protection: Reinstalled the grease can w/a new gasket

(10.4) Amount of Grease Loss from Tendon duct: 36.03 gal.

(10.5) Total quantity of lost grease (below):
(8.8) 0 + (8.9) 0 + (8.9.1) 4 + (9.6) .25 + (10.4) 36.03 = 40.28 TOTAL

(11.1.2) Document TOTAL grease lost on Data Sheet 12.1, GREASE REPLACEMENT: Yes No

Reviewed: W. Bruce Cobb Level: II Date: 8-21-09



Gasket Repair

Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(7.2) Tendon No.: V-99 Tendon End: Gallery Shop Field

Grease Cap Removal

(7.5) Date Removal Started: 8-20-09 Q.C. Signoff
 (7.6) Dry Ice Used on Grease Cap and/or Anchorage Yes No
 (7.7) Temp. of Concrete: 84 °F Thermometer No.: ST-83 Re-Cal Date: 3-26-09¹⁰ AFS 1/26/10
 Ambient Temp.: 82 °F Thermometer No.: PK-104 Re-Cal Date: 7-27-09¹⁰ AFS 1/26/10
 (8.4) Anchorhead I.D.: N/A Anchorhead Verification: Match N/A No-Match AFS 1/26/10

(8.5) Grease Coating

| | | | | | | | |
|--------------------------------|----------|-------------------------------------|---------|--------------------------|----------|--------------------------|---|
| Grease Cap - | Complete | <input checked="" type="checkbox"/> | Partial | <input type="checkbox"/> | Uncoated | <input type="checkbox"/> | % |
| Buttonheads - | Complete | <input checked="" type="checkbox"/> | Partial | <input type="checkbox"/> | Uncoated | <input type="checkbox"/> | % |
| Anchorhead - | Complete | <input checked="" type="checkbox"/> | Partial | <input type="checkbox"/> | Uncoated | <input type="checkbox"/> | % |
| Shims - | Complete | <input checked="" type="checkbox"/> | Partial | <input type="checkbox"/> | Uncoated | <input type="checkbox"/> | % |
| Bearing Plate - ⁽¹⁾ | Complete | <input checked="" type="checkbox"/> | Partial | <input type="checkbox"/> | Uncoated | <input type="checkbox"/> | % |

⁽¹⁾ - Limited within the inside diameter of the grease cap.

(6) Unusual Conditions: None

(8.7) Grease Color Match: Yes No Grease Color: Dark brown
 Comments: None

(8.8) Quantity of Samples N/A Quart Samples identified per Step 8.8.1? Yes N/A No
 Location of Removal N/A A.H. B.P. Shims Cap Duct

(8.9) Qty. of Grease lost during removal of cap: 0 gal.

(8.9.1) Grease from cap to be reused? Yes No Qty. of Grease removed from cap: 4 gal.

(9.6) Qty. of Grease removed from anchorage: .25 gal.

(9.7) Damage during cap removal or anchorage cleaning? Yes No Describe: N/A

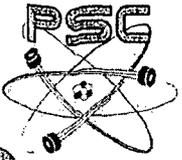
(10.3) Method of Tendon Protection: Reinstalled the grease can w/a new gasket

(10.4) Amount of Grease Loss from Tendon duct: 40 gal.

(10.5) Total quantity of lost grease (below):
 (8.8) 0 + (8.9) 0 + (8.9.1) 4 + (9.6) .25 + (10.4) 40 = 44.25 TOTAL

(11.1.2) Document TOTAL grease lost on Data Sheet 12.1, GREASE REPLACEMENT. Yes No

Reviewed: W. Lance Rother Level: II Date: 8-21-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(8.1) Tendon No.: H13-41 Tendon End: SHOP/BUILD Shop Field

(9.5.1) DURING REMOVAL OF GREASE CAP

Water Detected: Yes No Quantity: n/a Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: n/a

(9.6.1) INSIDE GREASE CAP

Water Detected: Yes No Quantity: n/a Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: n/a

(9.7.1) AROUND TENDON ANCHORAGE COMPONENTS

Water Detected: Yes No Quantity: n/a Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: n/a

(9.9.1) DURING DETENSIONING n/a

Water Detected: n/a Yes No Quantity: n/a Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: n/a

(11.1) NOTIFICATION

Exelon Notified: n/a Yes No Individual Name: n/a Date: n/a

SAMPLE IDENTIFICATION AND STORAGE

(12.2) Samples adequately identified: n/a Yes No

(12.3) Samples stored at: n/a

QC Signoff: Paul P. Osborne Level: II Date: 11/2-09

QC Reviewed: G. Bussoni Level: III Date: 2/2/10



Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(8.1) Tendon No.: H13-41 Tendon End: Butt. 3 Shop Field

(9.5.1) DURING REMOVAL OF GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: None

(9.6.1) INSIDE GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: None

(9.7.1) AROUND TENDON ANCHORAGE COMPONENTS

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: None

(9.9.1) DURING DETENSIONING N/A

Water Detected: Yes No Quantity: _____ Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: _____

(11.1) NOTIFICATION N/A

Exelon Notified: Yes No Individual Name: _____ Date: _____

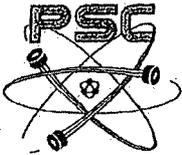
SAMPLE IDENTIFICATION AND STORAGE N/A

(12.2) Samples adequately identified: Yes No

(12.3) Samples stored at: _____

QC Signoff: W. Rance Peltier Level: II Date: 8-26-09

QC Reviewed: Tammy C. Smith Level: I Date: 8-26-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(8.1) Tendon No.: H24-33 Tendon End: Bottom Shop Field

(9.5.1) DURING REMOVAL OF GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: NONE

(9.6.1) INSIDE GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: NONE

(9.7.1) AROUND TENDON ANCHORAGE COMPONENTS

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: NONE

(9.9.1) DURING DETENSIONING N/A

Water Detected: Yes No Quantity: _____ Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: _____

(11.1) NOTIFICATION N/A

Exelon Notified: Yes No Individual Name: _____ Date: _____

SAMPLE IDENTIFICATION AND STORAGE N/A

(12.2) Samples adequately identified: Yes No

(12.3) Samples stored at: _____

QC Signoff: W. Bruce Patton Level: II Date: 8-11-09

QC Reviewed: James C. [Signature] Level: I Date: 8-11-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE

UNIT 1

(8.1) Tendon No.: H 24-33

Tendon End: Butt. 2

Shop

Field

(9.5.1) DURING REMOVAL OF GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A

Moisture Description: Observable Moisture Significant Moisture Not Applicable

Comments: None

(9.6.1) INSIDE GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A

Moisture Description: Observable Moisture Significant Moisture Not Applicable

Comments: None

(9.7.1) AROUND TENDON ANCHORAGE COMPONENTS

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A

Moisture Description: Observable Moisture Significant Moisture Not Applicable

Comments: None

(9.9.1) DURING DETENSIONING

Water Detected: Yes No Quantity: N/A Sample Taken: Yes No N/A

Moisture Description: Observable Moisture Significant Moisture Not Applicable

Comments: _____

(11.1) NOTIFICATION

Exelon Notified: Yes No Individual Name: N/A Date: _____

SAMPLE IDENTIFICATION AND STORAGE

(12.2) Samples adequately identified: Yes No

(12.3) Samples stored at: _____

QC Signoff: [Signature]

Level: I

Date: 8-24-09

QC Reviewed: [Signature]

Level: II

Date: 8-24-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(8.1) Tendon No.: H 46-50 Tendon End: Butt. 6 Shop Field

(9.5.1) DURING REMOVAL OF GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A

Moisture Description: Observable Moisture Significant Moisture Not Applicable

Comments: NONE

(9.6.1) INSIDE GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A

Moisture Description: Observable Moisture Significant Moisture Not Applicable

Comments: NONE

(9.7.1) AROUND TENDON ANCHORAGE COMPONENTS

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A

Moisture Description: Observable Moisture Significant Moisture Not Applicable

Comments: NONE

(9.9.1) DURING DETENSIONING N/A

Water Detected: Yes No Quantity: _____ Sample Taken: Yes No N/A

Moisture Description: Observable Moisture Significant Moisture Not Applicable

Comments: _____

(11.1) NOTIFICATION N/A

Exelon Notified: Yes No Individual Name: _____ Date: _____

SAMPLE IDENTIFICATION AND STORAGE N/A

(12.2) Samples adequately identified: Yes No

(12.3) Samples stored at: _____

QC Signoff: W. Rance Pollock

Level: II

Date: 8-12-09

QC Reviewed: Timothy C. Datta

Level: I

Date: 8-13-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(8.1) Tendon No.: H46-50 Tendon End: Butt. 4 Shop Field

(9.5.1) DURING REMOVAL OF GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: None

(9.6.1) INSIDE GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: None

(9.7.1) AROUND TENDON ANCHORAGE COMPONENTS

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: None

(9.9.1) DURING DETENSIONING N/A

Water Detected: Yes No Quantity: _____ Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: _____

(11.1) NOTIFICATION N/A

Exelon Notified: Yes No Individual Name: _____ Date: _____

SAMPLE IDENTIFICATION AND STORAGE N/A

(12.2) Samples adequately identified: Yes No

(12.3) Samples stored at: _____

QC Signoff: W. Rance Rabe Level: II Date: 8-11-09

QC Reviewed: Tommy C. Jots Level: I Date: 8-11-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE

UNIT 1

(8.1) Tendon No.: H51-49 Tendon End: Burr 1 Shop Field

(9.5.1) DURING REMOVAL OF GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: N/A

(9.6.1) INSIDE GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: N/A

(9.7.1) AROUND TENDON ANCHORAGE COMPONENTS

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: N/A

(9.9.1) DURING DETENSIONING

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: N/A

(11.1) NOTIFICATION

Exelon Notified N/A Yes No Individual Name: N/A Date: N/A

SAMPLE IDENTIFICATION AND STORAGE

(12.2) Samples adequately identified N/A Yes No

(12.3) Samples stored at: N/A

QC Signoff: P. O'Hea Level: II Date: 11-11-09

Reviewed: J. Bussone Level: III Date: 2/2/10



Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(8.1) Tendon No.: H51-49 Tendon End: Bottom Shop Field

(9.5.1) DURING REMOVAL OF GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A

Moisture Description: Observable Moisture Significant Moisture Not Applicable

Comments: NONE WRR 8-26-09

(9.6.1) INSIDE GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A

Moisture Description: Observable Moisture Significant Moisture Not Applicable

Comments: NONE WRR 8-26-09

(9.7.1) AROUND TENDON ANCHORAGE COMPONENTS

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A

Moisture Description: Observable Moisture Significant Moisture Not Applicable

Comments: NONE WRR 8-26-09

(9.9.1) DURING DETENSIONING

Water Detected: Yes No Quantity: N/A Sample Taken: Yes No N/A

Moisture Description: Observable Moisture Significant Moisture Not Applicable

Comments: _____

(11.1) NOTIFICATION

Exelon Notified: Yes No Individual Name: N/A Date: N/A

SAMPLE IDENTIFICATION AND STORAGE

(12.2) Samples adequately identified: Yes No

(12.3) Samples stored at: N/A

QC Signoff: [Signature] Level: II Date: 11-11-09

QC Reviewed: [Signature] Level: II Date: 2-25-10



Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(8.1) Tendon No.: H62-2C Tendon End: Butt. 6 Shop Field

(9.5.1) DURING REMOVAL OF GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: NONE

(9.6.1) INSIDE GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: NONE

(9.7.1) AROUND TENDON ANCHORAGE COMPONENTS

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: NONE

(9.9.1) DURING DETENSIONING N/A

Water Detected: Yes No Quantity: _____ Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: _____

(11.1) NOTIFICATION N/A

Exelon Notified: Yes No Individual Name: _____ Date: _____

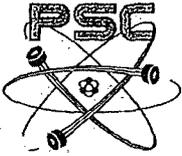
SAMPLE IDENTIFICATION AND STORAGE N/A

(12.2) Samples adequately identified: Yes No

(12.3) Samples stored at: _____

QC Signoff: W. Lance Pabst Level: II Date: 8-12-09

QC Reviewed: Tommy C. Holt Level: I Date: 8-13-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(8.1) Tendon No.: H62-26 Tendon End: Buttress 2 Shop Field

(9.5.1) DURING REMOVAL OF GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: NONE

(9.6.1) INSIDE GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: NONE

(9.7.1) AROUND TENDON ANCHORAGE COMPONENTS

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: NONE

(9.9.1) DURING DETENSIONING N/A

Water Detected: Yes No Quantity: _____ Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: _____

(11.1) NOTIFICATION N/A

Exelon Notified: Yes No Individual Name: _____ Date: _____

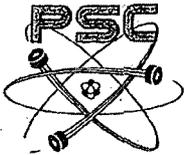
SAMPLE IDENTIFICATION AND STORAGE N/A

(12.2) Samples adequately identified: Yes No

(12.3) Samples stored at: _____

QC Signoff: W. Rance Robler Level: II Date: 8-28-09

QC Reviewed: Jeffrey C. Ditt Level: I Date: 8-28-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(8.1) Tendon No.: V-11 Tendon End: Butt. 1 Shop Field

(9.5.1) DURING REMOVAL OF GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: None

(9.6.1) INSIDE GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: None

(9.7.1) AROUND TENDON ANCHORAGE COMPONENTS

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: None

(9.9.1) DURING DETENSIONING

Water Detected: Yes No Quantity: N/A Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: N/A

(11.1) NOTIFICATION

Exelon Notified: Yes No Individual Name: N/A Date: N/A

SAMPLE IDENTIFICATION AND STORAGE

(12.2) Samples adequately identified: Yes No

(12.3) Samples stored at N/A

QC Signoff: [Signature] Level: I Date: 8-17-09

QC Reviewed: [Signature] Level: II Date: 8-18-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(8.1) Tendon No.: V-11 Tendon End: Gallery Shop Field

(9.5.1) DURING REMOVAL OF GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: None

(9.6.1) INSIDE GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: NONE

(9.7.1) AROUND TENDON ANCHORAGE COMPONENTS

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: NONE

(9.9.1) DURING DETENSIONING N/A

Water Detected: Yes No Quantity: _____ Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: _____

(11.1) NOTIFICATION N/A

Exelon Notified: Yes No Individual Name: _____ Date: _____

SAMPLE IDENTIFICATION AND STORAGE N/A

(12.2) Samples adequately identified: Yes No

(12.3) Samples stored at: _____

QC Signoff: W. Rance Riddle Level: II Date: 8-13-09

QC Reviewed: Jeremy C. B... Level: I Date: 8-13-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(8.1) Tendon No.: V-32 Tendon End: Butt. 2 Shop Field

(9.5.1) DURING REMOVAL OF GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: None

(9.6.1) INSIDE GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: None

(9.7.1) AROUND TENDON ANCHORAGE COMPONENTS

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: None

(9.9.1) DURING DETENSIONING

Water Detected: Yes No Quantity: N/A Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: N/A

(11.1) NOTIFICATION

Exelon Notified: Yes No Individual Name: N/A Date: _____

SAMPLE IDENTIFICATION AND STORAGE

(12.2) Samples adequately identified: Yes No

(12.3) Samples stored at: N/A

QC Signoff: Tummy C. D. [Signature]

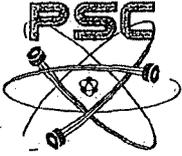
Level: I

Date: 8-14-09

QC Reviewed: W. Lance Robb [Signature]

Level: II

Date: 8-20-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(8.1) Tendon No.: V-32 Tendon End: Gallery Shop Field

(9.5.1) DURING REMOVAL OF GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: NONE

(9.6.1) INSIDE GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: NONE

(9.7.1) AROUND TENDON ANCHORAGE COMPONENTS

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: NONE

(9.9.1) DURING DETENSIONING N/A

Water Detected: Yes No Quantity: _____ Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: _____

(11.1) NOTIFICATION N/A

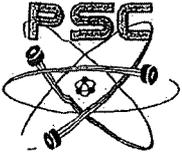
Exelon Notified: Yes No Individual Name: _____ Date: _____

SAMPLE IDENTIFICATION AND STORAGE N/A

(12.2) Samples adequately identified: Yes No

(12.3) Samples stored at: _____

QC Signoff: W. Lance Robb Level: II Date: 8-13-09
QC Reviewed: Tommy C. Duda Level: I Date: 8-13-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE

UNIT 1

(8.1) Tendon No.: V-90

Tendon End: Top Butt 4
710 2-25-10

Shop

Field

(9.5.1) DURING REMOVAL OF GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A

Moisture Description: Observable Moisture Significant Moisture Not Applicable

Comments: None

(9.6.1) INSIDE GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A

Moisture Description: Observable Moisture Significant Moisture Not Applicable

Comments: None

(9.7.1) AROUND TENDON ANCHORAGE COMPONENTS

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A

Moisture Description: Observable Moisture Significant Moisture Not Applicable

Comments: None

(9.9.1) DURING DETENSIONING

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A

Moisture Description: Observable Moisture Significant Moisture Not Applicable

Comments: None

(11.1) NOTIFICATION N/A

Exelon Notified: Yes No Individual Name: _____ Date: _____

SAMPLE IDENTIFICATION AND STORAGE N/A

(12.2) Samples adequately identified: Yes No

(12.3) Samples stored at: _____

QC Signoff: W. Lance Patton

Level: II

Date: 8-19-09

QC Reviewed: Jimmy C. Dubs

Level: I

Date: 8-20-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(8.1) Tendon No.: V-90 Tendon End: Bottom Shop Field

(9.5.1) DURING REMOVAL OF GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: NONE WRR 8-13-09

(9.6.1) INSIDE GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: NONE WRR 8-13-09

(9.7.1) AROUND TENDON ANCHORAGE COMPONENTS

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: NONE WRR 8-13-09

(9.9.1) DURING DETENSIONING

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: NONE WRR 8-19-09

(11.1) NOTIFICATION N/A

Exelon Notified: Yes No Individual Name: _____ Date: _____

SAMPLE IDENTIFICATION AND STORAGE N/A

(12.2) Samples adequately identified: Yes No

(12.3) Samples stored at: _____

QC Signoff: W. Lance Patton Level: II Date: 8-19-09

QC Reviewed: Timothy C. Jones Level: I Date: 8-20-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(8.1) Tendon No.: V-132 Tendon End: TOP Shop Field
WRP 8-13-09

(9.5.1) DURING REMOVAL OF GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: NONE WRP 8-13-09

(9.6.1) INSIDE GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: NONE WRP 8-13-09

(9.7.1) AROUND TENDON ANCHORAGE COMPONENTS

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: NONE WRP 8-13-09

(9.9.1) DURING DETENSIONING N/A

Water Detected: Yes No Quantity: _____ Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: _____

(11.1) NOTIFICATION N/A

Exelon Notified: Yes No Individual Name: _____ Date: _____

SAMPLE IDENTIFICATION AND STORAGE N/A

(12.2) Samples adequately identified: Yes No

(12.3) Samples stored at: _____

QC Signoff: W. Vance Robb Level: II Date: 8-17-09

QC Reviewed: Tommy C. Duke Level: I Date: 8-19-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(8.1) Tendon No.: V-132 Tendon End: Gallery Shop Field

(9.5.1) DURING REMOVAL OF GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: NONE

(9.6.1) INSIDE GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: NONE

(9.7.1) AROUND TENDON ANCHORAGE COMPONENTS

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: NONE

(9.9.1) DURING DETENSIONING N/A

Water Detected: Yes No Quantity: _____ Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: _____

(11.1) NOTIFICATION N/A

Exelon Notified: Yes No Individual Name: _____ Date: _____

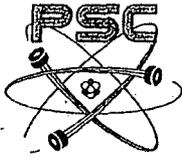
SAMPLE IDENTIFICATION AND STORAGE N/A

(12.2) Samples adequately identified: Yes No

(12.3) Samples stored at: _____

QC Signoff: W. Rance Robb Level: II Date: 8-13-09

QC Reviewed: Timothy C. Duda Level: I Date: 8-13-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(8.1) Tendon No.: D122 Tendon End: Butt. 5 Shop Field

(9.5.1) DURING REMOVAL OF GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: None

(9.6.1) INSIDE GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: None

(9.7.1) AROUND TENDON ANCHORAGE COMPONENTS

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: None

(9.9.1) DURING DETENSIONING N/A

Water Detected: Yes No Quantity: _____ Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: _____

(11.1) NOTIFICATION N/A

Exelon Notified: Yes No Individual Name: _____ Date: _____

SAMPLE IDENTIFICATION AND STORAGE N/A

(12.2) Samples adequately identified: Yes No

(12.3) Samples stored at: _____

QC Signoff: W. Rance Rollin Level: II Date: 8-17-09

QC Reviewed: Tommy C. Ditt Level: I Date: 8-17-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(8.1) Tendon No.: D-122 Tendon End: FIELD/NE Shop Field

(9.5.1) DURING REMOVAL OF GREASE CAP

Water Detected: Yes No Quantity: n/a Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: n/a

(9.6.1) INSIDE GREASE CAP

Water Detected: Yes No Quantity: n/a Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: n/a

(9.7.1) AROUND TENDON ANCHORAGE COMPONENTS

Water Detected: Yes No Quantity: n/a Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: n/a

(9.9.1) DURING DETENSIONING n/a

Water Detected: Yes No Quantity: n/a Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: n/a

(11.1) NOTIFICATION

Exelon Notified: n/a Yes No Individual Name: n/a Date: n/a

SAMPLE IDENTIFICATION AND STORAGE

(12.2) Samples adequately identified: n/a Yes No

(12.3) Samples stored at: n/a

QC Signoff: Paul P. O'Brien Level: III Date: 11-13-09

QC Reviewed: J. Busson Level: III Date: 2/2/10



Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(8.1) Tendon No.: D-225 Tendon End: Butt. 5 Shop Field

(9.5.1) DURING REMOVAL OF GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: None

(9.6.1) INSIDE GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: None

(9.7.1) AROUND TENDON ANCHORAGE COMPONENTS

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: None

(9.9.1) DURING DETENSIONING

Water Detected: Yes No Quantity: N/A Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: N/A

(11.1) NOTIFICATION

Exelon Notified: Yes No Individual Name: N/A Date: _____

SAMPLE IDENTIFICATION AND STORAGE

(12.2) Samples adequately identified: Yes No

(12.3) Samples stored at: N/A

QC Signoff: Tommy L. Soto Level: I Date: 8-11-09

QC Reviewed: W. Lance Rable Level: II Date: 8-11-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(8.1) Tendon No.: D225 Tendon End: Butt 2 Shop Field

(9.5.1) DURING REMOVAL OF GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: None

(9.6.1) INSIDE GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: None

(9.7.1) AROUND TENDON ANCHORAGE COMPONENTS

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: None

(9.9.1) DURING DETENSIONING

Water Detected: Yes No Quantity: N/A Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: N/A

(11.1) NOTIFICATION

Exelon Notified: Yes No Individual Name: N/A Date: N/A

SAMPLE IDENTIFICATION AND STORAGE

(12.2) Samples adequately identified: Yes No

(12.3) Samples stored at: N/A

QC Signoff: [Signature] Level: I Date: 8-12-09

QC Reviewed: [Signature] Level: II Date: 8-18-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(8.1) Tendon No.: 1-322 Tendon End: SHOP/NORTA Shop Field

(9.5.1) DURING REMOVAL OF GREASE CAP

Water Detected: Yes No Quantity: n/a Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: n/a

(9.6.1) INSIDE GREASE CAP

Water Detected: Yes No Quantity: n/a Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: n/a

(9.7.1) AROUND TENDON ANCHORAGE COMPONENTS

Water Detected: Yes No Quantity: n/a Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: n/a

(9.9.1) DURING DETENSIONING

Water Detected: Yes No Quantity: n/a Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: n/a

(11.1) NOTIFICATION

Exelon Notified Yes No Individual Name: n/a Date: n/a

SAMPLE IDENTIFICATION AND STORAGE

(12.2) Samples adequately identified: Yes No

(12.3) Samples stored at: n/a

QC Signoff: Paul P. O'Brien Level: II Date: 11-17-09

QC Reviewed: A. Bussoni Level: III Date: 2/2/10



Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(8.1) Tendon No.: D-322 Tendon End: Fixed/Sever Shop Field

(9.5.1) DURING REMOVAL OF GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: n/a

(9.6.1) INSIDE GREASE CAP

Water Detected: Yes No Quantity: n/a Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: n/a

(9.7.1) AROUND TENDON ANCHORAGE COMPONENTS

Water Detected: Yes No Quantity: n/a Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: n/a

(9.9.1) DURING DETENSIONING

Water Detected: Yes No Quantity: n/a Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: n/a

(11.1) NOTIFICATION

Exelon Notified: n/a Yes No Individual Name: n/a Date: n/a

SAMPLE IDENTIFICATION AND STORAGE

(12.2) Samples adequately identified: n/a Yes No

(12.3) Samples stored at: n/a

QC Signoff: [Signature] Level: II Date: 11-16-09

QC Reviewed: [Signature] Level: III Date: 2/2/10



Project: TMI 35TH YEAR TENDON SURVEILLANCE

UNIT 1

(8.1) Tendon No.: D-342

Tendon End: Butt. 6

Shop

Field

(9.5.1) DURING REMOVAL OF GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A

Moisture Description: Observable Moisture Significant Moisture Not Applicable

Comments: None

(9.6.1) INSIDE GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A

Moisture Description: Observable Moisture Significant Moisture Not Applicable

Comments: None

(9.7.1) AROUND TENDON ANCHORAGE COMPONENTS

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A

Moisture Description: Observable Moisture Significant Moisture Not Applicable

Comments: None

(9.9.1) DURING DETENSIONING

Water Detected: Yes No Quantity: N/A Sample Taken: Yes No N/A

Moisture Description: Observable Moisture Significant Moisture Not Applicable

Comments: N/A

(11.1) NOTIFICATION

Exelon Notified: Yes No Individual Name: N/A Date: N/A

SAMPLE IDENTIFICATION AND STORAGE

(12.2) Samples adequately identified: Yes No

(12.3) Samples stored at: N/A

QC Signoff: James C. Duda

Level: I

Date: 8-17-09

QC Reviewed: W. Lance Ralle

Level: II

Date: 8-17-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(8.1) Tendon No.: D-342 Tendon End: Butt. 4 Shop Field

(9.5.1) DURING REMOVAL OF GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: None

(9.6.1) INSIDE GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: None

(9.7.1) AROUND TENDON ANCHORAGE COMPONENTS

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: None

(9.9.1) DURING DETENSIONING N/A

Water Detected: Yes No Quantity: _____ Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: _____

(11.1) NOTIFICATION N/A

Exelon Notified: Yes No Individual Name: _____ Date: _____

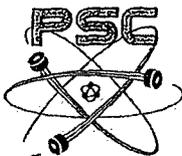
SAMPLE IDENTIFICATION AND STORAGE N/A

(12.2) Samples adequately identified: Yes No

(12.3) Samples stored at: _____

QC Signoff: W. Pance Level: II Date: 8-17-09

QC Reviewed: [Signature] Level: I Date: 8-17-09



Gasket Repair

Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(8.1) Tendon No.: V- 10 Tendon End: Gallery Shop Field

(9.5.1) DURING REMOVAL OF GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: None

(9.6.1) INSIDE GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: None

(9.7.1) AROUND TENDON ANCHORAGE COMPONENTS

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: None

(9.9.1) DURING DETENSIONING N/A

Water Detected: Yes No Quantity: _____ Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: _____

(11.1) NOTIFICATION N/A

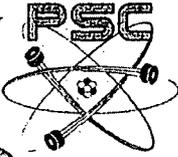
Exelon Notified: Yes No Individual Name: _____ Date: _____

SAMPLE IDENTIFICATION AND STORAGE N/A

(12.2) Samples adequately identified: Yes No
(12.3) Samples stored at: _____

QC Signoff: Timothy C. Duda Level: I Date: 8-21-09

QC Reviewed: W. Lance Robb Level: II Date: 8-21-09



GREASE LEAK REPAIR

Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(8.1) Tendon No.: V55 Tendon End: FIELD/BOTTOM Shop Field

(9.5.1) DURING REMOVAL OF GREASE CAP

Water Detected: Yes No Quantity: N/A Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: N/A

(9.6.1) INSIDE GREASE CAP

Water Detected: Yes No Quantity: N/A Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: N/A

(9.7.1) AROUND TENDON ANCHORAGE COMPONENTS

Water Detected: Yes No Quantity: N/A Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: N/A

(9.9.1) DURING DETENSIONING N/A

Water Detected: N/A Yes No Quantity: N/A Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: N/A

(11.1) NOTIFICATION

Exelon Notified N/A Yes No Individual Name: N/A Date: N/A

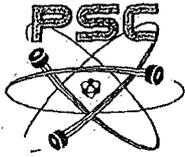
SAMPLE IDENTIFICATION AND STORAGE

(12.2) Samples adequately identified N/A Yes No

(12.3) Samples stored at: N/A

QC Signoff: *Daniel P. O'Hara* Level: II Date: 11-19-09

QC Reviewed: *J. Bussone* Level: III Date: 1/26/10



Gasket Repair

Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(8.1) Tendon No.: V- 60 Tendon End: Gallery Shop Field

(9.5.1) DURING REMOVAL OF GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: None

(9.6.1) INSIDE GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: None

(9.7.1) AROUND TENDON ANCHORAGE COMPONENTS

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: None

(9.9.1) DURING DETENSIONING N/A

Water Detected: Yes No Quantity: _____ Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: _____

(11.1) NOTIFICATION N/A

Exelon Notified: Yes No Individual Name: _____ Date: _____

SAMPLE IDENTIFICATION AND STORAGE N/A

(12.2) Samples adequately identified: Yes No

(12.3) Samples stored at: _____

QC Signoff: Timothy C. [Signature] Level: I Date: 8-21-09

QC Reviewed: W. Lance [Signature] Level: II Date: 8-21-09



Gasket Repair

Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(8.1) Tendon No.: V- 62 Tendon End: Gallery Shop Field

(9.5.1) DURING REMOVAL OF GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: None

(9.6.1) INSIDE GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: None

(9.7.1) AROUND TENDON ANCHORAGE COMPONENTS

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: None

(9.9.1) DURING DETENSIONING N/A

Water Detected: Yes No Quantity: _____ Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: _____

(11.1) NOTIFICATION N/A

Exelon Notified: Yes No Individual Name: _____ Date: _____

SAMPLE IDENTIFICATION AND STORAGE N/A

(12.2) Samples adequately identified: Yes No

(12.3) Samples stored at: _____

QC Signoff: Thomas C. Bata Level: I Date: 8-21-09

QC Reviewed: W. Lance Pollock Level: II Date: 8-21-09



Gasket Repair

Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(8.1) Tendon No.: V- 71 Tendon End: Gallery Shop Field

(9.5.1) DURING REMOVAL OF GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: None

(9.6.1) INSIDE GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: None

(9.7.1) AROUND TENDON ANCHORAGE COMPONENTS

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: None

(9.9.1) DURING DETENSIONING N/A

Water Detected: Yes No Quantity: _____ Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: _____

(11.1) NOTIFICATION N/A

Exelon Notified: Yes No Individual Name: _____ Date: _____

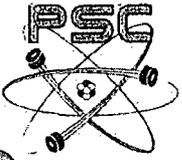
SAMPLE IDENTIFICATION AND STORAGE N/A

(12.2) Samples adequately identified: Yes No

(12.3) Samples stored at: _____

QC Signoff: Jimmy C. B... Level: I Date: 8-21-09

QC Reviewed: W. Lance Roberts Level: II Date: 8-21-09



GREASE LEAK REPAIR

Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(8.1) Tendon No.: 104 Tendon End: Field/Bottom Shop Field

(9.5.1) DURING REMOVAL OF GREASE CAP

Water Detected: Yes No Quantity: N/A Sample Taken: Yes No N/A
Moisture Description: N/A Observable Moisture Significant Moisture Not Applicable
Comments: N/A

(9.6.1) INSIDE GREASE CAP

Water Detected: Yes No Quantity: N/A Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: N/A

(9.7.1) AROUND TENDON ANCHORAGE COMPONENTS

Water Detected: Yes No Quantity: N/A Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: N/A

(9.9.1) DURING DETENSIONING N/A

Water Detected: N/A Yes No Quantity: N/A Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: N/A

(11.1) NOTIFICATION

Exelon Notified: N/A Yes No Individual Name: N/A Date: N/A

SAMPLE IDENTIFICATION AND STORAGE

(12.2) Samples adequately identified: N/A Yes No

(12.3) Samples stored at: N/A

QC Signoff: Daniel P. O'Shea Level: II Date: 11-19-09

QC Reviewed: L. Buscone Level: III Date: 1/26/10



Gasket Repair

Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(8.1) Tendon No.: V-88 Tendon End: Gallery Shop Field

(9.5.1) DURING REMOVAL OF GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: None

(9.6.1) INSIDE GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: None

(9.7.1) AROUND TENDON ANCHORAGE COMPONENTS

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: None

(9.9.1) DURING DETENSIONING N/A

Water Detected: Yes No Quantity: _____ Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: _____

(11.1) NOTIFICATION N/A

Exelon Notified: Yes No Individual Name: _____ Date: _____

SAMPLE IDENTIFICATION AND STORAGE N/A

(12.2) Samples adequately identified: Yes No

(12.3) Samples stored at: _____

QC Signoff: Timothy C. Smith Level: I Date: 8-20-09

QC Reviewed: W. Lance Robb Level: II Date: 8-21-09



Gasket Repair

Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(8.1) Tendon No.: V- 98 Tendon End: Gallery Shop Field

(9.5.1) DURING REMOVAL OF GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: None

(9.6.1) INSIDE GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: None

(9.7.1) AROUND TENDON ANCHORAGE COMPONENTS

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: None

(9.9.1) DURING DETENSIONING N/A

Water Detected: Yes No Quantity: _____ Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: _____

(11.1) NOTIFICATION N/A

Exelon Notified: Yes No Individual Name: _____ Date: _____

SAMPLE IDENTIFICATION AND STORAGE N/A

(12.2) Samples adequately identified: Yes No

(12.3) Samples stored at: _____

QC Signoff: [Signature] Level: I Date: 8-20-09

QC Reviewed: [Signature] Level: II Date: 8-21-09



Gasket Repair

Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

(8.1) Tendon No.: V- 99 Tendon End: Gallery Shop Field

(9.5.1) DURING REMOVAL OF GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: _____

(9.6.1) INSIDE GREASE CAP

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: _____

(9.7.1) AROUND TENDON ANCHORAGE COMPONENTS

Water Detected: Yes No Quantity: 0 Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: _____

(9.9.1) DURING DETENSIONING N/A

Water Detected: Yes No Quantity: _____ Sample Taken: Yes No N/A
Moisture Description: Observable Moisture Significant Moisture Not Applicable
Comments: _____

(11.1) NOTIFICATION N/A

Exelon Notified: Yes No Individual Name: _____ Date: _____

SAMPLE IDENTIFICATION AND STORAGE N/A

(12.2) Samples adequately identified: Yes No

(12.3) Samples stored at: _____

QC Signoff: *Jimmy C. [Signature]* Level: I Date: 8-20-09

QC Reviewed: *W. Lance [Signature]* Level: II Date: 8-21-09

DATA SHEET 9
Tendon Anchorage Area Moisture/Free Water Inspection

1301-9.1
Revision 20
Page 1 of 1

Inspection Period 35th yr.

| Tendon No. | Location | Moisture/Water (Yes or No) | Description of Free Moisture/Water-Quantity, Location | Date Insp. | Inspect. By (Initials) |
|-----------------|---------------------|----------------------------|---|----------------|------------------------|
| 1. <u>V-11</u> | <u>Bottom Field</u> | <u>NO</u> | <u>None</u> | <u>8-13-09</u> | <u>TCS</u> |
| 2. <u>V-11</u> | <u>Top Shop</u> | <u>NO</u> | <u>None</u> | <u>8-14-09</u> | <u>TCS</u> |
| 3. <u>V-32</u> | <u>Top Shop</u> | <u>NO</u> | <u>None</u> | <u>8-14-09</u> | <u>TCS</u> |
| 4. <u>V-32</u> | <u>Bottom Field</u> | <u>NO</u> | <u>None</u> | <u>8-13-09</u> | <u>TCS</u> |
| 5. <u>V-90</u> | <u>Top Shop</u> | <u>NO</u> | <u>None</u> | <u>8-14-09</u> | <u>TCS</u> |
| 6. <u>V-90</u> | <u>Bottom Field</u> | <u>NO</u> | <u>None</u> | <u>8-13-09</u> | <u>TCS</u> |
| 7. <u>V-132</u> | <u>Top Shop</u> | <u>NO</u> | <u>None</u> | <u>8-13-09</u> | <u>TCS</u> |
| 8. <u>V-132</u> | <u>Bottom Field</u> | <u>NO</u> | <u>None</u> | <u>8-13-09</u> | <u>TCS</u> |
| 9. | | | | | |
| 10. | | | | | |
| 11. | | | | | |
| 12. | | | | | |

NOTE:

Location:

Hoop Tendons:

Vertical Tendons:

Dome Tendons:

1 to 6 - Buttress number at end of tendon

T or B - Top or Bottom

1 to 6 - Number of buttress nearest to end of tendon

Cognizant QV Inspector

Verification By:

Tomas C. Ojeda

Date: 8-28-08

Cognizant Mech/Struct Engineer

Review By:

[Signature]

Date: 19 MAR 10

DATA SHEET 9
Tendon Anchorage Area Moisture/Free Water Inspection

1301-9.1
 Revision: 20
 Page 1 of 1

Inspection Period 35th yr

| Tendon No. | Location | Moisture/Water (Yes or No) | Description of Free Moisture/Water-Quantity, Location | Date Insp. | Inspect. By (Initials) |
|------------|-----------------|----------------------------|---|------------|------------------------|
| 1. H13-41 | Butt. 3 / Field | NO | None | 8-26-09 | TLS |
| 2. H13-41 | Shop / Butt 1 | NO | None | 11-12-09 | TLS |
| 3. H24-33 | Butt. 4 / Shop | No | None | 8-11-09 | TLS |
| 4. H24-33 | Butt. 2 / Field | NO | None | 8-24-09 | TLS |
| 5. H46-50 | Butt. 6 / Shop | No | None | 8-12-09 | TLS |
| 6. H46-50 | Butt. 4 / Field | No | None | 8-11-09 | TLS |
| 7. H51-49 | Butt. 5 / Field | NO | None | 11-11-09 | TLS |
| 8. H51-49 | Shop / Butt 1 | NO | None | 11-11-09 | TLS |
| 9. H62-26 | Butt. 6 / Shop | No | None | 8-12-09 | TLS |
| 10. H62-26 | Butt. 2 / Field | NO | None | 8-28-09 | TLS |
| 11. | | | | | |
| 12. | | | | | |

NOTE:

Location:
 Hoop Tendons:
 Vertical Tendons:
 Dome Tendons:

1 to 6 - Buttress number at end of tendon
 T or B - Top or Bottom
 1 to 6 - Number of buttress nearest to end of tendon

Cognizant QV Inspector

Verification By: TLS

Date: 8-28-08

Cognizant Mech/Struct Engineer

Review By: TLS

Date: 19 MAR 10

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DATA SHEET 9
Tendon Anchorage Area Moisture/Free Water Inspection

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 Revision 20
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Inspection Period 35th yr.

| Tendon No. | Location | Moisture/Water (Yes or No) | Description of Free Moisture/Water-Quantity, Location | Date Insp. | Inspect. By (Initials) |
|------------|--------------|----------------------------|---|------------|------------------------|
| 1. D-122 | Butt.5/shop | No | None | 8-17-09 | T.C.S. |
| 2. D-122 | Field/NE | No | None | 11-19-09 | S.P.O. |
| 3. D-225 | Butt.2/Field | No | None | 8-12-09 | T.C.S. |
| 4. D-225 | Butt.5/shop | No | None | 8-11-09 | T.C.S. |
| 5. D-322 | Shop/W | No | None | 11-16-07 | S.P.O. |
| 6. D-322 | Field/S | No | None | 11-16-07 | S.P.O. |
| 7. D-342 | Butt.4/Field | No | None | 8-17-09 | T.C.S. |
| 8. D-342 | Butt.6/shop | No | None | 8-17-09 | T.C.S. |
| 9. | | | | | |
| 10. | | | | | |
| 11. | | | | | |
| 12. | | | | | |

NOTE:

Location:
 Hoop Tendons:
 Vertical Tendons:
 Dome Tendons:

1 to 6 - Buttress number at end of tendon
 T or B - Top or Bottom
 1 to 6 - Number of buttress nearest to end of tendon

Cognizant QV Inspector
 Verification By: [Signature] Date: 8-29-08
 Cognizant Mech/Struct Engineer
 Review By: [Signature] Date: 19 MAR 10

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ENCLOSURE 6

Data Sheet 3
Anchorage Assembly Surveillance Inspection
Hoop Tendons

INSPECTION PERIOD 35 th. yr.

| TENDON | END | BUTTONHEADS | | | | STRESSING WASHER & NUT | | | SHIMS | | | BEARING PLATE | | | DATE INSP. | COMMENTS | INSP. BY CONTR. FOREMAN | VERIF. BY COGNIZANT QV INSP. |
|---------|----------|--|-------|----------|-------|------------------------|----------|-------|--------|----------|-------|---------------|----------|----|------------|------------------------------|-------------------------|------------------------------|
| | | NO. OF MISSING, BROKEN, AND/OR DAMAGED WIRES | CORR. | SKETCHED | CORR. | CRACKS | SKETCHED | CORR. | CRACKS | SKETCHED | CORR. | CRACKS | SKETCHED | | | | | |
| I.D. | Location | Corr. | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 1H12-41 | Butt. 3 | N | 0 | N | N | N | N | N | N | N | N | N | N | N | 8-26-09 | NONE | N/A | Timothy S. [Signature] |
| | Field | N | 0 | N | N | N | N | N | N | N | N | N | N | N | 11-13-09 | NONE | N/A | DPG ADDBH [Signature] |
| 2H12-41 | Butt. 1 | N | N | N | N | N | N | N | N | N | N | N | N | N | 11-13-09 | ADDBH | N/A | DPG [Signature] |
| | Shop | | | | | | | | | | | | | | | | | DPG [Signature] |
| 3H24-33 | Butt. 2 | N | 0 | N | N | N | N | N | N | N | N | N | N | N | 8-24-09 | NONE | N/A | Timothy S. [Signature] |
| | Field | | | | | | | | | | | | | | | | | |
| 4H24-33 | Butt. 4 | Y | 0 | N | N | N | N | N | Y | N | N | N | N | N | 8-10-09 | NONE | N/A | Timothy S. [Signature] |
| | Shop | | | | | | | | | | | | | | 8-22-09 | Light inactive rust on shims | | |
| 5H46-50 | Butt. 4 | N | 0 | N | N | N | N | N | N | N | N | N | N | N | 8-10-09 | NONE | N/A | Timothy S. [Signature] |
| | Field | | | | | | | | | | | | | | | | | |
| 6H46-50 | Butt. 6 | N | 0 | N | N | N | N | N | N | N | N | N | N | N | 8-12-09 | NONE | N/A | Timothy S. [Signature] |
| | Shop | | | | | | | | | | | | | | | | | |

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LEGEND

GENERAL

Y = YES
N = NO

TENDON END-LOCATION

IDENTIFY TENDON END (SHOP OR FIELD) AND NUMBER OF BUTTRESS (1 TO 6) AT TENDON END

ENCLOSURE 6

Data Sheet 3
Anchorage Assembly Surveillance Inspection
Hoop Tendons

INSPECTION PERIOD 35 th. yr.

| TENDON | END | BUTTONHEADS | | | | STRESSING WASHER & NUT | | | SHIMS | | | BEARING PLATE | | | DATE INSP. | COMMENTS | INSP. BY CONTR. FOREMAN | VERIF. BY COGNIZANT QV INSP. |
|---------|-----------------|--|-------|----------|--------------|------------------------|--------------|----------|--------------|----------|--------------|---------------|--------------|----|------------|---------------------|-------------------------|------------------------------|
| | | NO. OF MISSING, BROKEN, AND/OR DAMAGED WIRES | CORR. | SKETCHED | CORR. CRACKS | SKETCHED | CORR. CRACKS | SKETCHED | CORR. CRACKS | SKETCHED | CORR. CRACKS | SKETCHED | CORR. CRACKS | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 1H51-49 | Butt 5 Field | N | 0 | N | N | N | N | N | N | N | N | N | N | N | 8-26-09 | 1-split button head | N/A | Timothy [Signature] |
| 2H51-49 | Butt 1 shop | N | 0 | N | N | N | N | N | N | N | N | N | N | N | 11-2-09 | NONE | N/A | [Signature] |
| 3H62-26 | Butt 6 shop | N | 0 | N | N | N | N | N | N | N | N | N | N | N | 8-16-09 | NONE | N/A | Timothy [Signature] |
| 4H62-26 | Butt 2 Field | N | 0 | N | N | N | N | N | N | N | N | N | N | N | 8-28-04 | NONE | N/A | Timothy [Signature] |
| 5. | | | | | | | | | | | | | | | | | | |
| 6. | | | | | | | | | | | | | | | | | | |

LEGEND

GENERAL

Y = YES
N = NO

TENDON END-LOCATION

IDENTIFY TENDON END (SHOP OR FIELD) AND NUMBER OF BUTTRESS (1 TO 6) AT TENDON END

ENCLOSURE 6

Data Sheet 2
Anchorage Assembly Surveillance Inspection
Vertical Tendons

INSPECTION PERIOD 35 TH. Yr.

| TENDON | END | BUTTONHEADS | | | | | STRESSING WASHER & NUT | | | SHIMS | | | BEARING PLATE | | | DATE INSP. | COMMENTS | INSP. BY CONTR. FOREMAN | VERIF. BY COGNIZANT QV INSP. |
|---------|----------------|--|-------|----------|-------|--------|------------------------|-------|--------|----------|-------|--------|---------------|-------|---------|------------|----------|-------------------------|------------------------------|
| | | NO. OF MISSING, BROKEN, AND/OR DAMAGED WIRES | CORR. | SKETCHED | CORR. | CRACKS | SKETCHED | CORR. | CRACKS | SKETCHED | CORR. | CRACKS | SKETCHED | CORR. | CRACKS | | | | |
| I.D. | Location | Corr. | 4 | 5 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | |
| 1. U-11 | Bott. Field | N | 0 | N | N | N | N | N | N | N | N | N | N | N | 8-13-09 | NONE | N/A | <i>[Signature]</i> | |
| 2. U-11 | Top Shop | N | 0 | N | N | N | N | N | N | N | N | N | N | N | 8-18-09 | NONE | N/A | <i>[Signature]</i> | |
| 3. U-32 | Bott. Field | N | 0 | N | N | N | N | N | N | N | N | N | N | N | 8-17-09 | NONE | N/A | <i>[Signature]</i> | |
| 4. U-32 | Top Shop | N | 0 | N | N | N | N | N | N | N | N | N | N | N | 8-18-09 | NONE | N/A | <i>[Signature]</i> | |
| 5. U-90 | Top Shop | N | 0 | N | N | N | N | N | N | N | N | N | N | N | 8-18-09 | NONE | N/A | <i>[Signature]</i> | |
| 6. U-90 | Bott. Field | N | 0 | N | N | N | N | N | N | N | N | N | N | N | 8-13-09 | NONE | N/A | <i>[Signature]</i> | |

LEGEND

GENERAL

Y = YES
N = NO

TENDON END-LOCATION

IDENTIFY TENDON END (SHOP OR FIELD) AND TOP (T) OR BOTTOM (B) OF TENDON

ENCLOSURE 6

Data Sheet 2
Anchorage Assembly Surveillance Inspection
Vertical Tendons

INSPECTION PERIOD 35th yr.

| TENDON | END | CORR. | NO. OF MISSING, BROKEN, AND/OR DAMAGED WIRES | BUTTONHEADS | | | STRESSING WASHER & NUT | | | SHIMS | | | BEARING PLATE | | | DATE INSP. | COMMENTS | INSP. BY CONTR. FOREMAN | VERIF. BY COGNIZANT QV INSP. |
|----------|----------------|-------|--|-------------|----------|----------|------------------------|--------|----------|-------|--------|----------|---------------|--------|----------|------------|----------|-------------------------|------------------------------|
| | | | | CORR. | SKETCHED | SKETCHED | CORR. | CRACKS | SKETCHED | CORR. | CRACKS | SKETCHED | CORR. | CRACKS | SKETCHED | | | | |
| 1 | 2 | 3 | 4 | 5 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | |
| 1. V-132 | TOP shop | N | 0 | N | N | N | N | N | N | N | N | N | N | N | 8-13-09 | NONE | N/A | [Signature] | |
| 2. V-132 | Bott. field | N | 0 | N | N | N | N | N | N | N | N | N | N | N | 8-13-09 | NONE | N/A | [Signature] | |
| 3. | | | | | | | | | | | | | | | | | | | |
| 4. | | | | | | | | | | | | | | | | | | | |
| 5. | | | | | | | | | | | | | | | | | | | |
| 6. | | | | | | | | | | | | | | | | | | | |

LEGEND

GENERAL

Y = YES
N = NO

TENDON END-LOCATION

IDENTIFY TENDON END (SHOP OR FIELD) AND TOP (T) OR BOTTOM (B) OF TENDON

ENCLOSURE 6

Data Sheet 1
Anchorage Assembly Surveillance Inspection
Dome Tendons

INSPECTION PERIOD 35th. yr.

| TENDON | END | BUTTONHEADS | | | STRESSING WASHER & NUT | | | SHIMS | | | BEARING PLATE | | | DATE INSP. | COMMENTS | INSP. BY CONTR. FOREMAN | VERIF. BY COGNIZANT QV INSP. | |
|---------|---------------------|--|-------|----------|------------------------|----------|-------|----------|-------|----------|---------------|----------|----|------------|----------|-------------------------|------------------------------|--------------------|
| | | NO. OF MISSING, BROKEN, AND/OR DAMAGED WIRES | CORR. | SKETCHED | CORR. | SKETCHED | CORR. | SKETCHED | CORR. | SKETCHED | CORR. | SKETCHED | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 1-D-122 | Butt. 5 shop | N | 0 | N | N | N | N | N | N | N | N | N | N | N | 8-17-09 | None | N/A | <i>[Signature]</i> |
| 2-D-122 | Butt. 3 NE Field | N | 0 | N | N | N | N | N | N | N | N | N | N | N | 11-13-09 | None | N/A | <i>[Signature]</i> |
| 3-D-225 | Butt. 5 shop | N | 0 | N | N | N | N | N | N | N | N | N | N | N | 8-0-09 | None | N/A | <i>[Signature]</i> |
| 4-D-225 | Butt. 2 Field | N | 0 | N | N | N | N | N | N | N | N | N | N | N | 8-12-09 | None | N/A | <i>[Signature]</i> |
| 5-D-322 | Shop N | N | 0 | N | N | N | N | N | N | N | N | N | N | N | 11-16-09 | None | N/A | <i>[Signature]</i> |
| 6-D-322 | Field S | N | 0 | N | N | N | N | N | N | N | N | N | N | N | 11-16-09 | None | N/A | <i>[Signature]</i> |

LEGEND

GENERAL

Y = YES
N = NO

TENDON END-LOCATION

IDENTIFY TENDON END (SHOP OR FIELD) AND NW, NE, SW, SE

ENCLOSURE 6

Data Sheet 1
Anchorage Assembly Surveillance Inspection
Dome Tendons

INSPECTION PERIOD 35th yr.

| TENDON | END | CORR. | NO. OF MISSING, BROKEN, AND/OR DAMAGED WIRES | BUTTONHEADS | | | STRESSING WASHER & NUT | | | SHIMS | | | BEARING PLATE | | | DATE INSP. | COMMENTS | INSP. BY CONTR. FOREMAN | VERIF. BY COGNIZANT QV INSP. |
|----------|------------------|-------|--|-------------|----------|--------------|------------------------|--------------|----------|--------------|----------|--------------|---------------|----|---------|------------|----------|-------------------------|------------------------------|
| | | | | CORR. | SKETCHED | CORR. CRACKS | SKETCHED | CORR. CRACKS | SKETCHED | CORR. CRACKS | SKETCHED | CORR. CRACKS | SKETCHED | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | |
| 1. D-342 | Butt. 4 field | N | 0 | N | N | N | N | N | N | N | N | N | N | N | 8-17-09 | None | N/A | <i>[Signature]</i> | |
| 2. D-342 | Butt. 6 Shop | N | 0 | N | N | N | N | N | N | N | N | N | N | N | 8-20-09 | None | N/A | <i>[Signature]</i> | |
| 3. | | | | | | | | | | | | | | | | | | | |
| 4. | | | | | | | | | | | | | | | | | | | |
| 5. | | | | | | | | | | | | | | | | | | | |
| 6. | | | | | | | | | | | | | | | | | | | |

LEGEND

GENERAL

Y = YES
N = NO

TENDON END-LOCATION

IDENTIFY TENDON END (SHOP OR FIELD) AND NW, NE, SW, SE

ENCLOSURE 6
Data Sheet 7
Tendon Anchorage Area Concrete Crack Inspection
Hoop Tendons

Inspection Period 35th yr.

| Tendon No. | Location | Remarks about Cracking Pattern | Cracks with width > 0.01" | | Date Insp. | Insp. By Contr. Foreman | Verify. By Cognizant Qy Insp. |
|-------------------|---------------------|--|---------------------------|----------------|-----------------------------------|----------------------------|--|
| | | | Location(A) | Width (IN.)(B) | | | |
| 1. <u>H13-41</u> | <u>Butt 3/Field</u> | <u>No indications</u> | <u>N/A</u> | <u>N/A</u> | <u>8-26-09</u> | <u>N/A</u> | <u>[Signature]</u> |
| 2. <u>H13-41</u> | <u>S/A</u> | <u>No Indications</u> | <u>N/A</u> | <u>N/A</u> | <u>11-12-09</u> | <u>N/A</u> | <u>[Signature]</u> |
| 3. <u>H24-33</u> | <u>Butt 4/Field</u> | <u>No indications</u> | <u>N/A</u> | <u>N/A</u> | <u>8-24-09</u> | <u>N/A</u> | <u>[Signature]</u> |
| 4. <u>H24-33</u> | <u>Butt 4/Shop</u> | <u>12" L. crack @ base .010 wide</u> | <u>N/A</u> | <u>N/A</u> | <u>8-11-09</u> | <u>N/A</u> | <u>[Signature]</u> |
| 5. <u>H46-50</u> | <u>Butt 4/Field</u> | <u>no indications</u> | <u>N/A</u> | <u>N/A</u> | <u>8-11-09</u> | <u>N/A</u> | <u>[Signature]</u> |
| 6. <u>H46-50</u> | <u>Butt 6/Shop</u> | <u>no indications</u> | <u>N/A</u> | <u>N/A</u> | <u>8-11-09</u> | <u>N/A</u> | <u>[Signature]</u> |
| 7. <u>H51-49</u> | <u>Butt 5/Field</u> | <u>no indications, limited due to ventilation duct</u> | <u>N/A</u> | <u>N/A</u> | <u>8-26-09</u> | <u>N/A</u> | <u>[Signature]</u> |
| 8. <u>H51-49</u> | <u>Reel/Line</u> | <u>no indications</u> | <u>N/A</u> | <u>N/A</u> | <u>8-12-09</u> <u>11-11-09</u> | <u>N/A</u> <u>N/A</u> | <u>[Signature]</u> <u>[Signature]</u> |
| 9. <u>H62-26</u> | <u>Butt 6/Shop</u> | <u>no indications</u> | <u>N/A</u> | <u>N/A</u> | <u>8-12-09</u> | <u>N/A</u> | <u>[Signature]</u> |
| 10. <u>H62-26</u> | <u>Butt 2/Field</u> | <u>no indications</u> | <u>N/A</u> | <u>N/A</u> | <u>8-28-09</u> | <u>N/A</u> | <u>[Signature]</u> |

NOTE: (A) Location:
Identify Tendon End (Shop or Field) and
1 to 6 - Number of Buttress At End of Tendon
(B) If concrete crack width > 0.01", provide sketch

Cognizant Mech/Struct Engineer
Reviewed By: [Signature] Date: 19 MAR 10

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ENCLOSURE 6

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Data Sheet 5
Tendon Anchorage Area Concrete Crack Inspection
Dome Tendons

Inspection Period 35th yr.

VERTICAL

| Tendon No. | Location | Remarks about Cracking Pattern | Cracks with width >0.01" | | Date Insp. | Insp. By Contr. Foreman | Verify. By Cognizant QV Insp. |
|----------------|---------------------|---|--------------------------|----------------|----------------|-------------------------|-------------------------------|
| | | | Location(A) | Width (IN.)(B) | | | |
| 1. <u>V-11</u> | <u>Top/shop</u> | <u>no indications</u> | <u>N/A</u> | <u>N/A</u> | <u>8-18-09</u> | <u>N/A</u> | <u>[Signature]</u> |
| 2. <u>V-11</u> | <u>Bottom/Field</u> | <u>no indications</u> <u>EFFLORESCENCE 2002-25-10</u> | <u>N/A</u> | <u>N/A</u> | <u>8-13-09</u> | <u>N/A</u> | <u>[Signature]</u> |
| 3. <u>V-32</u> | <u>Top/shop</u> | <u>no indications</u> | <u>N/A</u> | <u>N/A</u> | <u>8-18-09</u> | <u>N/A</u> | <u>[Signature]</u> |
| 4. <u>V-32</u> | <u>Bottom/Field</u> | <u>no indications</u> | <u>N/A</u> | <u>N/A</u> | <u>8-13-09</u> | <u>N/A</u> | <u>[Signature]</u> |
| 5. <u>V-90</u> | <u>Bottom/Field</u> | <u>1-3" crack < than .010" wide</u> <u>* 1-10" crack < than .010" wide</u> | <u>N/A</u> | <u>N/A</u> | <u>8-13-09</u> | <u>N/A</u> | <u>[Signature]</u> |
| 6. <u>V-90</u> | <u>Top/shop</u> | <u>no indications</u> | <u>N/A</u> | <u>N/A</u> | <u>8-18-09</u> | <u>N/A</u> | <u>[Signature]</u> |

NOTE: (A) Location:

Identify Tendon End (Shop or Field) and NW, NE, SW, SE

(B) If concrete crack width > 0.01", provide sketch.

Cognizant Mech/Struct Engineer

Reviewed By: [Signature]

Date: 19 MARCH 10

* 10" x 0.015" CRACK ACCEPTABLE
IN VIEW OF LIMITED LENGTH
(HOWARD T. HILL) [Signature] P.E.
19 MARCH 10

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ENCLOSURE 6

Data Sheet 5
Tendon Anchorage Area Concrete Crack Inspection
~~Dome Tendons~~
VERTICAL

Inspection Period 35th yr.

| Tendon No. | Location | Remarks about Cracking Pattern | Cracks with width > 0.01" | | Date Insp. | Insp. By Contr. Foreman | Verify. By Cognizant QV Insp. |
|-----------------|---------------------|---|---------------------------|-----------------|----------------|-------------------------|-------------------------------|
| | | | Location (A) | Width (IN.) (B) | | | |
| 1. <u>V-132</u> | <u>Bottom/Field</u> | <u>no indications</u> | <u>n/a</u> | <u>n/a</u> | <u>8-13-09</u> | <u>N/A</u> | <u>[Signature]</u> |
| 2. <u>V-132</u> | <u>Top/Shop</u> | <u>Bug holes present in the entire area. No cracks.</u> | <u>n/a</u> | <u>n/a</u> | <u>8-13-09</u> | <u>N/A</u> | <u>[Signature]</u> |
| 3. _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ |
| 4. _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ |
| 5. _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ |
| 6. _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ |

NOTE: (A) Location:

Identify Tendon End (Shop or Field) and NW, NE, SW, SE

(B) If concrete crack width > 0.01", provide sketch

Cognizant Mech/Struct Engineer

Reviewed By: [Signature]

Date: 19 MAR 10

ENCLOSURE 6
Data Sheet 6
Tendon Anchorage Area Concrete Crack Inspection
Vertical Tendons
DOME

Inspection Period 35 th yr.

| Tendon No. | Location | Remarks about Cracking Pattern | Cracks with width >0.01" | | Date Insp. | Insp. By Contr. Foreman | Verify. By Cognizant QV Insp. |
|-----------------|----------------------|--|--------------------------|----------------|-----------------|-------------------------|-------------------------------|
| | | | Location(A) | Width (IN.)(B) | | | |
| 1. <u>D-122</u> | <u>Bett. 5/shop</u> | <u>4" L crack < than .010 wide</u> <u>6" L crack < than .010 wide</u> <u>Large area of light scaling</u> | <u>N/A</u> | <u>N/A</u> | <u>8-17-09</u> | <u>N/A</u> | <u>T. A. L. S. E.</u> |
| 2. <u>D-122</u> | <u>E/NE</u> | <u>no Indications</u> | <u>N/A</u> | <u>N/A</u> | <u>11-19-09</u> | <u>N/A</u> | <u>T. A. L. S. E.</u> |
| 3. <u>D-225</u> | <u>Bett. 2/Field</u> | <u>Grout patch separating near bearing plate</u> | <u>N/A</u> | <u>N/A</u> | <u>8-12-09</u> | <u>N/A</u> | <u>T. A. L. S. E.</u> |
| 4. <u>D-225</u> | <u>Bett. 5/shop</u> | <u>1- 44" crack from upper right corner</u> <u>less < than .010 wide</u> <u>1- 44" crack from lower right corner</u> <u>< than .010 wide.</u> | <u>N/A</u> | <u>N/A</u> | <u>8-11-09</u> | <u>N/A</u> | <u>T. A. L. S. E.</u> |
| 5. <u>D-322</u> | <u>S/W</u> | <u>No Indications</u> | <u>N/A</u> | <u>N/A</u> | <u>11-16-09</u> | <u>N/A</u> | <u>T. A. L. S. E.</u> |
| 6. <u>D-322</u> | <u>E/S</u> | <u>No Indications</u> | <u>N/A</u> | <u>N/A</u> | <u>11-16-09</u> | <u>N/A</u> | <u>T. A. L. S. E.</u> |
| 7. _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ |

NOTE: (A) Location:
Identify Tendon End (Shop or Field) and
T or B - Top or Bottom of Vertical Tendon
(B) If concrete crack width > 0.01", provide sketch

Cognizant Mech/Struct Engineer
Reviewed By: [Signature]

Date: 19 MAR 10

ENCLOSURE 6
Data Sheet 6

Tendon Anchorage Area Concrete Crack Inspection
Vertical Tendons
DOME

Inspection Period 35th + 6. yr.

| Tendon No. | Location | Remarks about Cracking Pattern | Cracks with width > 0.01" | | Date Insp. | Insp. By Contr. Foreman | Verify. By Cognizant QV Insp. |
|-----------------|---------------------|--|---------------------------|-----------------|----------------|-------------------------|-------------------------------|
| | | | Location (A) | Width (IN.) (B) | | | |
| 1. <u>0-342</u> | <u>Butt 4/Field</u> | <u>1 crack 17" L x < .010 wide</u> | <u>n/a</u> | <u>n/a</u> | <u>8-17-09</u> | <u>n/a</u> | <u>[Signature]</u> |
| 2. <u>0-342</u> | <u>Butt 6/shop</u> | <u>3-3" cracks around bearing plate 12" x < .010 wide</u> | <u>n/a</u> | <u>n/a</u> | <u>8-17-09</u> | <u>n/a</u> | <u>[Signature]</u> |
| 3. _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ |
| 4. _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ |
| 5. _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ |
| 6. _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ |
| 7. _____ | _____ | _____ | _____ | _____ | _____ | _____ | _____ |

NOTE: (A) Location:
Identify Tendon End (Shop or Field) and
T or B - Top or Bottom of Vertical Tendon
(B) If concrete crack width > 0.01", provide sketch

Cognizant Mech/Struct Engineer
Reviewed By: [Signature]

Date: 19 AUG 10

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ATTACHMENT 5
ASME IWL (Class CC) Containment Tendon Anchorage
Detailed Visual or VT-1 Visual Examination NDE Report
Page 1 of 1

| Station: <i>TMT</i> | | Unit: <i>1</i> | Date: <i>11-12-09</i> | Report No: |
|--|--|---|--|---|
| WO No(s): <i>R2007551</i> | Tendon Anchorage No: <i>H13-41</i> | | Tendon End: <input checked="" type="checkbox"/> Shop <input checked="" type="checkbox"/> Field | |
| Location: Tunnel, Gallery <i>(Bultruss) 1</i> | | Elevation: | Bearing Plate I.D. <i>Could not locate</i> | |
| Bearing Plate I.D. <i>Could not locate</i> | | Anchor Head I.D. <i>569</i> | Bushing I.D. <i>766</i> | |
| Exam Type: <input type="checkbox"/> DV <input checked="" type="checkbox"/> VT-1 | | Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote | | |
| <input checked="" type="checkbox"/> As Found Exam | | <input type="checkbox"/> As Left Exam Following Retensioning Of Tendons Which Have Been Detentioned | | |
| Design Drawing(s) | | Visual Aids: <i>None</i> | | |
| M&TE Used: <i>LIGHT METER</i> | | <input checked="" type="checkbox"/> Test Card | UTC. or Serial No. <i>N/A</i> | Cal. Due Date: <i>N/A</i> |
| Illumination Used: <i>FLASHLIGHT</i> | | Illumination Verified: | Date: <i>11-13-09</i> | Time: <i>1:00 PM</i> |
| Special / Specific Instructions: <i>NONE</i> | | | | |
| Component / Item Number and Description | RESULTS | | | Explanation / Notes (Sketch Shall Be Attached Depicting Location Of All Missing, Protruding, Unseated Wires) |
| | NI | RI TYPE | IO | |
| <i>H13-41 SHOP/BUTT</i> | <i>X</i> | | | |
| Results Legend . | | | | |
| NI - No Indications RI - Recordable Indication IO - Information Only | | | | |
| Recordable Indication Type Codes: | | | | |
| A Missing Wires | H Cracks | O Other (Explain) | | |
| B Missing Button Heads | I Pitting | | | |
| C Protruding / Unseated Wires | J Nicks, Gouges, Mechanical Damage | | | |
| D Broken Wires | K Uneven Shim Stack | | | |
| E Active Corrosion | L Excessive Shim Gaps | | | |
| F Other Corrosion | M Gasket Seating Surface Damage | | | |
| G Evidence Of Free Water (Quantify) | N Surface Discontinuities, Deflections | | | |
| Supplemental Information: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Sketch <input type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | | | | |
| Results: Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| EXAMINER/EVALUATOR (Print & Sign) <i>DANIEL P. SHERA</i> | | LEVEL <i>II</i> | DATE <i>11-13-09</i> | |
| STATION/ADMIN REVIEW (Print & Sign) <i>Evan Johnson</i> | | DATE <i>3/15/10</i> | | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. | | | | |
| RI or Unacceptable results Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Additional Actions: (Action Request, Work Order, Issue Report, etc. initiated for Corrective Action) | | | | |
| LEVEL III or RI REVIEW (as applicable) | | DATE: <i>18 MAR 10</i> | | |
| ANII REVIEW (as applicable) | | DATE: | | |

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ATTACHMENT 5
ASME IWL (Class CC) Containment Tendon Anchorage
Detailed Visual or VT-1 Visual Examination NDE Report
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| Station: <u>TMI</u> | Unit: <u>1</u> | Date: <u>8-26-09</u> | Report No: | |
|---|--|---|---------------------------|---|
| WO No(s): <u>R2067551</u> | Tendon Anchorage No.: <u>H13-41</u> | Tendon End: <input type="checkbox"/> Shop <input checked="" type="checkbox"/> Field | | |
| Location: Tunnel, Gallery (<u>Bultruss</u>) <u>3</u> | Elevation: | Bearing Plate I.D.: <u>Unable to locate</u> | | |
| Bearing Plate I.D. <u>N/A</u> | Anchor Head I.D. <u>132</u> | Bushing I.D. <u>N/A</u> | | |
| Exam Type: <input type="checkbox"/> DV <input checked="" type="checkbox"/> VT-1 | Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote | | | |
| <input checked="" type="checkbox"/> As Found Exam <input type="checkbox"/> As Left Exam Following Retensioning Of Tendons Which Have Been Detentioned | | | | |
| Design Drawing(s) <u>DS-33</u> | Visual Aids: <u>NONE</u> | | | |
| M&TE Used: <u>Scale R21 Caliper 4-6-10</u> | <input checked="" type="checkbox"/> Test Card | UTC or Serial No. <u>N/A</u> | Cal. Due Date: <u>N/A</u> | |
| Illumination Used <u>Flashlight</u> | Illumination Verified: | Date: <u>8-26-09</u> | Time: <u>1:PM</u> | |
| Special / Specific Instructions: | <u>NONE</u> | | | |
| Component / Item Number and Description | RESULTS | | | Explanation / Notes (Sketch Shall Be Attached Depicting Location Of All Missing, Protruding, Unseated Wires) |
| | NI | RI | TYPE IO | |
| <u>Anchorage components for H13-41 Bultruss 3 Field End.</u> | ✓ | | | |
| Results Legend: NI - No Indications RI - Recordable Indication IO - information Only | | | | |
| Recordable Indication Type Codes: | | | | |
| A. Missing Wires | H. Cracks | O. Other (Explain) | | |
| B. Missing Button Heads | I. Pitting | | | |
| C. Protruding / Unseated Wires | J. Nicks, Gouges, Mechanical Damage | | | |
| D. Broken Wires | K. Uneven Shim Stack | | | |
| E. Active Corrosion | L. Excessive Shim Gaps | | | |
| F. Other Corrosion | M. Gasket Sealing Surface Damage | | | |
| G. Evidence Of Free Water (Quantify) | N. Surface Discontinuities, Deflections | | | |
| Supplemental Information: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Sketch <input checked="" type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | | | | |
| Results: Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| EXAMINER/EVALUATOR (Print & Sign) <u>W. Rance Robb</u> | <u>W. Rance Robb</u> | LEVEL <u>II</u> | DATE <u>8-26-09</u> | |
| STATION/ADMIN REVIEW (Print & Sign) <u>Evan Johnson</u> | <u>Evan Johnson</u> | | DATE <u>3/15/10</u> | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. | | | | |
| RI or Unacceptable results Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Additional Actions: (Action Request, Work Order, Issue Report, etc. Initiated for Corrective Action) | | | | |
| LEVEL III or RI REVIEW (as applicable) <u>Howard T. Hill, P.E.</u> DATE: <u>18 Mar 10</u> | | | | |
| ANII REVIEW (as applicable) DATE: | | | | |

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ATTACHMENT 5
ASME IWL (Class CC) Containment Tendon Anchorage
Detailed Visual or VT-1 Visual Examination NDE Report
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| | | | | |
|---|---|----|---------|----|
| Station: <u>TMI</u> Unit: <u>1</u> Date: <u>8-11-09</u> Report No: | | | | |
| WO No(s): <u>R 2067551</u> | Tendon Anchorage No.: <u>H24-33</u> Tendon End: <input checked="" type="checkbox"/> Shop <input type="checkbox"/> Field | | | |
| Location: Tunnel, Gallery, <u>Buttress 4</u> Elevation: | Bearing Plate I.D.: <u>Unable to locate</u> | | | |
| Bearing Plate I.D.: <u>N/A</u> Anchor Head I.D.: <u>1031</u> Bushing I.D.: <u>1249</u> | | | | |
| Exam Type: <input type="checkbox"/> DV <input checked="" type="checkbox"/> VT-1 | Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote | | | |
| <input checked="" type="checkbox"/> As Found Exam <input type="checkbox"/> As Left Exam Following Retensioning Of Tendons Which Have Been Detentioned | | | | |
| Design Drawing(s) <u>P5-34</u> | Visual Aids: <u>NONE</u> | | | |
| M&TE Used: <u>NONE</u> <input checked="" type="checkbox"/> Test Card UTC or Serial No. <u>N/A</u> Cal. Due Date: <u>N/A</u> | | | | |
| Illumination Used: <u>Flashlight</u> Illumination Verified: Date: <u>8-11-09</u> Time: <u>7:AM</u> | | | | |
| Special / Specific Instructions: | | | | |
| Component / Item Number and Description | RESULTS | | | |
| | <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:33%;">NI</td> <td style="width:33%;">RI TYPE</td> <td style="width:33%;">IO</td> </tr> </table> | NI | RI TYPE | IO |
| NI | RI TYPE | IO | | |
| | Explanation / Notes (Sketch Shall Be Attached Depicting Location Of All Missing, Protruding, Unseated Wires) | | | |
| <u>Anchorage components for H24-33 Tendon Buttress 4 / Shop end</u> | <u>F</u> <u>Light inactive surface rust on shims.</u> | | | |
| Results Legend: NI - No Indications RI - Recordable Indication IO - Information Only | | | | |
| Recordable Indication Type Codes: | | | | |
| A. Missing Wires | H. Cracks | | | |
| B. Missing Button Heads | I. Pitting | | | |
| C. Protruding / Unseated Wires | J. Nicks, Gouges, Mechanical Damage | | | |
| D. Broken Wires | K. Uneven Shim Stack | | | |
| E. Active Corrosion | L. Excessive Shim Gaps | | | |
| F. Other Corrosion | M. Gasket Sealing Surface Damage | | | |
| G. Evidence Of Free Water (Quantify) | N. Surface Discontinuities, Deflections | | | |
| O. Other (Explain) | | | | |
| Supplemental Information: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Sketch <input checked="" type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | | | | |
| Results: Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| EXAMINER/EVALUATOR (Print & Sign) <u>W. Lance Robbin</u> | LEVEL <u>II</u> DATE <u>8-18-09</u> | | | |
| STATION/ADMIN REVIEW (Print & Sign) <u>Even Johnson</u> | DATE <u>3/15/10</u> | | | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. | | | | |
| RI or Unacceptable <u>results Acceptable</u> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Additional Actions: (Action Request, Work Order, Issue Report, etc. Initiated for Corrective Action) | | | | |
| LEVEL III or RI REVIEW (as applicable) <u>Howard T. Hill (PE)</u> | DATE: <u>18 Mar 10</u> | | | |
| ANII REVIEW (as applicable) | DATE: | | | |

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ATTACHMENT 5
ASME IWL (Class CC) Containment Tendon Anchorage
Detailed Visual or VT-1 Visual Examination NDE Report
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| Station: <u>FMT</u> Unit: <u>I</u> Date: <u>8-24-09</u> Report No: | | | | | |
|---|---|---------------------|---------------------|---|--|
| WO No(s): <u>R 2067551</u> | Tendon Anchorage No.: <u>H24.33</u> Tendon End: <input type="checkbox"/> Shop <input checked="" type="checkbox"/> Field | | | | |
| Location: Tunnel, Gallery, Buttress: <u>2</u> Elevation: | Bearing Plate I.D.: <u>Unable to locate</u> | | | | |
| Bearing Plate I.D. <u>N/A</u> Anchor Head I.D. <u>662</u> | Bushing I.D. <u>N/A</u> | | | | |
| Exam Type: <input type="checkbox"/> DV <input checked="" type="checkbox"/> VT-1 | Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote | | | | |
| <input checked="" type="checkbox"/> As Found Exam <input type="checkbox"/> As Left Exam Following Retensioning Of Tendons Which Have Been Detentioned | | | | | |
| Design Drawing(s) <u>P5-31</u> | Visual Aids: <u>NONE</u> | | | | |
| M&TE Used: <u>SCALE R 22 also used</u> Test Card | UTC or Serial No: <u>N/A</u> Cal. Due Date: <u>N/A</u> | | | | |
| Illumination Used <u>Flashlight</u> | Illumination Verified: Date: <u>8-24-09</u> Time: <u>8:AM</u> | | | | |
| Special / Specific Instructions: | <u>NONE</u> | | | | |
| Component / Item Number and Description | RESULTS | | | Explanation / Notes (Sketch Shall Be Attached Depicting Location Of All Missing, Protruding, Unseated Wires) | |
| | NI | RI | IO | | |
| Anchorage components for H 24.33 buttress 2 field end. | ✓ | | | | |
| Results Legend: | | | | | |
| NI - No Indications RI - Recordable Indication IO - Information Only | | | | | |
| Recordable Indication Type Codes: | | | | | |
| A. Missing Wires | H. Cracks | O. Other (Explain) | | | |
| B. Missing Button Heads | I. Pitting | | | | |
| C. Protruding / Unseated Wires | J. Nicks, Gouges, Mechanical Damage | | | | |
| D. Broken Wires | K. Uneven Shim Stack | | | | |
| E. Active Corrosion | L. Excessive Shim Gaps | | | | |
| F. Other Corrosion | M. Gasket Seating Surface Damage | | | | |
| G. Evidence Of Free Water (Quantify) | N. Surface Discontinuities, Deflections | | | | |
| Supplemental Information: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Sketch <input checked="" type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | | | | | |
| Results: Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | | |
| EXAMINER/EVALUATOR (Print & Sign) <u>N. Rance Robbins</u> <u>N. Rance Robbins</u> | | LEVEL <u>IV</u> | DATE <u>8-24-09</u> | | |
| STATION/ADMIN REVIEW (Print & Sign) <u>Evan Johnson</u> | | DATE <u>3/15/10</u> | | | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. | | | | | |
| RI or Unacceptable results Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | | |
| Additional Actions: (Action Request, Work Order, Issue Report, etc. Initiated for Corrective Action) | | | | | |
| LEVEL III or RI REVIEW (as applicable) <u>John D. Hill (Howard T. Hill, P.E.)</u> DATE: <u>18 Mar 10</u> | | | | | |
| ANII REVIEW (as applicable) DATE: | | | | | |

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ATTACHMENT 5
ASME IWL (Class CC) Containment Tendon Anchorage
Detailed Visual or VT-1 Visual Examination NDE Report
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| Station: <u>TMI</u> | Unit: <u>1</u> | Date: <u>8-12-09</u> | Report No: | |
|---|--|---|---------------------------|---|
| WO No(s): <u>R 2067551</u> | Tendon Anchorage No.: <u>H46-50</u> | Tendon End: <input checked="" type="checkbox"/> Shop <input type="checkbox"/> Field | | |
| Location: <u>Tunnel, Gallery (Buttress) 6</u> | Elevation: | Bearing Plate I.D.: <u>Could not locate.</u> | | |
| Bearing Plate I.D. | Anchor Head I.D. <u>678</u> | Bushing I.D. <u>754</u> | | |
| Exam Type: <input type="checkbox"/> DV <input checked="" type="checkbox"/> VT-1 | Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote | | | |
| <input checked="" type="checkbox"/> As Found Exam <input type="checkbox"/> As Left Exam Following Retensioning Of Tendons Which Have Been Detentioned | | | | |
| Design Drawing(s) <u>P5-46</u> | Visual Aids: <u>None</u> | | | |
| M&TE Used: | <input checked="" type="checkbox"/> Test Card | UTC or Serial No. <u>N/A</u> | Cal. Due Date: <u>N/A</u> | |
| Illumination Used <u>Flashlight</u> | Illumination Verified: | Date: <u>8/12/09</u> | Time: <u>7:30 AM</u> | |
| Special / Specific Instructions: | <u>None</u> | | | |
| Component / Item Number and Description | RESULTS | | | Explanation / Notes (Sketch Shall Be Attached Depicting Location Of All Missing, Protruding, Unseated Wires) |
| | NI | RI | IO | |
| <u>H46-50 Tendon Anchor- -age components Buttress 6 / Shop end</u> | <u>X</u> | | | |
| Results Legend: NI - No Indications RI - Recordable Indication IO - Information Only | | | | |
| Recordable Indication Type Codes: | | | | |
| A. Missing Wires | H. Cracks | O. Other (Explain) | | |
| B. Missing Button Heads | I. Pitting | | | |
| C. Protruding / Unseated Wires | J. Nicks, Gouges, Mechanical Damage | | | |
| D. Broken Wires | K. Uneven Shim Stack | | | |
| E. Active Corrosion | L. Excessive Shim Gaps | | | |
| F. Other Corrosion | M. Gasket Sealing Surface Damage | | | |
| G. Evidence Of Free Water (Quantify) | N. Surface Discontinuities, Deflections | | | |
| Supplemental Information: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Sketch <input checked="" type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | | | | |
| Results: Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| EXAMINER/EVALUATOR (Print & Sign) <u>N. Rance Robbins W. Rance Robbins</u> | LEVEL <u>II</u> | DATE <u>8-12-09</u> | | |
| STATION/ADMIN REVIEW (Print & Sign) <u>Evan Johnson</u> | | DATE <u>3/15/10</u> | | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. RI or Unacceptable results Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Additional Actions: (Action Request, Work Order, Issue Report, etc. Initiated for Corrective Action) | | | | |
| LEVEL III or RI REVIEW (as applicable) <u>Harold T. Hill, P.E.</u> DATE: <u>12/16/10</u> | | | | |
| ANII REVIEW (as applicable) DATE: | | | | |

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ATTACHMENT 5
ASME IWL (Class CC) Containment Tendon Anchorage
Detailed Visual or VT-1 Visual Examination NDE Report
Page 1 of 1

| Station: TMI | Unit: 1 | Date: 8-11-09 | Report No: | |
|---|--|---|---------------------------|---|
| WO No(s): R2067551 | Tendon Anchorage No.: H46-50 | Tendon End: <input type="checkbox"/> Shop <input checked="" type="checkbox"/> Field | | |
| Location: Tunnel, Gallery, Buttress 4 | Elevation: | Bearing Plate I.D.: TL | | |
| Bearing Plate I.D. TL | Anchor Head I.D. 900 | Bushing I.D. N/A | | |
| Exam Type: <input type="checkbox"/> DV <input checked="" type="checkbox"/> VT-1 | Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote | | | |
| <input checked="" type="checkbox"/> As Found Exam <input type="checkbox"/> As Left Exam Following Retensioning Of Tendons Which Have Been Detentioned | | | | |
| Design Drawing(s) P5-43 | Visual Aids: NONE | | | |
| M&TE Used: NONE | <input checked="" type="checkbox"/> Test Card | UTC or Serial No. N/A | Cal. Due Date: N/A | |
| Illumination Used Flashlight | Illumination Verified: | Date: 8-11-09 | Time: 8:AM | |
| Special / Specific Instructions: | NONE | | | |
| Component / Item Number and Description | RESULTS | | | Explanation / Notes (Sketch Shall Be Attached Depicting Location Of All Missing, Protruding, Unseated Wires) |
| | NI | RI TYPE | IO | |
| Tendon Anchorage components for H46-50 Buttress 4 field end. | X | | F | Light surface rust on shim, no pitting - per data sheet 4 enclosure 6 SPO 8-V-10 |
| Results Legend: | | | | |
| NI - No Indications RI - Recordable Indication IO - Information Only | | | | |
| Recordable Indication Type Codes: | | | | |
| A. Missing Wires | H. Cracks | O. Other (Explain) | | |
| B. Missing Button Heads | I. Pitting | | | |
| C. Protruding / Unseated Wires | J. Nicks, Gouges, Mechanical Damage | | | |
| D. Broken Wires | K. Uneven Shim Stack | | | |
| E. Active Corrosion | L. Excessive Shim Gaps | | | |
| F. Other Corrosion | M. Gasket Seating Surface Damage | | | |
| G. Evidence Of Free Water (Quantify) | N. Surface Discontinuities; Deflections | | | |
| Supplemental Information: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Sketch <input checked="" type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | | | | |
| Results: Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| EXAMINER/EVALUATOR (Print & Sign) W. Rance Robbins | | LEVEL II | DATE 8-11-09 | |
| STATION/ADMIN REVIEW (Print & Sign) Evan Johnson | | DATE 3/15/10 | | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. | | | | |
| RI or Unacceptable results Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Additional Actions: (Action Request, Work Order, Issue Report, etc. Initiated for Corrective Action) | | | | |
| LEVEL III or RI REVIEW (as applicable) | | DATE: 18 Mar 10 | | |
| ANII REVIEW (as applicable) | | DATE: | | |

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ATTACHMENT 5
ASME IWL (Class CC) Containment Tendon Anchorage
Detailed Visual or VT-1 Visual Examination NDE Report
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| Station: <i>TMT</i> | | Unit: <i>1</i> | Date: <i>11-11-09</i> | Report No: |
|--|--|---|---|---|
| WO No(s): <i>R2067551</i> | Tendon Anchorage No.: <i>H51-49</i> | | Tendon End: <input checked="" type="checkbox"/> Shop <input type="checkbox"/> Field | |
| Location: Tunnel, Gallery, <u>Bultruss</u> <i>1</i> | | Elevation: | Bearing Plate I.D. <i>Could Not Locate</i> | |
| Bearing Plate I.D. <i>Could Not Locate</i> | | Anchor Head I.D. <i>1007</i> | Bushing I.D. <i>1156</i> | |
| Exam Type: <input type="checkbox"/> DV <input checked="" type="checkbox"/> VT-1 | | Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote | | |
| <input checked="" type="checkbox"/> As Found Exam | | <input type="checkbox"/> As Left Exam Following Retensioning Of Tendons Which Have Been Detentioned | | |
| Design Drawing(s) | | Visual Aids: <i>None</i> | | |
| M&TE Used: <i>None</i> | | <input checked="" type="checkbox"/> Test Card | UTC or Serial No. <i>N/A</i> | Cal. Due Date: <i>N/A</i> |
| Illumination Used: <i>Flashlight</i> | | Illumination Verified: | Date: <i>11-11-09</i> | Time: <i>9:00 AM</i> |
| Special / Specific Instructions: <i>None</i> | | | | |
| Component / Item Number and Description | RESULTS | | | Explanation / Notes (Sketch Shall Be Attached Depicting Location Of All Missing; Protruding, Unseated Wires) |
| | NI | RI TYPE | IO | |
| <i>H51-49 SHOP/BUT 1</i> | <i>X</i> | | | |
| Results Legend: NI - No Indications RI - Recordable Indication IO - Information Only | | | | |
| Recordable Indication Type Codes: | | | | |
| A Missing Wires | H Cracks | O Other (Explain) | | |
| B Missing Button Heads | I Pitting | | | |
| C Protruding / Unseated Wires | J Nicks, Gouges, Mechanical Damage | | | |
| D Broken Wires | K Uneven Shim Stack | | | |
| E Active Corrosion | L Excessive Shim Gaps | | | |
| F Other Corrosion | M Gasket Seating Surface Damage | | | |
| G Evidence Of Free Water (Quantify) | N Surface Discontinuities, Deflections | | | |
| Supplemental Information: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Sketch <input type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | | | | |
| Results: Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| EXAMINER/EVALUATOR (Print & Sign) <i>Daniel P. Sura</i> | | LEVEL <i>II</i> | DATE <i>11-11-09</i> | |
| STATION/ADMIN REVIEW (Print & Sign) <i>Evon Johnson</i> | | DATE <i>3/15/10</i> | | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. | | | | |
| RI or Unacceptable <u>results Acceptable</u> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Additional Actions: (Action Request, Work Order Issue Report, etc. Initialed for Corrective Action) | | | | |
| LEVEL III or RI REVIEW (as applicable) <i>None</i> | | DATE: <i>18 Mar 10</i> | | |
| ANII REVIEW (as applicable) | | DATE: | | |

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ATTACHMENT 5
ASME IWL (Class CC) Containment Tendon Anchorage
Detailed Visual or VT-1 Visual Examination NDE Report
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| Station: <u>TMI</u> Unit: <u>1</u> Date: <u>11-12-09</u> Report No: | | | | |
|--|---|------------------------|----------------------|---|
| WO No(s): <u>R2067551</u> | Tendon Anchorage No.: <u>H51-49</u> Tendon End: <input checked="" type="checkbox"/> Shop <input type="checkbox"/> Field | | | |
| Location: Tunnel, Gallery, <u>Buttress</u> <u>Butt. 1</u> Elevation: | Bearing Plate I.D. <u>Could not locate</u> | | | |
| Bearing Plate I.D. <u>Could not locate</u> Anchor Head I.D. <u>1007</u> | Bushing I.D. <u>1156</u> | | | |
| Exam Type: <input type="checkbox"/> DV <input checked="" type="checkbox"/> VT-1 | Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote | | | |
| <input type="checkbox"/> As Found Exam <input checked="" type="checkbox"/> As Left Exam Following Retensioning Of Tendons Which Have Been Detentioned | | | | |
| Design Drawing(s) | Visual Aids: <u>None</u> | | | |
| M&TE Used: <u>None</u> | <input checked="" type="checkbox"/> Test Card UTC or Serial No. <u>#14</u> Cal. Due Date: <u>N/A</u> | | | |
| Illumination Used <u>Flashlight</u> | Illumination Verified: Date: <u>11-12-09</u> Time: <u>1100 PM</u> | | | |
| Special / Specific Instructions: | <u>N/A</u> | | | |
| Component / Item Number and Description | RESULTS | | | Explanation / Notes (Sketch Shall Be Attached Depicting Location Of All Missing, Protruding, Unseated Wires) |
| | NI | RI | IO | |
| <u>H51-49</u> <u>SHOP / BUTT. 1</u> | | | <u>A</u> | <u>1 WIRE REMOVED FOR TESTING THIS SURVEILLANCE</u> |
| Results Legend: NI - No Indications RI - Recordable Indication IO - Information Only | | | | |
| Recordable Indication Type Codes: | | | | |
| A. Missing Wires | H. Cracks | O. Other (Explain) | | |
| B. Missing Button Heads | I. Pitting | | | |
| C. Protruding / Unseated Wires | J. Nicks, Gouges, Mechanical Damage | | | |
| D. Broken Wires | K. Uneven Shim Stack | | | |
| E. Active Corrosion | L. Excessive Shim Gaps | | | |
| F. Other Corrosion | M. Gasket Seating Surface Damage | | | |
| G. Evidence Of Free Water (Quantify) | N. Surface Discontinuities, Deflections | | | |
| Supplemental Information: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Sketch <input type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | | | | |
| Results: Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| EXAMINER/EVALUATOR (Print & Sign) <u>[Signature]</u> | | LEVEL <u>III</u> | DATE <u>11-12-09</u> | |
| STATION/ADMIN REVIEW (Print & Sign) <u>[Signature]</u> | | DATE <u>3/15/10</u> | | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. | | | | |
| RI or Unacceptable results Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Additional Actions: (Action Request, Work Order, Issue Report, etc. initiated for Corrective Action) | | | | |
| LEVEL III or RI REVIEW (as applicable) <u>[Signature]</u> | | DATE: <u>18 Mar 10</u> | | |
| ANII REVIEW (as applicable) | | DATE: | | |

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ATTACHMENT 5
ASME IWL (Class CC) Containment Tendon Anchorage
Detailed Visual or VT-1 Visual Examination NDE Report
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| | | | | |
|---|---|------------------------|---------------------|---|
| Station: <u>TMI</u> Unit: <u>1</u> Date: <u>8-26-09</u> Report No: | | | | |
| WO No(s): <u>R2067551</u> | Tendon Anchorage No.: <u>H51-49</u> Tendon End: <input type="checkbox"/> Shop <input checked="" type="checkbox"/> Field | | | |
| Location: <u>Tunnel, Gallery, (Bultruss) 5</u> Elevation: | Bearing Plate I.D.: <u>Unable to locate</u> | | | |
| Bearing Plate I.D. <u>N/A</u> Anchor Head I.D. <u>890</u> | Bushing I.D. <u>N/A</u> | | | |
| Exam Type: <input type="checkbox"/> DV <input checked="" type="checkbox"/> VT-1 | Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote | | | |
| <input checked="" type="checkbox"/> As Found Exam <input type="checkbox"/> As Left Exam Following Retensioning Of Tendons Which Have Been Detentioned | | | | |
| Design Drawing(s) <u>P5-44</u> Visual Aids: <u>NONE</u> | | | | |
| M&TE Used: <u>SAL R-21C/die 46-10</u> <input checked="" type="checkbox"/> Test Card UTC or Serial No. <u>N/A</u> Cal. Due Date: <u>N/A</u> | | | | |
| Illumination Used <u>Flash light</u> Illumination Verified: Date: <u>8-26-09</u> Time: <u>7:30 AM</u> | | | | |
| Special / Specific Instructions: <u>NONE</u> | | | | |
| Component / Item Number and Description | RESULTS | | | Explanation / Notes (Sketch Shall Be Attached Depicting Location Of All Missing, Protruding, Unseated Wires) |
| | NI | RI TYPE | IO | |
| <u>Anchorage components for H51-49 Bultruss 5 Field End</u> | | | <u>0</u> | <u>1 split button head .030"</u> |
| Results Legend: NI - No Indications RI - Recordable Indication IO - Information Only | | | | |
| Recordable Indication Type Codes: | | | | |
| A. Missing Wires | H. Cracks | O. Other (Explain) | | |
| B. Missing Button Heads | I. Pitting | | | |
| C. Protruding / Unseated Wires | J. Nicks, Gouges, Mechanical Damage | | | |
| D. Broken Wires | K. Uneven Shlm Stack | | | |
| E. Active Corrosion | L. Excessive Shlm Gaps | | | |
| F. Other Corrosion | M. Gasket Sealing Surface Damage | | | |
| G. Evidence Of Free Water (Quantify) | N. Surface Discontinuities, Deflections | | | |
| Supplemental Information: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Sketch <input checked="" type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | | | | |
| Results: Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| EXAMINER/EVALUATOR (Print & Sign) <u>W. Rance Robbins</u> | | LEVEL <u>II</u> | DATE <u>8-26-09</u> | |
| STATION/ADMIN REVIEW (Print & Sign) <u>Ever Johnson</u> | | DATE <u>3/15/10</u> | | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. RI or Unacceptable results Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Additional Actions: (Action Request, Work Order, Issue Report, etc. Initiated for Corrective Action) | | | | |
| LEVEL III or RI REVIEW (as applicable) <u>Howard T. Hill, P.E.</u> | | DATE: <u>18 Mar 10</u> | | |
| ANII REVIEW (as applicable) | | DATE: | | |

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ATTACHMENT 5
ASME IWL (Class CC) Containment Tendon Anchorage
Detailed Visual or VT-1 Visual Examination NDE Report
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| Station: <i>TMT</i> | Unit: <i>1</i> | Date: <i>11-12-09</i> | Report No: | |
|---|--|---|---------------------------|---|
| WO No(s): <i>R2007551</i> | Tendon Anchorage No.: <i>H51-49</i> | Tendon End: <input type="checkbox"/> Shop <input checked="" type="checkbox"/> Field | | |
| Location: Tunnel, Gallery, <u>Bultruss</u> <i>5</i> | Elevation: | Bearing Plate I.D. <i>Could not locate</i> | | |
| Bearing Plate I.D. <i>Could not locate</i> | Anchor Head I.D. <i>890</i> | Bushing I.D. <i>N/A</i> | | |
| Exam Type: <input type="checkbox"/> DV <input checked="" type="checkbox"/> VT-1 | Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote | | | |
| <input type="checkbox"/> As Found Exam <input checked="" type="checkbox"/> As Left Exam Following Retensioning Of Tendons Which Have Been Detentioned | | | | |
| Design Drawing(s) | Visual Aids: <i>None</i> | | | |
| M&TE Used: <i>Light Meter, Compass, Dividers - 11-10</i> | <input checked="" type="checkbox"/> Test Card | UTC or Serial No. <i>N/A</i> | Cal. Due Date: <i>N/A</i> | |
| Illumination Used <i>Flashlight</i> | Illumination Verified: | Date: <i>11-12-09</i> | Time: <i>1100 PM</i> | |
| Special / Specific Instructions: | <i>None</i> | | | |
| Component / Item Number and Description | RESULTS | | | Explanation / Notes (Sketch Shall Be Attached Depicting Location Of All Missing, Protruding, Unseated Wires) |
| | NI | RI TYPE | IO | |
| <i>H51-49 Field/Bultr 5</i> | | | <i>A</i> | <i>WIRE REMOVED FOR TESTING THIS SURVEILLANCE</i> |
| | | | <i>D</i> | <i>SPLIT BULTRUSS</i> |
| Results Legend: NI - No Indications RI - Recordable Indication IO - Information Only | | | | |
| Recordable Indication Type Codes: | | | | |
| A. Missing Wires | H. Cracks | O. Other (Explain) | | |
| B. Missing Button Heads | I. Pitting | | | |
| C. Protruding / Unseated Wires | J. Nicks, Gouges, Mechanical Damage | | | |
| D. Broken Wires | K. Uneven Shim Stack | | | |
| E. Active Corrosion | L. Excessive Shim Gaps | | | |
| F. Other Corrosion | M. Gasket Seating Surface Damage | | | |
| G. Evidence Of Free Water (Quantify) | N. Surface Discontinuities, Deflections | | | |
| Supplemental Information: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Sketch <input type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | | | | |
| Results: Acceptable <input type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| EXAMINER/EVALUATOR (Print & Sign) | <i>Daniel P. O'Shea</i> | | LEVEL <i>II</i> | DATE <i>11-12-09</i> |
| STATION/ADMIN REVIEW (Print & Sign): | <i>Evan Johnson</i> | | DATE <i>3/15/10</i> | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. RI or Unacceptable results Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Additional Actions: (Action Request, Work Order, Issue Report, etc. Initiated for Corrective Action) | | | | |
| LEVEL III or RI REVIEW (as applicable) | <i>Harold T. Hill (P.E.)</i> | | DATE: <i>18 Mar 10</i> | |
| ANII REVIEW (as applicable) | DATE: | | | |

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ASME IWL (Class CC) Containment Tendon Anchorage
Detailed Visual or VT-1 Visual Examination NDE Report
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| Station: TMI | Unit: 1 | Date: 8-12-09 | Report No: | |
|---|--|---|---------------------------|---|
| WO No(s): R 2067551 | Tendon Anchorage No.: H62-26 | Tendon End: <input checked="" type="checkbox"/> Shop <input type="checkbox"/> Field | | |
| Location: Tunnel, Gallery, Buttress 6 | Elevation: | Bearing Plate I.D.: Unable to locate | | |
| Bearing Plate I.D. | Anchor Head I.D. 837 924 8-12-09 | Bushing I.D. 924 | | |
| Exam Type: <input type="checkbox"/> DV <input checked="" type="checkbox"/> VT-1 | Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote | | | |
| <input checked="" type="checkbox"/> As Found Exam <input type="checkbox"/> As Left Exam Following Retensioning Of Tendons Which Have Been Detentioned | | | | |
| Design Drawing(s) P5-25 | Visual Aids: NONE | | | |
| M&TE Used: NA | <input checked="" type="checkbox"/> Test Card | UTC or Serial No. N/A | Cal. Due Date: N/A | |
| Illumination Used Flashlight | Illumination Verified: | Date: 8-12-09 | Time: 1: PM | |
| Special / Specific Instructions: | NONE | | | |
| Component / Item Number and Description | RESULTS | | | Explanation / Notes (Sketch Shall Be Attached Depicting Location Of All Missing, Protruding, Unseated Wires) |
| | NI | RI TYPE | IO | |
| Tendon anchorage components for H62-26 Buttress 6 / Shop end | X | | | |
| Results Legend: NI - No Indications RI - Recordable Indication IO - Information Only | | | | |
| Recordable Indication Type Codes: | | | | |
| A. Missing Wires | H. Cracks | O. Other (Explain) | | |
| B. Missing Button Heads | I. Pitting | | | |
| C. Protruding / Unseated Wires | J. Nicks, Gouges, Mechanical Damage | | | |
| D. Broken Wires | K. Uneven Shim Stack | | | |
| E. Active Corrosion | L. Excessive Shim Gaps | | | |
| F. Other Corrosion | M. Gasket Sealing Surface Damage | | | |
| G. Evidence Of Free Water (Quantify) | N. Surface Discontinuities, Deflections | | | |
| Supplemental Information: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Sketch <input checked="" type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | | | | |
| Results: Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| EXAMINER/EVALUATOR (Print & Sign) W. RANCE FORDIN'S <i>W. Rance Fordin's</i> | | LEVEL II | DATE 8-12-09 | |
| STATION/ADMIN REVIEW (Print & Sign) Evan Johnson <i>Evan Johnson</i> | | DATE 3/15/10 | | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. | | | | |
| RI or Unacceptable results Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Additional Actions: (Action Request, Work Order, Issue Report, etc. Initiated for Corrective Action) | | | | |
| LEVEL III or RI REVIEW (as applicable) <i>Howie T. Hill, PE</i> | | DATE: 18 Mar 10 | | |
| ANII REVIEW (as applicable) | | DATE: | | |

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ATTACHMENT 5
ASME IWL (Class CC) Containment Tendon Anchorage
Detailed Visual or VT-1 Visual Examination NDE Report
Page 1 of 1

| Station: TMI | Unit: 1 | Date: 8-28-09 | Report No: | |
|--|--|---|---------------------------|---|
| WO No(s): R-2067551 | Tendon Anchorage No.: H62-26 | Tendon End: <input type="checkbox"/> Shop <input checked="" type="checkbox"/> Field | | |
| Location: Tunnel, Gallery, (Buttress) 2 | Elevation: | Bearing Plate I.D.: TK | | |
| Bearing Plate I.D. N/A | Anchor Head I.D. 571 | Bushing I.D. N/A | | |
| Exam Type: <input type="checkbox"/> DV <input checked="" type="checkbox"/> VT-1 | Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote | | | |
| <input checked="" type="checkbox"/> As Found Exam <input type="checkbox"/> As Left Exam Following Retensioning Of Tendons Which Have Been Detentioned | | | | |
| Design Drawing(s) P5-22 | Visual Aids: NONE | | | |
| M&TE Used: Scale R21 Caldw. 4.6-10 | <input checked="" type="checkbox"/> Test Card | UTC or Serial No. N/A | Cal. Due Date: N/A | |
| Illumination Used Flash light | Illumination Verified: | Date: 8-28-09 | Time: 7:30 AM | |
| Special / Specific Instructions: | None | | | |
| Component / Item Number and Description | RESULTS | | | Explanation / Notes (Sketch Shall Be Attached Depicting Location Of All Missing, Protruding, Unseated Wires) |
| | NI | RI TYPE | IO | |
| H62-26 Buttress 2 field end anchorage components. | ✓ | | | |
| Results Legend: NI - No Indications RI - Recordable Indication IO - Information Only | | | | |
| Recordable Indication Type Codes: | | | | |
| A. Missing Wires | H. Cracks | O. Other (Explain) | | |
| B. Missing Button Heads | I. Pitting | | | |
| C. Protruding / Unseated Wires | J. Nicks, Gouges, Mechanical Damage | | | |
| D. Broken Wires | K. Uneven Shim Stack | | | |
| E. Active Corrosion | L. Excessive Shim Gaps | | | |
| F. Other Corrosion | M. Gasket Sealing Surface Damage | | | |
| G. Evidence Of Free Water (Quantify) | N. Surface Discontinuities, Deflections | | | |
| Supplemental Information: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Sketch <input type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | | | | |
| Results: Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| EXAMINER/EVALUATOR (Print & Sign) W. Bruce Robbins | W. Bruce Robbins | LEVEL II | DATE 8-28-09 | |
| STATION/ADMIN REVIEW (Print & Sign) Eric Johnson | Eric Johnson | | DATE 3/15/10 | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. | | | | |
| RI or Unacceptable results Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Additional Actions: (Action Request, Work Order, Issue Report, etc. initiated for Corrective Action) | | | | |
| LEVEL III or RI REVIEW (as applicable) Howard T. Hill, P.E. DATE: 18 MAR 10 | | | | |
| ANII REVIEW (as applicable) DATE: | | | | |

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ASME IWL (Class CC) Containment Tendon Anchorage
Detailed Visual or VT-1 Visual Examination NDE Report
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| Station: <u>TMI</u> Unit: <u>1</u> Date: <u>8-18-09</u> Report No: | | | | |
|---|---|------------------------|---------------------|---|
| WO No(s): <u>R2067551</u> | Tendon Anchorage No.: <u>V-11</u> Tendon End: <input checked="" type="checkbox"/> Shop <input type="checkbox"/> Field | | | |
| Location: <u>Tunnel</u> Gallery, Buttress: | Elevation: Bearing Plate I.D.: <u>Unable to locate</u> | | | |
| Bearing Plate I.D. | Anchor Head I.D. <u>519</u> Bushing I.D. <u>1213</u> | | | |
| Exam Type: <input type="checkbox"/> DV <input checked="" type="checkbox"/> VT-1 | Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote | | | |
| <input checked="" type="checkbox"/> As Found Exam <input type="checkbox"/> As Left Exam Following Retensioning Of Tendons Which Have Been Detentioned | | | | |
| Design Drawing(s) | Visual Aids: <u>NONE</u> | | | |
| M&TE Used: <u>R-21 scale cal Ave 4-6-10</u> | <input checked="" type="checkbox"/> Test Card UTC or Serial No. <u>N/A</u> Cal. Due Date: <u>N/A</u> | | | |
| Illumination Used: <u>Flashlight</u> | Illumination Verified: Date: <u>8-18-09</u> Time: <u>7:AM</u> | | | |
| Special / Specific Instructions: | <u>None</u> | | | |
| Component / Item Number and Description | RESULTS | | | Explanation / Notes (Sketch Shall Be Attached Depicting Location Of All Missing, Protruding, Unseated Wires) |
| | NI | RI TYPE | IO | |
| <u>Tendon Anchorage components for V-11 Shop / Top end</u> | <u>X</u> | | | |
| Results Legend: NI - No Indications RI - Recordable Indication IO - Information Only | | | | |
| Recordable Indication Type Codes: | | | | |
| A. Missing Wires | H. Cracks | O. Other (Explain) | | |
| B. Missing Button Heads | I. Pitting | | | |
| C. Protruding / Unseated Wires | J. Nicks, Gouges, Mechanical Damage | | | |
| D. Broken Wires | K. Uneven Shim Stack | | | |
| E. Active Corrosion | L. Excessive Shim Gaps | | | |
| F. Other Corrosion | M. Gasket Seating Surface Damage | | | |
| G. Evidence Of Free Water (Quantify) | N. Surface Discontinuities, Deflections | | | |
| Supplemental Information: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Sketch <input checked="" type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | | | | |
| Results: Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| EXAMINER/EVALUATOR (Print & Sign) <u>W. PAUL ROBBINS</u> <u>W. Paul Robbins</u> | | LEVEL <u>II</u> | DATE <u>8-18-09</u> | |
| STATION/ADMIN REVIEW (Print & Sign) <u>Edward Johnson</u> | | DATE <u>3/15/10</u> | | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. | | | | |
| RI or Unacceptable results Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Additional Actions: (Action Request, Work Order, Issue Report, etc. Initiated for Corrective Action) | | | | |
| LEVEL III or RI REVIEW (as applicable) <u>Howard T. Hill, (R)</u> | | DATE: <u>18 MAR 10</u> | | |
| ANII REVIEW (as applicable) | | DATE: | | |

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ASME IWL (Class CC) Containment Tendon Anchorage
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| Station: TMI | Unit: 1 | Date: 8-13-09 | Report No: | |
|---|--|---|---------------------------|---|
| WO No(s): R2067551 | Tendon Anchorage No.: V-11 | Tendon End: <input type="checkbox"/> Shop <input checked="" type="checkbox"/> Field | | |
| Location: Tunnel (Gallery) Buttress: | Elevation: | Bearing Plate I.D.: Unable to locate | | |
| Bearing Plate I.D. | Anchor Head I.D. 555 | Bushing I.D. N/A | | |
| Exam Type: <input type="checkbox"/> DV <input checked="" type="checkbox"/> VT-1 | Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote | | | |
| <input checked="" type="checkbox"/> As Found Exam <input type="checkbox"/> As Left Exam Following Retensioning Of Tendons Which Have Been Detentioned | | | | |
| Design Drawing(s) | Visual Aids: None | | | |
| M&TE Used: None | <input checked="" type="checkbox"/> Test Card | UTC or Serial No. N/A | Cal. Due Date: N/A | |
| Illumination Used Flashlight | Illumination Verified: | Date: 8-13-09 | Time: 1:1 PM | |
| Special / Specific Instructions: | None | | | |
| Component / Item Number and Description | RESULTS | | | Explanation / Notes (Sketch Shall Be Attached Depicting Location Of All Missing, Protruding, Unseated Wires) |
| | NI | RI TYPE | IO | |
| Anchorage components ON V-11 gallery / Field end. | X | | | |
| Results Legend: NI - No Indications RI - Recordable Indication IO - Information Only | | | | |
| Recordable Indication Type Codes: | | | | |
| A. Missing Wires | H. Cracks | O. Other (Explain) | | |
| B. Missing Button Heads | I. Pitting | | | |
| C. Protruding / Unseated Wires | J. Nicks, Gouges, Mechanical Damage | | | |
| D. Broken Wires | K. Uneven Shim Stack | | | |
| E. Active Corrosion | L. Excessive Shim Gaps | | | |
| F. Other Corrosion | M. Gasket Seating Surface Damage | | | |
| G. Evidence Of Free Water (Quantify) | N. Surface Discontinuities, Deflections | | | |
| Supplemental Information: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Sketch <input checked="" type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | | | | |
| Results: Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| EXAMINER/EVALUATOR (Print & Sign) N. Rance Robbins | | LEVEL II | DATE 8-13-09 | |
| STATION/ADMIN REVIEW (Print & Sign) Even Johnson | | DATE 3/15/10 | | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. | | | | |
| RI or Unacceptable results Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Additional Actions: (Action Request, Work Order, Issue Report, etc. Initiated for Corrective Action) | | | | |
| LEVEL III or RI REVIEW (as applicable) | | DATE: 18 Mar 10 | | |
| ANII REVIEW (as applicable) | | DATE: | | |

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ATTACHMENT 5
ASME IWL (Class CC) Containment Tendon Anchorage
Detailed Visual or VT-1 Visual Examination NDE Report
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| Station: <u>TMI</u> Unit: <u>1</u> Date: <u>8-18-09</u> Report No: | | | | |
|--|---|------------------------|---------------------|---|
| WO No(s): <u>R2067551</u> | Tendon Anchorage No.: <u>V-32</u> Tendon End: <input checked="" type="checkbox"/> Shop <input type="checkbox"/> Field | | | |
| Location: <u>(Tunnel) Gallery, Buttress:</u> Elevation: | Bearing Plate I.D.: <u>Unable to locate</u> | | | |
| Bearing Plate I.D. | Anchor Head I.D. <u>1036</u> Bushing I.D. <u>1050</u> | | | |
| Exam Type: <input type="checkbox"/> DV <input checked="" type="checkbox"/> VT-1 | Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote | | | |
| <input checked="" type="checkbox"/> As Found Exam <input type="checkbox"/> As Left Exam Following Retensioning Of Tendons Which Have Been Detentioned | | | | |
| Design Drawing(s) | Visual Aids: <u>NONE</u> | | | |
| M&TE Used: <u>R21 Scale 4-6-10</u> | <input checked="" type="checkbox"/> Test Card UTC or Serial No. <u>N/A</u> Cal. Due Date: <u>N/A</u> | | | |
| Illumination Used: <u>Flashlight</u> | Illumination Verified: Date: <u>8-18-09</u> Time: <u>7:AM</u> | | | |
| Special / Specific Instructions: | <u>None</u> | | | |
| Component / Item Number and Description | RESULTS | | | Explanation / Notes (Sketch Shall Be Attached Depicting Location Of All Missing, Protruding, Unseated Wires) |
| | NI | RI | IO | |
| <u>Anchorage components for V-32 tendon shop/top end.</u> | <u>X</u> | | | |
| Results Legend: NI - No Indications RI - Recordable Indication IO - Information Only | | | | |
| Recordable Indication Type Codes: | | | | |
| A. Missing Wires | H. Cracks | O. Other (Explain) | | |
| B. Missing Button Heads | I. Pitting | | | |
| C. Protruding / Unseated Wires | J. Nicks, Gouges, Mechanical Damage | | | |
| D. Broken Wires | K. Uneven Shim Stack | | | |
| E. Active Corrosion | L. Excessive Shim Gaps | | | |
| F. Other Corrosion | M. Gasket Seating Surface Damage | | | |
| G. Evidence Of Free Water (Quantify) | N. Surface Discontinuities, Deflections | | | |
| Supplemental Information : <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Sketch <input checked="" type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | | | | |
| Results: Acceptable <input type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| EXAMINER/EVALUATOR (Print & Sign) <u>W. Lance Robbins</u> <u>W. Lance Robbins</u> | | LEVEL <u>II</u> | DATE <u>8-18-09</u> | |
| STATION/ADMIN REVIEW (Print & Sign) <u>Eric Johnson</u> | | DATE <u>3/15/10</u> | | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. | | | | |
| RI or Unacceptable (results Acceptable) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Additional Actions: (Action Request, Work Order, Issue Report, etc. Initiated for Corrective Action) | | | | |
| LEVEL III or RI REVIEW (as applicable) <u>Howard T. Hill, P.E.</u> | | DATE: <u>12 MAR 10</u> | | |
| ANII REVIEW (as applicable) | | DATE: | | |

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ATTACHMENT 5
ASME IWL (Class CC) Containment Tendon Anchorage
Detailed Visual or VT-1 Visual Examination NDE Report
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| Station: <u>TMI</u> | Unit: <u>1</u> | Date: <u>8-13-09</u> | Report No: | |
|--|--|---|---------------------------|---|
| WO No(s): <u>R2067551</u> | Tendon Anchorage No.: <u>V-32</u> | Tendon End: <input type="checkbox"/> Shop <input checked="" type="checkbox"/> Field | | |
| Location: Tunnel, <u>Gallery</u> , Buttress: | Elevation: | Bearing Plate I.D.: <u>Unable to locate</u> | | |
| Bearing Plate I.D. | Anchor Head I.D. <u>637</u> | Bushing I.D. <u>N/A</u> | | |
| Exam Type: <input type="checkbox"/> DV <input checked="" type="checkbox"/> VT-1 | Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote | | | |
| <input checked="" type="checkbox"/> As Found Exam <input type="checkbox"/> As Left Exam Following Retensioning Of Tendons Which Have Been Detentioned | | | | |
| Design Drawing(s) | Visual Aids: <u>None</u> | | | |
| M&TE Used: <u>R21 subcal due 4-6-10</u> | <input checked="" type="checkbox"/> Test Card | UTC or Serial No.: <u>N/A</u> | Cal. Due Date: <u>N/A</u> | |
| Illumination Used: <u>Flashlight</u> | Illumination Verified: | Date: <u>8-13-09</u> | Time: <u>11PM</u> | |
| Special / Specific Instructions: | <u>None</u> | | | |
| Component / Item Number and Description | RESULTS | | | Explanation / Notes (Sketch Shall Be Attached Depicting Location Of All Missing, Protruding, Unseated Wires) |
| | NI | RI TYPE | IO | |
| <u>Anchorage components for V-32 Gallery/Field end.</u> | <u>X</u> | | | |
| Results Legend: NI - No Indications RI - Recordable Indication IO - Information Only | | | | |
| Recordable Indication Type Codes: | | | | |
| A. Missing Wires | H. Cracks | O. Other (Explain) | | |
| B. Missing Button Heads | I. Pitting | | | |
| C. Protruding / Unseated Wires | J. Nicks, Gouges, Mechanical Damage | | | |
| D. Broken Wires | K. Uneven Shim Stack | | | |
| E. Active Corrosion | L. Excessive Shim Gaps | | | |
| F. Other Corrosion | M. Gasket Seating Surface Damage | | | |
| G. Evidence Of Free Water (Quantify) | N. Surface Discontinuities, Deflections | | | |
| Supplemental Information: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Sketch <input type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | | | | |
| Results: Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| EXAMINER/EVALUATOR: (Print & Sign) <u>W. Rance Robles</u> | | LEVEL <u>II</u> | DATE <u>8-13-09</u> | |
| STATION/ADMIN REVIEW: (Print & Sign) <u>Evon Johnson</u> | | DATE <u>3/15/10</u> | | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. | | | | |
| RI or Unacceptable results Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Additional Actions: (Action Request, Work Order, Issue Report, etc. Initiated for Corrective Action) | | | | |
| LEVEL III or RI REVIEW (as applicable) <u>Howard T. Hill</u> | | DATE: <u>12 Mar 10</u> | | |
| ANII REVIEW (as applicable) | | DATE: | | |

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ATTACHMENT 5
ASME IWL (Class CC) Containment Tendon Anchorage
Detailed Visual or VT-1 Visual Examination NDE Report
 Page 1 of 1

| Station: <u>TMI</u> | | Unit: <u>1</u> | Date: <u>8-18-09</u> | Report No: |
|---|---|---|---|---|
| WO No(s): <u>R2067551</u> | Tendon Anchorage No.: <u>V-90</u> | | Tendon End: <input checked="" type="checkbox"/> Shop <input type="checkbox"/> Field | |
| Location: <u>(Tunnel) Gallery, Buttress:</u> | | Elevation: | Bearing Plate I.D.: <u>Unable to locate</u> | |
| Bearing Plate I.D. | Anchor Head I.D. <u>890</u> | Bushing I.D. <u>590</u> | | |
| Exam Type: <input type="checkbox"/> DV <input checked="" type="checkbox"/> VT-1 | | Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote | | |
| <input checked="" type="checkbox"/> As Found Exam | | <input type="checkbox"/> As Left Exam Following Retensioning Of Tendons Which Have Been Detentioned | | |
| Design Drawing(s) | | Visual Aids: <u>NONE</u> | | |
| M&TE Used: <u>R-21 scale, cal. due 4/10</u> | | <input checked="" type="checkbox"/> Test Card | UTC or Serial No. <u>N/A</u> | Cal. Due Date: <u>N/A</u> |
| Illumination Used: <u>Flashlight</u> | | Illumination Verified: | Date: <u>8-18-09</u> | Time: <u>7:30 AM</u> |
| Special / Specific Instructions: <u>NONE</u> | | <u>PER 8-19-09</u> | | |
| Component / Item Number and Description | RESULTS | | | Explanation / Notes (Sketch Shall Be Attached Depicting Location Of All Missing, Protruding, Unseated Wires) |
| | NI | RI TYPE | IO | |
| <u>ANCHORAGE components for V-90 Shop / top end.</u> | <u>X</u> | | | |
| Results Legend: NI - No Indications RI - Recordable Indication IO - Information Only | | | | |
| Recordable Indication Type Codes: | | | | |
| A. Missing Wires | H. Cracks | O. Other (Explain) | | |
| B. Missing Button Heads | I. Pitting | | | |
| C. Protruding / Unseated Wires | J. Nicks, Gouges, Mechanical Damage | | | |
| D. Broken Wires | K. Uneven Shim Stack | | | |
| E. Active Corrosion | L. Excessive Shim Gaps | | | |
| F. Other Corrosion | M. Gasket Sealing Surface Damage | | | |
| G. Evidence Of Free Water (Quantify) | N. Surface Discontinuities, Deflections | | | |
| Supplemental Information: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Sketch <input checked="" type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | | | | |
| Results: Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| EXAMINER/EVALUATOR (Print & Sign) <u>W. Lance Robbins</u> | | LEVEL <u>II</u> | DATE <u>8-18-09</u> | |
| STATION/ADMIN REVIEW (Print & Sign) <u>Even Johnson</u> | | DATE <u>3/15/10</u> | | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. | | | | |
| RI or Unacceptable results Acceptable: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Additional Actions: (Action Request, Work Order, Issue Report, etc. Initiated for Corrective Action) | | | | |
| LEVEL III or RI REVIEW (as applicable) <u>Flora D. H. (Harold T. Hill, P.E.)</u> | | DATE: <u>18 MAR 10</u> | | |
| ANII REVIEW (as applicable) | | DATE: | | |

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ATTACHMENT 5
ASME IWL (Class CC) Containment Tendon Anchorage
Detailed Visual or VT-1 Visual Examination NDE Report
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| Station: <u>TMI</u> | Unit: <u>1</u> | Date: <u>8-20-09</u> | Report No: | |
|--|--|--|---------------------------|---|
| WO No(s): <u>R2067551</u> | Tendon Anchorage No.: <u>V-90</u> | Tendon End: <input checked="" type="checkbox"/> Shop <input type="checkbox"/> Field | | |
| Location: <u>Tunnel</u> Gallery, Buttress: | Elevation: | Bearing Plate I.D.: <u>unable to locate</u> | | |
| Bearing Plate I.D. | Anchor Head I.D. <u>890</u> | Bushing I.D. <u>590</u> | | |
| Exam Type: <input type="checkbox"/> DV <input checked="" type="checkbox"/> VT-1 | Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote | | | |
| <input type="checkbox"/> As Found Exam | | <input checked="" type="checkbox"/> As Left Exam Following Retensioning Of Tendons Which Have Been Detentioned | | |
| Design Drawing(s) | Visual Aids: <u>NONE</u> | | | |
| M&TE Used: <u>NONE</u> | <input checked="" type="checkbox"/> Test Card | UTC or Serial No. <u>N/A</u> | Cal. Due Date: <u>N/A</u> | |
| Illumination Used <u>Flashlight</u> | Illumination Verified: Date: <u>8-20-09</u> | | Time: <u>2:00 PM</u> | |
| Special / Specific Instructions: | <u>NONE</u> | | | |
| Component / Item Number and Description | RESULTS | | | Explanation / Notes (Sketch Shall Be Attached Depicting Location Of All Missing, Protruding, Unseated Wires) |
| | NI | RI | IO | |
| <u>Anchorage components for V-90 shop/top end.</u> | <u>X</u> | <u>270</u> <u>2-25-10</u> | <u>A</u> | <u>WIRE REMOVED THIS SURVEILLANCE 270 2-25-10</u> |
| Results Legend: NI - No Indications RI - Recordable Indication IO - Information Only | | | | |
| Recordable Indication Type Codes: | | | | |
| A. Missing Wires | H. Cracks | O. Other (Explain) | | |
| B. Missing Button Heads | I. Pitting | | | |
| C. Protruding / Unseated Wires | J. Nicks, Gouges, Mechanical Damage | | | |
| D. Broken Wires | K. Uneven Shim Stack | | | |
| E. Active Corrosion | L. Excessive Shim Gaps | | | |
| F. Other Corrosion | M. Gasket Sealing Surface Damage | | | |
| G. Evidence Of Free Water (Quantify) | N. Surface Discontinuities, Deflections | | | |
| Supplemental Information: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Sketch <input type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | | | | |
| Results: Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| EXAMINER/EVALUATOR (Print & Sign) <u>W. Lance Robbins</u> | | LEVEL <u>II</u> | DATE <u>8-20-09</u> | |
| STATION/ADMIN REVIEW (Print & Sign) <u>Evan Johnson</u> | | DATE <u>3/15/10</u> | | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. RI or Unacceptable (results Acceptable) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Additional Actions: (Action Request, Work Order, Issue Report, etc. Initiated for Corrective Action) | | | | |
| LEVEL III or RI REVIEW (as applicable) <u>Thomas J. Hill, P.E.</u> | | DATE: <u>18 Mar 10</u> | | |
| ANII REVIEW (as applicable) | | DATE: | | |

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ASME IWL (Class CC) Containment Tendon Anchorage
Detailed Visual or VT-1 Visual Examination NDE Report
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| Station: TMI | Unit: 1 | Date: 8-13-09 | Report No: | |
|---|--|---|---------------------------|---|
| WO No(s): R206755 | Tendon Anchorage No.: V-90 | Tendon End: <input type="checkbox"/> Shop <input checked="" type="checkbox"/> Field | | |
| Location: Tunnel (Gallery) Buttress: | Elevation: | Bearing Plate I.D.: Unable to locate | | |
| Bearing Plate I.D. | Anchor Head I.D. 728 | Bushing I.D. N/A | | |
| Exam Type: <input type="checkbox"/> DV <input checked="" type="checkbox"/> VT-1 | Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote | | | |
| <input checked="" type="checkbox"/> As Found Exam <input type="checkbox"/> As Left Exam Following Retensioning Of Tendons Which Have Been Detentioned | | | | |
| Design Drawing(s) | Visual Aids: NONE | | | |
| M&TE Used: None | <input checked="" type="checkbox"/> Test Card | UTC or Serial No. N/A | Cal. Due Date: N/A | |
| Illumination Used Flashlight | Illumination Verified: | Date: 8-13-09 | Time: 1:1 PM | |
| Special / Specific Instructions: | NONE | | | |
| Component / Item Number and Description | RESULTS | | | Explanation / Notes (Sketch Shall Be Attached Depicting Location Of All Missing, Protruding, Unseated Wires) |
| | NI | RI | IO | |
| Anchorage components for V-90 tendon gallery field end. | X | | | |
| Results Legend: NI - No Indications RI - Recordable Indication IO - Information Only | | | | |
| Recordable Indication Type Codes: | | | | |
| A. Missing Wires | H. Cracks | O. Other (Explain) | | |
| B. Missing Button Heads | I. Pitting | | | |
| C. Protruding / Unseated Wires | J. Nicks, Gouges, Mechanical Damage | | | |
| D. Broken Wires | K. Uneven Shim Stack | | | |
| E. Active Corrosion | L. Excessive Shim Gaps | | | |
| F. Other Corrosion | M. Gasket Sealing Surface Damage | | | |
| G. Evidence Of Free Water (Quantify) | N. Surface Discontinuities, Deflections | | | |
| Supplemental Information: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Sketch <input checked="" type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | | | | |
| Results: Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| EXAMINER/EVALUATOR (Print & Sign) N. Rance Robbins | | LEVEL II | DATE 8-13-09 | |
| STATION/ADMIN REVIEW (Print & Sign) Eric Johnson | | DATE 3/15/10 | | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. | | | | |
| RI or Unacceptable results Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Additional Actions: (Action Request, Work Order, Issue Report, etc. Initiated for Corrective Action) | | | | |
| LEVEL III or RI REVIEW (as applicable) Howard T. Mac (DATE: 18 Mar 10) | | | | |
| ANII REVIEW (as applicable) DATE: | | | | |

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ATTACHMENT 5
ASME IWL (Class CC) Containment Tendon Anchorage
Detailed Visual or VT-1 Visual Examination NDE Report
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| Station: <u>TMI</u> | Unit: <u>1</u> | Date: <u>8-20-09</u> | Report No: | |
|--|--|---|---------------------------|---|
| WO No(s): <u>R-2067551</u> | Tendon Anchorage No.: <u>V-90</u> | Tendon End: <input type="checkbox"/> Shop <input checked="" type="checkbox"/> Field | | |
| Location: Tunnel/Gallery <u>Buttress:</u> | Elevation: | Bearing Plate I.D.: <u>UNABLE TO LOCATE</u> | | |
| Bearing Plate I.D. | Anchor Head I.D. <u>728</u> | Bushing I.D. <u>N/A</u> | | |
| Exam Type: <input type="checkbox"/> DV <input checked="" type="checkbox"/> VT-1 | Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote | | | |
| <input type="checkbox"/> As Found Exam | <input checked="" type="checkbox"/> As Left Exam Following Retensioning Of Tendons Which Have Been Detentioned | | | |
| Design Drawing(s) | Visual Aids: <u>NONE</u> | | | |
| M&TE Used: <u>NONE</u> | <input checked="" type="checkbox"/> Test Card | UTC or Serial No. <u>N/A</u> | Cal. Due Date: <u>N/A</u> | |
| Illumination Used: <u>Flashlight</u> | Illumination Verified: | Date: <u>8-20-09</u> | Time: <u>2:PM</u> | |
| Special / Specific Instructions: | <u>NONE</u> | | | |
| Component / Item Number and Description | RESULTS | | | Explanation / Notes (Sketch Shall Be Attached Depicting Location Of All Missing, Protruding, Unseated Wires) |
| | NI | RI TYPE | IO | |
| <u>Anchorage components for V-90 tendon Gallery/Field End Post Retension</u> | <u>X</u> | | <u>A</u> | <u>1 wire removed affecting this surveillance</u> <u>DRD</u> <u>8-25-09</u> <u>8-25-09</u> |
| Results Legend: NI - No Indications RI - Recordable Indication IO - Information Only | | | | |
| Recordable Indication Type Codes: | | | | |
| A. Missing Wires | H. Cracks | O. Other (Explain) | | |
| B. Missing Button Heads | I. Pitting | | | |
| C. Protruding / Unseated Wires | J. Nicks, Gouges, Mechanical Damage | | | |
| D. Broken Wires | K. Uneven Shim Stack | | | |
| E. Active Corrosion | L. Excessive Shim Gaps | | | |
| F. Other Corrosion | M. Gasket Seating Surface Damage | | | |
| G. Evidence Of Free Water (Quantify) | N. Surface Discontinuities, Deflections | | | |
| Supplemental Information: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Sketch <input type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | | | | |
| Results: Acceptable <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | | | |
| EXAMINER/EVALUATOR (Print & Sign) <u>W. Rance Robbins</u> | | LEVEL <u>II</u> | DATE <u>8-20-09</u> | |
| STATION/ADMIN REVIEW (Print & Sign) <u>Evon Johnson</u> | | DATE <u>3/15/10</u> | | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. | | | | |
| RI or Unacceptable results Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Additional Actions: (Action Request, Work Order, Issue Report, etc. Initiated for Corrective Action) | | | | |
| LEVEL III or RI REVIEW (as applicable) <u>Plasma P.A.</u> | | DATE: <u>18 Mar. 10</u> | | |
| ANII REVIEW (as applicable) | | DATE: | | |

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ATTACHMENT 5
ASME IWL (Class CC) Containment Tendon Anchorage
Detailed Visual or VT-1 Visual Examination NDE Report
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| | |
|---|--|
| Station: TMI Unit: 1 Date: 8-13-09 Report No: | |
| WO No(s): R206 7551 Tendon Anchorage No.: V-132 Tendon End: <input checked="" type="checkbox"/> Shop <input type="checkbox"/> Field | |
| Location: (Tunnel) Gallery, Buttress: Elevation: Bearing Plate I.D.: Unable to locate | |
| Bearing Plate I.D. Anchor Head I.D. 916 Bushing I.D. 1098 | |
| Exam Type: <input type="checkbox"/> DV <input checked="" type="checkbox"/> VT-1 Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote | |
| <input checked="" type="checkbox"/> As Found Exam <input type="checkbox"/> As Left Exam Following Retensioning Of Tendons Which Have Been Detentioned | |
| Design Drawing(s) Visual Aids: NONE | |
| M&TE Used: R218 & 46-10 <input checked="" type="checkbox"/> Test Card UTC or Serial No. N/A Cal. Due Date: N/A | |
| Illumination Used Flashlight Illumination Verified: Date: 8-13-09 Time: 8:11M | |
| Special / Specific Instructions: NONE | |
| RESULTS | |
| Component / Item Number and Description | |
| NI RI TYPE IO | |
| Explanation / Notes (Sketch Shall Be Attached Depicting Location Of All Missing, Protruding, Unseated Wires) | |
| Tendon Anchorage components for Top/Shop end of V-132 | |
| X | |
| Results Legend: NI - No Indications RI - Recordable Indication IO - Information Only | |
| Recordable Indication Type Codes: | |
| A. Missing Wires H. Cracks O. Other (Explain) | |
| B. Missing Button Heads I. Pitting | |
| C. Protruding / Unseated Wires J. Nicks, Gouges, Mechanical Damage | |
| D. Broken Wires K. Uneven Shim Stack | |
| E. Active Corrosion L. Excessive Shim Gaps | |
| F. Other Corrosion M. Gasket Sealing Surface Damage | |
| G. Evidence Of Free Water (Quantify) N. Surface Discontinuities, Deflections | |
| Supplemental Information: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Sketch <input checked="" type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | |
| Results: Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| EXAMINER/EVALUATOR (Print & Sign) W. Rance Robbins <i>W. Rance Robbins</i> LEVEL II DATE 8-13-09 | |
| STATION/ADMIN REVIEW (Print & Sign) Ernest Johnson <i>Ernest Johnson</i> DATE 3/15/10 | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. | |
| RI or Unacceptable results: Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| Additional Actions: (Action Request, Work Order, Issue Report, etc. Initiated for Corrective Action) | |
| LEVEL III or RI REVIEW (as applicable) Howard T. Hill <i>Howard T. Hill</i> (HOWARD T. HILL, P.E.) DATE: 18 MAR 10 | |
| ANII REVIEW (as applicable) DATE: | |

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ATTACHMENT 5
ASME IWL (Class CC) Containment Tendon Anchorage
Detailed Visual or VT-1 Visual Examination NDE Report
Page 1 of 1

| | | | | |
|---|--|------------------------|---------------------|---|
| Station: <u>TMT</u> Unit: <u>1</u> Date: <u>8-13-09</u> Report No: | | | | |
| WO No(s): <u>R2067551</u> | Tendon Anchorage No.: <u>V-132</u> Tendon End: <input type="checkbox"/> Shop <input checked="" type="checkbox"/> Field | | | |
| Location: Tunnel (<u>Gallery</u>) Buttress: | Elevation: Bearing Plate I.D.: | | | |
| Bearing Plate I.D. | Anchor Head I.D. <u>682</u> Bushing I.D. <u>N/A</u> | | | |
| Exam Type: <input type="checkbox"/> DV <input checked="" type="checkbox"/> VT-1 | Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote | | | |
| <input checked="" type="checkbox"/> As Found Exam <input type="checkbox"/> As Left Exam Following Retensioning Of Tendons Which Have Been Detentioned | | | | |
| Design Drawing(s) | Visual Aids: <u>NONE</u> | | | |
| M&TE Used: <u>R-21 Scale Cal. dvc 4-6-10</u> <input checked="" type="checkbox"/> Test Card | UTC or Serial No. <u>N/A</u> Cal. Due Date: <u>N/A</u> | | | |
| Illumination Used <u>Flash light</u> | Illumination Verified: Date: <u>8-13-09</u> Time: <u>1: PM</u> | | | |
| Special / Specific Instructions: | <u>NONE</u> | | | |
| Component / Item Number and Description | RESULTS | | | Explanation / Notes (Sketch Shall Be Attached Depicting Location Of All Missing, Protruding, Unseated Wires) |
| | NI | RI TYPE | IO | |
| <u>Anchorage components for V-132 Gallery Field End.</u> | <u>X</u> | | | |
| Results Legend: NI - No Indications RI - Recordable Indication IO - Information Only | | | | |
| Recordable Indication Type Codes: | | | | |
| A. Missing Wires | H. Cracks | O. Other (Explain) | | |
| B. Missing Button Heads | I. Pitting | | | |
| C. Protruding / Unseated Wires | J. Nicks, Gouges, Mechanical Damage | | | |
| D. Broken Wires | K. Uneven Shim Stack | | | |
| E. Active Corrosion | L. Excessive Shim Gaps | | | |
| F. Other Corrosion | M. Gasket Sealing Surface Damage | | | |
| G. Evidence Of Free Water (Quantify) | N. Surface Discontinuities, Deflections | | | |
| Supplemental Information: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Sketch <input checked="" type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | | | | |
| Results: Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| EXAMINER/EVALUATOR (Print & Sign) <u>W. Lance Robbins</u> | | LEVEL <u>II</u> | DATE <u>8-13-09</u> | |
| STATION/ADMIN REVIEW (Print & Sign) <u>E. J. ...</u> | | DATE <u>3/15/10</u> | | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. | | | | |
| RI or Unacceptable results Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No. | | | | |
| Additional Actions: (Action Request, Work Order, Issue Report, etc. initiated for Corrective Action) | | | | |
| LEVEL III or RI REVIEW (as applicable) <u>David J. ...</u> | | DATE: <u>12 Apr 10</u> | | |
| ANII REVIEW (as applicable) | | DATE: | | |

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ATTACHMENT 5
ASME IWL (Class CC) Containment Tendon Anchorage
Detailed Visual or VT-1 Visual Examination NDE Report
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| Station: <u>TMI</u> | Unit: <u>1</u> | Date: <u>8-17-09</u> | Report No: | |
|---|--|---|---------------------------|---|
| WO No(s): <u>R2067531</u> | Tendon Anchorage No.: <u>D-122</u> | Tendon End: <input checked="" type="checkbox"/> Shop <input type="checkbox"/> Field | | |
| Location: Tunnel, Gallery, <u>Bultruss</u> <u>5</u> | Elevation: | Bearing Plate I.D.: <u>TO</u> | | |
| Bearing Plate I.D. <u>TO</u> | Anchor Head I.D. <u>547</u> | Bushing I.D. <u>1074</u> | | |
| Exam Type: <input type="checkbox"/> DV <input checked="" type="checkbox"/> VT-1 | Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote | | | |
| <input checked="" type="checkbox"/> As Found Exam <input type="checkbox"/> As Left Exam Following Retensioning Of Tendons Which Have Been Detentioned | | | | |
| Design Drawing(s) | Visual Aids: <u>NONE</u> | | | |
| M&TE Used: <u>scale R-21 caldec 4-6-10</u> | <input checked="" type="checkbox"/> Test Card | UTC or Serial No. <u>N/A</u> | Cal. Due Date: <u>N/A</u> | |
| Illumination Used <u>Flashlight</u> | Illumination Verified: | Date: <u>8-17-09</u> | Time: <u>7:30 AM</u> | |
| Special / Specific Instructions: | <u>NONE</u> | | | |
| Component / Item Number and Description | RESULTS | | | Explanation / Notes (Sketch Shall Be Attached Depicting Location Of All Missing, Protruding, Unseated Wires) |
| | NI | RI | IO | |
| <u>Tendon Anchorage components for D-122 Bultruss 5 Shop End</u> | | | <u>L</u> | <u>Shim gap is closed at bottom AND open 1.25" at the top</u> |
| | | | <u>F</u> | <u>LIGHT SURFACE RUST ON SHIMS, NO PITTING - PER DATA SHEET 4 ENCLOSED TO SPO 2-4-10</u> |
| Results Legend: NI - No Indications RI - Recordable Indication IO - Information Only | | | | |
| Recordable Indication Type Codes: | | | | |
| A. Missing Wires | H. Cracks | O. Other (Explain) | | |
| B. Missing Button Heads | I. Pitting | | | |
| C. Protruding / Unseated Wires | J. Nicks, Gouges, Mechanical Damage | | | |
| D. Broken Wires | K. Uneven Shim Stack | | | |
| E. Active Corrosion | L. Excessive Shim Gaps | | | |
| F. Other Corrosion | M. Gasket Seating Surface Damage | | | |
| G. Evidence Of Free Water (Quantify) | N. Surface Discontinuities, Deflections | | | |
| Supplemental Information: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Sketch <input checked="" type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | | | | |
| Results: Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| EXAMINER/EVALUATOR (Print & Sign) <u>W. Lance Robbins</u> | | LEVEL <u>II</u> | DATE <u>8-17-09</u> | |
| STATION/ADMIN REVIEW (Print & Sign) <u>Evan Johnson</u> | | DATE <u>3/15/10</u> | | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. | | | | |
| RI or Unacceptable results Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Additional Actions: (Action Request, Work Order, Issue Report, etc. Initiated for Corrective Action) | | | | |
| LEVEL III or RI REVIEW (as applicable) <u>W. Lance Robbins</u> | | DATE: <u>18 Mar 10</u> | | |
| ANII REVIEW (as applicable) | | DATE: | | |

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ATTACHMENT 5
ASME IWL (Class CC) Containment Tendon Anchorage
Detailed Visual or VT-1 Visual Examination NDE Report
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| Station: <i>TMI</i> | Unit: <i>I</i> | Date: <i>11-13-09</i> | Report No: | |
|--|--|---|------------|---|
| WO No(s): <i>R2007551</i> | Tendon Anchorage No.: <i>D-122</i> | Tendon End: <input type="checkbox"/> Shop <input checked="" type="checkbox"/> Field | | |
| Location: Tunnel, Gallery, Buttress: <i>NE</i> | Elevation: | Bearing Plate I.D.: <i>Could not locate</i> | | |
| Bearing Plate I.D.: <i>Could not locate</i> | Anchor Head I.D.: <i>754</i> | Bushing I.D.: <i>N/A</i> | | |
| Exam Type: <input type="checkbox"/> DV <input checked="" type="checkbox"/> VT-1 | Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote | | | |
| <input checked="" type="checkbox"/> As Found Exam <input type="checkbox"/> As Left Exam Following Retensioning Of Tendons Which Have Been Detentioned | | | | |
| Design Drawing(s) | Visual Aids: <i>None</i> | | | |
| M&TE Used: <i>Light Meter Model 1005127A</i> | <input checked="" type="checkbox"/> Test Card UTC or Serial No. <i>N/A</i> | Cal. Due Date: <i>N/A</i> | | |
| Illumination Used: <i>Flashlight</i> | Illumination Verified: Date: <i>11-13-09</i> | Time: <i>1:00 PM</i> | | |
| Special / Specific Instructions: | <i>None</i> | | | |
| Component / Item Number and Description | RESULTS | | | Explanation / Notes (Sketch Shall Be Attached Depicting Location Of All Missing, Protruding, Unseated Wires) |
| | NI | RI | IO | |
| <i>D-122 FIELD / NE</i> | <i>X</i> | | | |
| Results Legend: NI - No Indications RI - Recordable Indication IO - Information Only | | | | |
| Recordable Indication Type Codes: | | | | |
| A. Missing Wires | H. Cracks | O. Other (Explain) | | |
| B. Missing Button Heads | I. Pitting | | | |
| C. Protruding / Unseated Wires | J. Nicks, Gouges, Mechanical Damage | | | |
| D. Broken Wires | K. Uneven Shim Stack | | | |
| E. Active Corrosion | L. Excessive Shim Gaps | | | |
| F. Other Corrosion | M. Gasket Seating Surface Damage | | | |
| G. Evidence Of Free Water (Quantify) | N. Surface Discontinuities, Deflections | | | |
| Supplemental Information: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Sketch <input type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | | | | |
| Results: Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| EXAMINER/EVALUATOR (Print & Sign) <i>Daniel P. Sigafoos</i> | LEVEL <i>II</i> | DATE <i>11-13-09</i> | | |
| STATION/ADMIN REVIEW (Print & Sign) <i>Evan Johnson</i> | | DATE <i>3/15/10</i> | | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. RI or Unacceptable results Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Additional Actions: (Action Request, Work Order, Issue Report, etc. initiated for Corrective Action) | | | | |
| LEVEL III or RI REVIEW (as applicable) <i>Howard T. Hill, PE</i> | DATE: <i>18 MAR 10</i> | | | |
| ANII REVIEW (as applicable) | DATE: | | | |

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ASME IWL (Class CC) Containment Tendon Anchorage
Detailed Visual or VT-1 Visual Examination NDE Report
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| Station: <u>TMI</u> | Unit: <u>1</u> | Date: <u>8-11-09</u> | Report No: | |
|---|--|---|---------------------|---|
| WO No(s): <u>R2067551</u> | Tendon Anchorage No.: <u>D-225</u> | Tendon End: <input checked="" type="checkbox"/> Shop <input type="checkbox"/> Field | | |
| Location: Tunnel, Gallery, Buttress: <u>Butt. 5</u> | Elevation: | Bearing Plate I.D.: <u>variable to locate</u> | | |
| Bearing Plate I.D. | Anchor Head I.D.: <u>765</u> | Bushing I.D.: <u>1137</u> | | |
| Exam Type: <input type="checkbox"/> DV <input checked="" type="checkbox"/> VT-1 | Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote | | | |
| <input checked="" type="checkbox"/> As Found Exam <input type="checkbox"/> As Left Exam Following Retensioning Of Tendons Which Have Been Detentioned | | | | |
| Design Drawing(s) Visual Aids: <u>None</u> | | | | |
| M&TE Used: <u>Scale R-21 cal. 1/4" to 1" Test Card</u> UTC or Serial No. <u>N/A</u> Cal. Due Date: <u>N/A</u> | | | | |
| Illumination Used: <u>Flashlight</u> Illumination Verified: Date: <u>8-11-09</u> Time: <u>7: AM</u> | | | | |
| Special / Specific Instructions: | | | | |
| Component / Item Number and Description | RESULTS | | | Explanation / Notes (Sketch Shall Be Attached Depicting Location Of All Missing, Protruding, Unseated Wires) |
| | NI | RI TYPE | IO | |
| Tendon Anchorage Components for D-225 Buttress 5 / Shop End | <input checked="" type="checkbox"/> | | F | LIGHT SURFACE RUST ON SHIMS & BEARING PLATE, NO PITTING - PER DATA SHEET 4 ENCLOSURE 6 2003-4-10 |
| Results Legend: NI - No Indications RI - Recordable Indication IO - Information Only | | | | |
| Recordable Indication Type Codes: | | | | |
| A. Missing Wires | H. Cracks | O. Other (Explain) | | |
| B. Missing Button Heads | I. Pitting | | | |
| C. Protruding / Unseated Wires | J. Nicks, Gouges, Mechanical Damage | | | |
| D. Broken Wires | K. Uneven Shim Stack | | | |
| E. Active Corrosion | L. Excessive Shim Gaps | | | |
| F. Other Corrosion | M. Gasket Seating Surface Damage | | | |
| G. Evidence Of Free Water (Quantity) | N. Surface Discontinuities, Deflections | | | |
| Supplemental Information: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Sketch <input checked="" type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | | | | |
| Results: Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| EXAMINER/EVALUATOR (Print & Sign) <u>William Rowe Robbins</u> | | LEVEL <u>II</u> | DATE <u>8-11-09</u> | |
| STATION/ADMIN REVIEW (Print & Sign) <u>Eric Tabata</u> | | DATE <u>3/15/10</u> | | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. RI or Unacceptable results Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Additional Actions: (Action Request, Work Order, Issue Report, etc. Initiated for Corrective Action) | | | | |
| LEVEL III or RI REVIEW (as applicable) <u>Howard T. Hill, P.E.</u> DATE: <u>12 MAR 10</u> | | | | |
| ANII REVIEW (as applicable) DATE: | | | | |

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ATTACHMENT 5
ASME IWL (Class CC) Containment Tendon Anchorage
Detailed Visual or VT-1 Visual Examination NDE Report
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| Station: <u>TMI</u> Unit: <u>1</u> Date: <u>8-12-09</u> Report No: | | | | |
|---|--|------------------------|---------------------|---|
| WO No(s): <u>R 2067551</u> | Tendon Anchorage No.: <u>0-225</u> Tendon End: <input type="checkbox"/> Shop <input checked="" type="checkbox"/> Field | | | |
| Location: Tunnel, Gallery, Buttress: <u>2</u> Elevation: | Bearing Plate I.D.: <u>unable to locate</u> | | | |
| Bearing Plate I.D. | Anchor Head I.D.: <u>684</u> Bushing I.D.: <u>N/A</u> | | | |
| Exam Type: <input type="checkbox"/> DV <input checked="" type="checkbox"/> VT-1 | Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote | | | |
| <input checked="" type="checkbox"/> As Found Exam <input type="checkbox"/> As Left Exam Following Retensioning Of Tendons Which Have Been Detentioned | | | | |
| Design Drawing(s) | Visual Aids: <u>None</u> | | | |
| M&TE Used: <u>R-21 scale cal. dia 4.6-10</u> <input checked="" type="checkbox"/> Test Card | UTC or Serial No. <u>N/A</u> Cal. Due Date: <u>N/A</u> | | | |
| Illumination Used: <u>Flash light</u> | Illumination Verified: Date: <u>8-12-09</u> Time: <u>7:AM</u> | | | |
| Special / Specific Instructions: <u>None</u> | | | | |
| Component / Item Number and Description | RESULTS | | | Explanation / Notes (Sketch Shall Be Attached Depicting Location Of All Missing, Protruding, Unseated Wires) |
| | NI | RI TYPE | IO | |
| <u>Tendon anchorage components for D-225 buttress 2 field end.</u> | <input checked="" type="checkbox"/> | | | |
| Results Legend: NI - No Indications RI - Recordable Indication IO - Information Only | | | | |
| Recordable Indication Type Codes: | | | | |
| A. Missing Wires | H. Cracks | O. Other (Explain) | | |
| B. Missing Button Heads | I. Pitting | | | |
| C. Protruding / Unseated Wires | J. Nicks, Gouges, Mechanical Damage | | | |
| D. Broken Wires | K. Uneven Shim Stack | | | |
| E. Active Corrosion | L. Excessive Shim Gaps | | | |
| F. Other Corrosion | M. Gasket Sealing Surface Damage | | | |
| G. Evidence Of Free Water (Quantify) | N. Surface Discontinuities, Deflections | | | |
| Supplemental Information: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Sketch <input checked="" type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | | | | |
| Results: Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| EXAMINER/EVALUATOR (Print & Sign) <u>W. Lance Robbins</u> <u>W. Lance Robbins</u> | | LEVEL <u>II</u> | DATE <u>8-12-09</u> | |
| STATION/ADMIN REVIEW (Print & Sign) <u>Evon Jones</u> | | DATE <u>3/15/10</u> | | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. RI or Unacceptable results Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Additional Actions: (Action Request, Work Order, Issue Report, etc. initiated for Corrective Action) | | | | |
| LEVEL III or RI REVIEW (as applicable) <u>Howard T. Hill, P.E.</u> | | DATE: <u>18 MAR 10</u> | | |
| ANII REVIEW (as applicable) | | DATE: | | |

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ATTACHMENT 5
ASME IWL (Class CC) Containment Tendon Anchorage
Detailed Visual or VT-1 Visual Examination NDE Report
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| Station <i>TMT</i> | Unit: <i>I</i> | Date: <i>11-16-09</i> | Report No. | |
|---|--|--|---------------------------|---|
| WO No(s): <i>R2007551</i> | Tendon Anchorage No: <i>D-322</i> | Tendon End: <input checked="" type="checkbox"/> Shop <input checked="" type="checkbox"/> Field | | |
| Location: Tunnel, Gallery, Buttress: <i>NORTH</i> | Elevation: | Bearing Plate I D: <i>COULD NOT LOCATE</i> | | |
| Bearing Plate I D: <i>COULD NOT LOCATE</i> | Anchor Head I D: <i>668</i> | Bushing I D: <i>1002</i> | | |
| Exam Type: <input type="checkbox"/> DV <input checked="" type="checkbox"/> VT-1 | Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote | | | |
| <input checked="" type="checkbox"/> As Found Exam <input type="checkbox"/> As Left Exam Following Retensioning Of Tendons Which Have Been Detentioned | | | | |
| Design Drawing(s) | Visual Aids: <i>None</i> | | | |
| M&TE Used: <i>UNIDENTIFIED PROBABLY</i> | <input checked="" type="checkbox"/> Test Card | UTC or Serial No. <i>N/A</i> | Cal. Due Date: <i>N/A</i> | |
| Illumination Used: <i>FLASHLIGHT</i> | Illumination Verified: | Date: <i>11-16-09</i> | Time: <i>8:00 AM</i> | |
| Special / Specific Instructions: | <i>NONE</i> | | | |
| Component / Item Number and Description | RESULTS | | | Explanation / Notes (Sketch Shall Be Attached Depicting Location Of All Missing, Protruding, Unseated Wires) |
| | NI | RI TYPE | IO | |
| <i>D-322 SHOP/NORTH</i> | <i>X</i> | | | |
| Results Legend. | | | | |
| NI - No Indications RI - Recordable Indication IO - Information Only | | | | |
| Recordable Indication Type Codes. | | | | |
| A. Missing Wires | H. Cracks | O. Other (Explain) | | |
| B. Missing Button Heads | I. Pitting | | | |
| C. Protruding / Unseated Wires | J. Nicks, Gouges, Mechanical Damage | | | |
| D. Broken Wires | K. Uneven Shim Stack | | | |
| E. Active Corrosion | L. Excessive Shim Gaps | | | |
| F. Other Corrosion | M. Gasket Seating Surface Damage | | | |
| G. Evidence Of Free Water (Quantify) | N. Surface Discontinuities, Deflections | | | |
| Supplemental Information <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Sketch <input type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | | | | |
| Results: Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| EXAMINER/EVALUATOR (Print & Sign) | <i>Daniel P. D'Souza</i> | | LEVEL <i>II</i> | DATE <i>11-16-09</i> |
| STATION/ADMIN REVIEW (Print & Sign) | <i>Evan Johnson</i> | | DATE <i>3/15/10</i> | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. | | | | |
| RI or Unacceptable results Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Additional Actions (Action Request, Work Order, Issue Report, etc. Initiated for Corrective Action) | | | | |
| LEVEL III or RI REVIEW (as applicable): <i>Howard T. Hill</i> (E) DATE: <i>18 MAR 10</i> | | | | |
| ANII REVIEW (as applicable): DATE: | | | | |

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ATTACHMENT 5
ASME IWL (Class CC) Containment Tendon Anchorage
Detailed Visual or VT-1 Visual Examination NDE Report
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| Station: <i>TMT</i> | | Unit: <i>1</i> | | Date: | | Report No: | |
|--|--|--|----------|---|--|---------------------------|--|
| WO No(s): <i>R2067551</i> | | Tendon Anchorage No: <i>D-322</i> | | Tendon End <input checked="" type="checkbox"/> Shop <input checked="" type="checkbox"/> Field | | | |
| Location: Tunnel, Gallery, Buttress: | | Elevation: | | Bearing Plate I D <i>Could not locate</i> | | | |
| Bearing Plate I D <i>Could not locate</i> | | Anchor Head I.D. <i>668</i> | | Bushing I.D. <i>1008</i> | | | |
| Exam Type <input type="checkbox"/> DV <input checked="" type="checkbox"/> VT-1 | | Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote | | | | | |
| <input type="checkbox"/> As Found Exam | | <input checked="" type="checkbox"/> As Left Exam Following Retensioning Of Tendons Which Have Been Detentioned | | | | | |
| Design Drawing(s) | | Visual Aids: <i>None</i> | | | | | |
| M&TE Used: <i>None</i> | | <input checked="" type="checkbox"/> Test Card | | UTC or Serial No. <i>N/A</i> | | Cal. Due Date: <i>N/A</i> | |
| Illumination Used: <i>Flashlight</i> | | Illumination Verified: | | Date: <i>11-17-09</i> | | Time: <i>1100 PM</i> | |
| Special / Specific Instructions: <i>None</i> | | | | | | | |
| Component / Item Number and Description | RESULTS | | | Explanation / Notes (Sketch Shall Be Attached Depicting Location Of All Missing, Protruding, Unseated Wires) | | | |
| | NI | RI | IO | | | | |
| <i>D-322</i> | | <i>C</i> | | <i>1 PROTRUDING WIRE (0.35")</i> | | | |
| <i>Shop/NORTH</i> | | | <i>A</i> | <i>1 WIRE REMOVED FOR TESTING THIS SURVEILLANCE FROM 11-17-09</i> | | | |
| Results Legend: <i>NI - No Indications RI - Recordable Indication IO - Information Only</i> | | | | | | | |
| Recordable Indication Type Codes: | | | | | | | |
| A Missing Wires | H Cracks | O Other (Explain) | | | | | |
| B Missing Button Heads | I Pitting | | | | | | |
| C Protruding / Unseated Wires | J Nicks, Gouges Mechanical Damage | | | | | | |
| D Broken Wires | K Uneven Shim Stack | | | | | | |
| E Active Corrosion | L Excessive Shim Gaps | | | | | | |
| F Other Corrosion | M Gasket Seating Surface Damage | | | | | | |
| G Evidence Of Free Water (Quantify) | N Surface Discontinuities, Deflections | | | | | | |
| Supplemental Information <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Sketch <input type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | | | | | | | |
| Results: Acceptable <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | | | | | | |
| EXAMINER/EVALUATOR | | <i>Daniel R. Sisco</i> | | LEVEL <i>II</i> | | DATE <i>11-17-09</i> | |
| STATION/ADMIN REVIEW | | <i>Evan Johnson</i> | | | | DATE <i>3/15/10</i> | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. | | | | | | | |
| RI or Unacceptable results Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | | | | |
| Additional Actions: | | | | | | | |
| (Action Request: Work Order Issue Report, etc. unrelated for Corrective Action) | | | | | | | |
| LEVEL III or RI REVIEW (as applicable) | | <i>Howard T. Nye (P.E.)</i> | | DATE: <i>1/8/10</i> | | | |
| ANII REVIEW (as applicable) | | <i>Joseph A. Bluhly</i> | | DATE: <i>3/30/10</i> | | | |

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ATTACHMENT 5
ASME IWL (Class CC) Containment Tendon Anchorage
Detailed Visual or VT-1 Visual Examination NDE Report
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| Station: <i>TMT</i> | | Unit: <i>I</i> | | Date: <i>11-16-09</i> | | Report No: | |
|--|--|---|----|---|--|---------------------------|--|
| WO No(s): <i>R2067551</i> | | Tendon Anchorage No.: <i>D-322</i> | | Tendon End: <input type="checkbox"/> Shop <input checked="" type="checkbox"/> Field | | | |
| Location: Tunnel, Gallery, Buttress: <i>SOUTH</i> | | Elevation: | | Bearing Plate I.D. <i>COULD NOT LOCATE</i> | | | |
| Bearing Plate I.D. <i>COULD NOT LOCATE</i> | | Anchor Head I.D. <i>1064</i> | | Bushing I.D. <i>N/A</i> | | | |
| Exam Type: <input type="checkbox"/> DV <input checked="" type="checkbox"/> VT-1 | | Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote | | | | | |
| <input checked="" type="checkbox"/> As Found Exam | | <input type="checkbox"/> As Left Exam Following Retensioning Of Tendons Which Have Been Detentioned | | | | | |
| Design Drawing(s) | | Visual Aids: <i>NONE</i> | | | | | |
| M&TE Used: <i>UNIDENTIFIED PROBE DATA AUG 15-11-10</i> | | <input checked="" type="checkbox"/> Test Card | | UTC or Serial No. <i>N/A</i> | | Cal. Due Date: <i>N/A</i> | |
| Illumination Used: <i>FLASHLIGHT</i> | | Illumination Verified: | | Date: <i>11-16-09</i> | | Time: <i>8:00 AM</i> | |
| Special / Specific Instructions: | | <i>NONE</i> | | | | | |
| Component / Item Number and Description | RESULTS | | | Explanation / Notes (Sketch Shall Be Attached Depicting Location Of All Missing, Protruding, Unseated Wires) | | | |
| | NI | RI | IO | | | | |
| <i>D-322 FIELD/SOUTH</i> | <i>X</i> | | | | | | |
| Results Legend. | | | | | | | |
| NI - No Indications RI - Recordable Indication IO - Information Only | | | | | | | |
| Recordable Indication Type Codes: | | | | | | | |
| A Missing Wires | H Cracks | O Other (Explain) | | | | | |
| B Missing Button Heads | I Pitting | | | | | | |
| C Protruding / Unseated Wires | J Nicks, Gouges, Mechanical Damage | | | | | | |
| D Broken Wires | K Uneven Shim Stack | | | | | | |
| E Active Corrosion | L Excessive Shim Gaps | | | | | | |
| F Other Corrosion | M Gasket Seating Surface Damage | | | | | | |
| G Evidence Of Free Water (Quantify) | N Surface Discontinuities, Deflections | | | | | | |
| Supplemental Information: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Sketch <input type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | | | | | | | |
| Results: Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | | | | |
| EXAMINER/EVALUATOR (Print & Sign) <i>DANIEL P. SUGA</i> | | LEVEL <i>II</i> | | DATE <i>11/16/09</i> | | | |
| STATION/ADMIN REVIEW (Print & Sign) <i>Evan Johnson</i> | | | | DATE <i>3/15/10</i> | | | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. | | | | | | | |
| RI or Unacceptable results Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | | | | |
| Additional Actions: (Action Request, Work Order, Issue Report, etc initiated for Corrective Action) | | | | | | | |
| LEVEL III or RI REVIEW (as applicable) | | <i>Howard T. Hill, P.E.</i> | | DATE: <i>18 MAR 10</i> | | | |
| ANII REVIEW (as applicable) | | | | DATE: | | | |

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ATTACHMENT 5
ASME IWL (Class CC) Containment Tendon Anchorage
Detailed Visual or VT-1 Visual Examination NDE Report
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| Station: <i>TMT</i> | Unit: <i>1</i> | Date: <i>11-17-09</i> | Report No: | |
|---|--|---|---------------------------|---|
| WO No(s): <i>R2007551</i> | Tendon Anchorage No.: <i>D-322</i> | Tendon End: <input type="checkbox"/> Shop <input checked="" type="checkbox"/> Field | | |
| Location: Tunnel, Gallery, Buttress: <i>SOUTH</i> | Elevation: | Bearing Plate I.D. <i>COULD NOT LOCATE</i> | | |
| Bearing Plate I.D. <i>COULD NOT LOCATE</i> | Anchor Head I.D. <i>1004</i> | Bushing I.D. <i>N/A</i> | | |
| Exam Type: <input type="checkbox"/> DV <input checked="" type="checkbox"/> VT-1 | Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote | | | |
| <input type="checkbox"/> As Found Exam | <input checked="" type="checkbox"/> As Left Exam Following Retensioning Of Tendons Which Have Been Detentioned | | | |
| Design Drawing(s) | Visual Aids: <i>NONE</i> | | | |
| M&TE Used: <i>NIGHT VISION #000133272</i> <i>DEC. 5-11-10</i> | <input checked="" type="checkbox"/> Test Card | UTC or Serial No. <i>N/A</i> | Cal. Due Date: <i>N/A</i> | |
| Illumination Used <i>FLESHLIGHT</i> | Illumination Verified: | Date: <i>11-17-09</i> | Time: <i>1:00 PM</i> | |
| Special / Specific Instructions: | <i>NONE</i> | | | |
| Component / Item Number and Description | RESULTS | | | Explanation / Notes (Sketch Shall Be Attached Depicting Location Of All Missing, Protruding, Unseated Wires) |
| | NI | RI | IO | |
| <i>D-322</i> <i>FIELD/SOUTH</i> | | | <i>A</i> | <i>1 WIRE REMOVED FOR TESTING THIS SURVEILLANCE</i> |
| Results Legend: | | | | |
| NI - No Indications RI - Recordable Indication IO - Information Only | | | | |
| Recordable Indication Type Codes: | | | | |
| A Missing Wires | H Cracks | O Other (Explain) | | |
| B Missing Button Heads | I Pitting | | | |
| C Protruding / Unseated Wires | J Nicks, Gouges, Mechanical Damage | | | |
| D Broken Wires | K Uneven Shim Stack | | | |
| E Active Corrosion | L Excessive Shim Gaps | | | |
| F Other Corrosion | M Gasket Seating Surface Damage | | | |
| G Evidence Of Free Water (Quantify) | N Surface Discontinuities, Deflections | | | |
| Supplemental Information <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Sketch <input type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | | | | |
| Results: Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| EXAMINER/EVALUATOR (Print & Sign) | <i>Daniel P. Suter</i> | LEVEL | <i>II</i> | DATE <i>11-17-09</i> |
| STATION/ADMIN REVIEW (Print & Sign) | <i>Eric Johnson</i> | | | DATE <i>3/15/10</i> |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. | | | | |
| RI or Unacceptable results Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Additional Actions. (Action Request, Work Order, Issue Report, etc. Initialed for Corrective Action) | | | | |
| LEVEL III or RI REVIEW (as applicable) | <i>John P. ...</i> | DATE: | <i>13 Mar 10</i> | |
| ANII REVIEW (as applicable) | | DATE: | | |

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ATTACHMENT 5
ASME IWL (Class CC) Containment Tendon Anchorage
Detailed Visual or VT-1 Visual Examination NDE Report
Page 1 of 1

| Station: <u>TMI</u> | | Unit: <u>F</u> | Date: <u>8-17-09</u> | Report No: |
|---|---|---|---|---|
| WO No(s): <u>R2067551</u> | Tendon Anchorage No.: <u>D-342</u> | | Tendon End: <input checked="" type="checkbox"/> Shop <input type="checkbox"/> Field | |
| Location: Tunnel, Gallery, Buttress: <u>Butt. 6</u> | | Elevation: | Bearing Plate I.D.: <u>unable to locate</u> | |
| Bearing Plate I.D. | Anchor Head I.D. <u>1146</u> | Bushing I.D. <u>1183</u> | | |
| Exam Type: <input type="checkbox"/> DV <input checked="" type="checkbox"/> VT-1 | | Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote | | |
| <input checked="" type="checkbox"/> As Found Exam | | <input type="checkbox"/> As Left Exam Following Retensioning Of Tendons Which Have Been Detentioned | | |
| Design Drawing(s) | | Visual Aids: <u>NONE</u> | | |
| M&TE Used: <u>R1 Scale Caliper 4.6-10</u> | | <input checked="" type="checkbox"/> Test Card | UTC or Serial No. <u>N/A</u> | Cal. Due Date: <u>N/A</u> |
| Illumination Used: <u>Flashlight</u> | | Illumination Verified: Date: <u>8-17-09</u> | | Time: <u>2:30 AM</u> |
| Special / Specific Instructions: <u>None</u> | | | | |
| Component / Item Number and Description | RESULTS | | | Explanation / Notes (Sketch Shall Be Attached Depicting Location Of All Missing, Protruding, Unseated Wires) |
| | NI | RI | IO | |
| <u>Anchorage components for D-342 Butt.6 Shop end.</u> | <input checked="" type="checkbox"/> | | <u>F</u> | <u>Light surface rust on shims, no pitting. - For data sheet 4 Enclosure 6 DPO 2-4-10</u> |
| Results Legend: NI - No Indications RI - Recordable Indication IO - Information Only | | | | |
| Recordable Indication Type Codes: | | | | |
| A. Missing Wires | H. Cracks | O. Other (Explain) | | |
| B. Missing Button Heads | I. Pitting | | | |
| C. Protruding / Unseated Wires | J. Nicks, Gouges, Mechanical Damage | | | |
| D. Broken Wires | K. Uneven Shim Stack | | | |
| E. Active Corrosion | L. Excessive Shim Gaps | | | |
| F. Other Corrosion | M. Gasket Sealing Surface Damage | | | |
| G. Evidence Of Free Water (Quantify) | N. Surface Discontinuities, Deflections | | | |
| Supplemental Information: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Sketch <input checked="" type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | | | | |
| Results: Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| EXAMINER/EVALUATOR (Print & Sign) <u>W. Lance Robbins</u> | | LEVEL <u>II</u> | DATE <u>8-17-09</u> | |
| STATION/ADMIN REVIEW (Print & Sign) <u>Evan Johnson</u> | | DATE <u>3/15/10</u> | | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. | | | | |
| RI or Unacceptable results Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Additional Actions: (Action Request, Work Order, Issue Report, etc. Initiated for Corrective Action) | | | | |
| LEVEL III or RI REVIEW (as applicable) <u>None</u> | | DATE: <u>18 Mar 10</u> | | |
| ANII REVIEW (as applicable) | | DATE: | | |

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ATTACHMENT 5
ASME IWL (Class CC) Containment Tendon Anchorage
Detailed Visual or VT-1 Visual Examination NDE Report
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| Station: <u>TMI</u> | Unit: <u>1</u> | Date: <u>8-17-09</u> | Report No: | |
|---|--|---|---------------------------|---|
| WO No(s): <u>R2067551</u> | Tendon Anchorage No.: <u>D-342</u> | Tendon End: <input type="checkbox"/> Shop <input checked="" type="checkbox"/> Field | | |
| Location: Tunnel, Gallery, <u>Buttress</u> <u>4</u> | Elevation: | Bearing Plate I.D.: <u>Unable to locate</u> | | |
| Bearing Plate I.D. | Anchor Head I.D. <u>R41</u> | Bushing I.D. <u>N/A</u> | | |
| Exam Type: <input type="checkbox"/> DV <input checked="" type="checkbox"/> VT-1 | Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote | | | |
| <input checked="" type="checkbox"/> As Found Exam <input type="checkbox"/> As Left Exam Following Retensioning Of Tendons Which Have Been Detentioned | | | | |
| Design Drawing(s) | Visual Aids: <u>None</u> | | | |
| M&TE Used: <u>R2 scale w/ div. 4-6-10</u> | <input checked="" type="checkbox"/> Test Card | UTC or Serial No. <u>N/A</u> | Cal. Due Date: <u>N/A</u> | |
| Illumination Used <u>Flashlight</u> | Illumination Verified: | Date: <u>8/17/09</u> | Time: <u>1:PM</u> | |
| Special / Specific Instructions: | <u>None</u> | | | |
| Component / Item Number and Description | RESULTS | | | Explanation / Notes (Sketch Shall Be Attached Depicting Location Of All Missing, Protruding, Unseated Wires) |
| | NI | RI TYPE | IO | |
| <u>Anchorage components for D-342 Butt. 4/ field end.</u> | <u>X</u> | | | |
| Results Legend: NI - No Indications RI - Recordable Indication IO - Information Only | | | | |
| Recordable Indication Type Codes: | | | | |
| A. Missing Wires | H. Cracks | O. Other (Explain) | | |
| B. Missing Button Heads | I. Pitting | | | |
| C. Protruding / Unseated Wires | J. Nicks, Gouges, Mechanical Damage | | | |
| D. Broken Wires | K. Uneven Shim Stack | | | |
| E. Active Corrosion | L. Excessive Shim Gaps | | | |
| F. Other Corrosion | M. Gasket Sealing Surface Damage | | | |
| G. Evidence Of Free Water (Quantify) | N. Surface Discontinuities, Deflections | | | |
| Supplemental Information: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Sketch <input checked="" type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | | | | |
| Results: Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| EXAMINER/EVALUATOR (Print & Sign) <u>W. Lance Robbins</u> | <u>W. Lance Robbins</u> | LEVEL <u>II</u> | DATE <u>8-17-09</u> | |
| STATION/ADMIN REVIEW (Print & Sign) <u>Eric Johnson</u> | <u>Eric Johnson</u> | DATE <u>3/15/10</u> | | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. | | | | |
| RI or Unacceptable results Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Additional Actions: (Action Request, Work Order, Issue Report, etc. Initialed for Corrective Action) | | | | |
| LEVEL III or RI REVIEW (as applicable) | <u>Howard J. Hill, P.E.</u> | DATE: <u>18 Mar 10</u> | | |
| ANII REVIEW (as applicable) | | DATE: | | |

ATTACHMENT 6
ASME IWE (Class CC) Containment Concrete VT-1C or VT-3C Visual Examination NDE
Report
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| Station: <i>TMI</i> Unit: <i>1</i> Date: | | Report No: | | |
|--|-------------------------------|--|----------------------|---|
| System: <i>CONTAINMENT TENDONS</i> Component: <i>H13-41 SHOT/BUTT 1</i> | | WO No(s): <i>R2067551</i> | | |
| Location: Building: <i>CONTAINMENT</i> Elev.: | Col.: | Row: | Azimuth/Radius: | |
| Exam Type: <input type="checkbox"/> DV <input type="checkbox"/> GV <input checked="" type="checkbox"/> VT-1C <input type="checkbox"/> VT-3C | | Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote | | |
| Design Drawing(s) | | Visual Aids: <i>None</i> | | |
| Surface: ID <input checked="" type="checkbox"/> OD | | Surface / Components Coated: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | | |
| M&TE Used: <i>LIGHT METER</i> <input checked="" type="checkbox"/> Test Card | | UTC or Serial No. <i>N/A</i> Cal. Due Date: <i>N/A</i> | | |
| Illumination Used: <i>FLASHLIGHT</i> | | Illumination Verified: Date: <i>11-19-09</i> Time: <i>1:00 PM</i> | | |
| Special / Specific Instructions: <i>N/A</i> | | | | |
| Component / Item Number and Description (e.g. EIN, EID, etc.) | RESULTS | | | Explanation / Notes (As a minimum, Record Location and Size of Recordable Indications as applicable) |
| | NI | RI TYPE | IO | |
| <i>H13-41 SHOT/BUTT 1 24" FROM EDGE OF BEARING PLATE</i> | <i>X</i> | | | |
| Results Legend: NI - No Indications RI - Recordable Indication IO - Information Only | | | | |
| Recordable Indication Type Codes | | | | |
| A Cracks (Characterize and Size) | G Settlements Or Deflections | M Scaling / Dusting | | |
| B Exposed Reinforcing Steel | H Degraded Patches or Repairs | N Coating Deterioration | | |
| C Exposed Metallic Items (Other) | I Popouts Voids, Honeycomb | O Abrasion, Cavitation, Wear | | |
| D Evidence Of Grease Leakage | J Spalls | P Air Voids / Bug Holes | | |
| E Evidence Of Moisture | K Cold Joint Lines | Q Efflorescence | | |
| F Leaching Or Chemical Attack | L Corrosion Staining | R Other (Explain) | | |
| Supplemental Information: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Sketch <input type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | | | | |
| Results: Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| EXAMINER/EVALUATOR (Print & Sign) <i>DANIEL P. O'SHARA</i> | | LEVEL <i>II</i> | DATE <i>11-13-09</i> | |
| STATION/ADMIN REVIEW (Print & Sign) <i>Evan Johnson</i> | | DATE <i>3/15/10</i> | | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. RI or Unacceptable results Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Additional Actions: (Action Request Work Order Issue Report etc initiated for Corrective Action) | | | | |
| LEVEL III or RE REVIEW (as applicable) <i>None</i> | | DATE: <i>18 Mar 10</i> | | |
| ANII REVIEW (as applicable) | | DATE: | | |

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ATTACHMENT 6
ASME IWE (Class CC) Containment Concrete VT-1C or VT-3C Visual Examination NDE
Report
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| Station: <u>TMI</u> Unit: <u>1</u> Date: <u>8-26-09</u> Report No: | | | | |
|--|-------------------------------------|-------------------------------|---------------------|---|
| System: <u>Containment</u> Component: <u>H13-41</u> WO No(s): <u>R2067551</u> | | | | |
| Location: Building: <u>Containment</u> Elev.: Col.: Row: Azimuth/Radius: | | | | |
| Exam Type: <input type="checkbox"/> DV <input type="checkbox"/> GV <input checked="" type="checkbox"/> VT-1C <input type="checkbox"/> VT-3C Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote Mall. Type: | | | | |
| Design Drawing(s) <u>P5-33</u> Visual Aids: <u>None</u> | | | | |
| Surface: ID <u>(OD)</u> Surface / Components Coated: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | | | | |
| M&TE Used: <u>None</u> <input checked="" type="checkbox"/> Test Card UTC or Serial No. <u>N/A</u> Cal. Due Date: <u>N/A</u> | | | | |
| Illumination Used <u>Flashlight</u> Illumination Verified: Date: <u>8-26-09</u> Time: <u>1:PM</u> | | | | |
| Special / Specific Instructions: <u>None</u> | | | | |
| Component / Item Number and Description (e.g. EIN, EID, etc.) | RESULTS | | | Explanation / Notes (As a minimum, Record Location and Size of Recordable Indications as applicable) |
| | NI | RI | IO | |
| <u>2' area of concrete around H13-41 Buttress 3 Field End</u> | <input checked="" type="checkbox"/> | | | |
| Results Legend: NI - No Indications RI - Recordable Indication IO - Information Only | | | | |
| Recordable Indication Type Codes: | | | | |
| A. Cracks (Characterize and Size) | G. Settlements Or Deflections | M. Scaling / Dusting | | |
| B. Exposed Reinforcing Steel | H. Degraded Patches or Repairs | N. Coating Deterioration | | |
| C. Exposed Metallic Items (Other) | I. Popouts, Voids, Honeycomb | O. Abrasion, Cavitation, Wear | | |
| D. Evidence Of Grease Leakage | J. Spalls | P. Air Voids / Bug Holes | | |
| E. Evidence Of Moisture | K. Cold Joint Lines | Q. Efflorescence | | |
| F. Leaching Or Chemical Attack | L. Corrosion Staining | R. Other (Explain) | | |
| Supplemental Information: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Sketch <input type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | | | | |
| Results: Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| EXAMINER/EVALUATOR (Print & Sign) <u>W. Lance Robb</u> | | LEVEL <u>II</u> | DATE <u>8-26-09</u> | |
| STATION/ADMIN REVIEW (Print & Sign) <u>Evan Johnson</u> | | DATE <u>3/15/10</u> | | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. RI or Unacceptable results Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Additional Actions: (Action Request, Work Order, Issue Report, etc. Initiated for Corrective Action) | | | | |
| LEVEL III or RE REVIEW (as applicable) <u>Howard F. Hill, P.E.</u> | | DATE: <u>8 Mar 10</u> | | |
| ANII REVIEW (as applicable) | | DATE: | | |

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ATTACHMENT 6
ASME IWE (Class CC) Containment Concrete VT-1C or VT-3C Visual Examination NDE
Report
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| Station: <u>TMI</u> Unit: <u>1</u> Date: <u>8-11-09</u> Report No: | | | | |
|--|--------------------------------|-------------------------------------|----------|--|
| System: <u>Cont. Bldg Tendons</u> Component: <u>H 24-33</u> WO No(s): <u>R2067551</u> | | | | |
| Location: Building: <u>Cont. Bldg.</u> Elev.: Col.: Row: Azimuth/Radius: | | | | |
| Exam Type: <input type="checkbox"/> DV <input type="checkbox"/> GV <input checked="" type="checkbox"/> VT-1C <input type="checkbox"/> VT-3C Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote Mail. Type: <u>Concrete</u> | | | | |
| Design Drawing(s) <u>P5-34</u> Visual Aids: <u>None</u> | | | | |
| Surface: ID <u>OD</u> Surface / Components Coated: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | | | | |
| M&TE Used: <u>24" scale R21 460</u> Test Card <input checked="" type="checkbox"/> UTC or Serial No. Cal. Due Date: | | | | |
| Illumination Used <u>Flashlight</u> Illumination Verified: Date: <u>8-11-09</u> Time: <u>7:AM</u> | | | | |
| Special / Specific Instructions: <u>None</u> | | | | |
| Component / Item Number and Description (e.g. EIN, EID, etc.) | RESULTS | | | Explanation / Notes (As a minimum, Record Location and Size of Recordable Indications as applicable) |
| | NI | RI | IO | |
| <u>2' area of concrete around H 24-33 Tendon Buttress 4 / shop end</u> | | | <u>A</u> | <u>1 crack extending from the upper right corner of the bearing plate to the lower right corner of the bearing plate above 12" L. x < than .010" wide</u> |
| Results Legend: NI - No Indications RI - Recordable Indication IO - Information Only | | | | |
| Recordable Indication Type Codes: | | | | |
| A. Cracks (Characterize and Size) | G. Settlements Or Deflections | M. Scaling / Dusting | | |
| B. Exposed Reinforcing Steel | H. Degraded Patches or Repairs | N. Coating Deterioration | | |
| C. Exposed Metallic Items (Other) | I. Popouts, Voids, Honeycomb | O. Abrasion, Cavitation, Wear | | |
| D. Evidence Of Grease Leakage | J. Spalls | P. Air Voids / Bug Holes | | |
| E. Evidence Of Moisture | K. Cold Joint Lines | Q. Efflorescence | | |
| F. Leaching Or Chemical Attack | L. Corrosion Staining | R. Other (Explain) | | |
| Supplemental Information: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Sketch <input type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | | | | |
| Results: <input type="checkbox"/> Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| EXAMINER/EVALUATOR (Print & Sign) <u>W. Bruce Robbins</u> | | LEVEL <u>II</u> DATE <u>8-11-09</u> | | |
| STATION/ADMIN REVIEW (Print & Sign) <u>Evon Johnson</u> | | DATE <u>3/15/10</u> | | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. | | | | |
| RI or Unacceptable results <u>Acceptable</u> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Additional Actions: (Action Request, Work Order, Issue Report, etc. Initiated for Corrective Action) | | | | |
| LEVEL III or RE REVIEW (as applicable) | | DATE: <u>12 Aug 10</u> | | |
| ANII REVIEW (as applicable) | | DATE: | | |

ATTACHMENT 6
ASME IWE (Class CC) Containment Concrete VT-1C or VT-3C Visual Examination NDE
Report
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| Station: <u>TMI</u> Unit: <u>1</u> Date: <u>8-24-09</u> Report No: | | | | |
|--|-------------------------------------|-------------------------------------|----|---|
| System: <u>Cont. Tendons</u> Component: <u>H 24-33</u> WO No(s): <u>R2067551</u> | | | | |
| Location: Building: <u>Containment</u> Elev.: Col.: Row: Azimuth/Radius: | | | | |
| Exam Type: <input type="checkbox"/> DV <input type="checkbox"/> GV <input checked="" type="checkbox"/> VT-1C <input type="checkbox"/> VT-3C Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote Mail. Type: <u>Concrete</u> | | | | |
| Design Drawing(s): <u>P5-31</u> Visual Aids: <u>None</u> | | | | |
| Surface: ID <u>(OD)</u> Surface / Components Coated: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | | | | |
| M&TE Used: <u>None</u> <input checked="" type="checkbox"/> Test Card UTC or Serial No. <u>N/A</u> Cal. Due Date: <u>N/A</u> | | | | |
| Illumination Used: <u>Flashlight</u> Illumination Verified: Date: <u>8-24-09</u> Time: <u>8:AM</u> | | | | |
| Special / Specific Instructions: <u>None</u> | | | | |
| Component / Item Number and Description (e.g. EIN, EID, etc.) | RESULTS | | | Explanation / Notes (As a minimum, Record Location and Size of Recordable Indications as applicable) |
| | NI | RI | IO | |
| <u>2' area of concrete around H 24-33 Butl. 2 Field End</u> | <input checked="" type="checkbox"/> | | | |
| Results Legend: NI - No Indications RI - Recordable Indication IO - Information Only | | | | |
| Recordable Indication Type Codes: A. Cracks (Characterize and Size) G. Settlements Or Deflections M. Scaling / Dusting B. Exposed Reinforcing Steel H. Degraded Patches or Repairs N. Coating Deterioration C. Exposed Metallic Items (Other) I. Popouts, Voids, Honeycomb O. Abrasion, Cavitation, Wear D. Evidence Of Grease Leakage J. Spalls P. Air Voids / Bug Holes E. Evidence Of Moisture K. Cold Joint Lines Q. Efflorescence F. Leaching Or Chemical Attack L. Corrosion Staining R. Other (Explain) Supplemental Information: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Sketch <input type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | | | | |
| Results: Acceptable <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | | | |
| EXAMINER/EVALUATOR (Print & Sign) <u>W. Lance Robbins</u> <u>W. Lance Robbins</u> | | LEVEL <u>II</u> DATE <u>8-24-09</u> | | |
| STATION/ADMIN REVIEW (Print & Sign) <u>Eric Johnson</u> | | DATE <u>3/15/10</u> | | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. | | | | |
| RI or Unacceptable results Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Additional Actions: (Action Request, Work Order, Issue Report, etc. Initiated for Corrective Action) | | | | |
| LEVEL III or RE REVIEW (as applicable) <u>Howard T. Hill, P.E.</u> | | DATE: <u>1/28/10</u> | | |
| ANII REVIEW (as applicable) | | DATE: | | |

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ATTACHMENT 6
ASME IWE (Class CC) Containment Concrete VT-1C or VT-3C Visual Examination NDE
Report
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| Station: TMI Unit: 1 Date: 8-12-09 Report No: | | | | |
|--|--------------------------------|-------------------------------|---------------------|---|
| System: Cont. Tendons Component: H46-50 WO No(s): R2067551 | | | | |
| Location: Building: Containment Elev.: Col.: Row: Azimuth/Radius: | | | | |
| Exam Type: <input type="checkbox"/> DV <input type="checkbox"/> GV <input checked="" type="checkbox"/> VT-1C <input type="checkbox"/> VT-3C Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote Mall. Type: Concrete | | | | |
| Design Drawing(s) P5-46 Visual Aids: | | | | |
| Surface: ID (OD) Surface / Components Coated: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | | | | |
| M&TE Used: None <input checked="" type="checkbox"/> Test Card UTC or Serial No. N/A Cal. Due Date: N/A | | | | |
| Illumination Used Flashlight Illumination Verified: Date: 8/12/09 Time: 7:30 AM | | | | |
| Special / Specific Instructions: None | | | | |
| Component / Item Number and Description (e.g. EIN, EID, etc.) | RESULTS | | | Explanation / Notes (As a minimum, Record Location and Size of Recordable Indications as applicable) |
| | NI | RI | IO | |
| 2' area of concrete around H4650 tendon bearing plate buttress b/shaped. | X | | | |
| Results Legend: NI - No Indications RI - Recordable Indication IO - Information Only | | | | |
| Recordable Indication Type Codes: | | | | |
| A. Cracks (Characterize and Size) | G. Settlements Or Deflections | M. Scaling / Dusting | | |
| B. Exposed Reinforcing Steel | H. Degraded Patches or Repairs | N. Coating Deterioration | | |
| C. Exposed Metallic Items (Other) | I. Popouts, Voids, Honeycomb | O. Abrasion, Cavitation, Wear | | |
| D. Evidence Of Grease Leakage | J. Spalls | P. Air Voids / Bug Holes | | |
| E. Evidence Of Moisture | K. Cold Joint Lines | Q. Efflorescence | | |
| F. Leaching Or Chemical Attack | L. Corrosion Staining | R. Other (Explain) | | |
| Supplemental Information: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Sketch <input type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | | | | |
| Results: Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| EXAMINER/EVALUATOR (Print & Sign) W. Rance Robbins | | LEVEL II | DATE 8-12-09 | |
| STATION/ADMIN REVIEW (Print & Sign) Evan Johnson | | | DATE 3/15/10 | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. RI or Unacceptable results Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Additional Actions: (Action Request, Work Order, Issue Report, etc. Initiated for Corrective Action) | | | | |
| LEVEL III or RE REVIEW (as applicable) Howard T. Huc, P.E. | | DATE: 18 MAR 10 | | |
| ANII REVIEW (as applicable) | | DATE: | | |

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ATTACHMENT 6
ASME IWE (Class CC) Containment Concrete VT-1C or VT-3C Visual Examination NDE
Report
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| Station: <u>TMT</u> | Unit: <u>1</u> | Date: <u>8-11-09</u> | Report No: | |
|---|--|-------------------------------|---------------------------|---|
| System: ^{Cont.} Tenders | Component: <u>H46-50</u> | WO No(s): <u>R2067551</u> | | |
| Location: Building: ^{Containment} <u>Bldg.</u> | Elev.: | Col.: | Row: Azimuth/Radius: | |
| Exam Type: <input type="checkbox"/> DV <input type="checkbox"/> GV <input checked="" type="checkbox"/> VT-1C <input type="checkbox"/> VT-3C | Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote | Mall. Type: <u>Concrete</u> | | |
| Design Drawing(s): <u>P5-43</u> | Visual Aids: <u>NONE</u> | | | |
| Surface: ID <u>(OD)</u> | Surface / Components Coated: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | | | |
| M&TE Used: <u>None</u> | <input checked="" type="checkbox"/> Test Card | UTC or Serial No. <u>N/A</u> | Cal. Due Date: <u>N/A</u> | |
| Illumination Used: <u>Flashlight</u> | Illumination Verified: Date: <u>8-11-09</u> | | Time: <u>8:AM</u> | |
| Special / Specific Instructions: <u>NONE</u> | | | | |
| Component / Item Number and Description (e.g. EIN, EID, etc.) | RESULTS | | | Explanation / Notes (As a minimum, Record Location and Size of Recordable Indications as applicable) |
| | NI | RI TYPE | IO | |
| <u>2' Area of concrete around H46-50 Buttress 4 field end.</u> | <u>X</u> | | | |
| Results Legend: | | | | |
| NI - No Indications RI - Recordable Indication IO - Information Only | | | | |
| Recordable Indication Type Codes: | | | | |
| A. Cracks (Characterize and Size) | G. Settlements Or Deflections | M. Scaling / Dusting | | |
| B. Exposed Reinforcing Steel | H. Degraded Patches or Repairs | N. Coating Deterioration | | |
| C. Exposed Metallic Items (Other) | I. Popouts, Voids, Honeycomb | O. Abrasion, Cavitation, Wear | | |
| D. Evidence Of Grease Leakage | J. Spalls | P. Air Voids / Bug Holes | | |
| E. Evidence Of Moisture | K. Cold Joint Lines | Q. Efflorescence | | |
| F. Leaching Or Chemical Attack | L. Corrosion Staining | R. Other (Explain) | | |
| Supplemental Information: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Sketch <input checked="" type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | | | | |
| Results: Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| EXAMINER/EVALUATOR (Print & Sign) <u>W. Rance Robbins</u> | <u>W. Rance Robbins</u> | LEVEL <u>II</u> | DATE <u>8-11-09</u> | |
| STATION/ADMIN REVIEW (Print & Sign) <u>Even Johnson</u> | <u>Even Johnson</u> | | DATE <u>3/15/10</u> | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. | | | | |
| RI or Unacceptable results Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Additional Actions: (Action Request, Work Order, Issue Report, etc. Initialed for Corrective Action) | | | | |
| LEVEL III or RE REVIEW (as applicable) <u>Howard T. Hoke, PE</u> | <u>Howard T. Hoke, PE</u> | DATE: <u>18 MAR 10</u> | | |
| ANII REVIEW (as applicable) | | DATE: | | |

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ATTACHMENT 6
ASME IWE (Class CC) Containment Concrete VT-1C or VT-3C Visual Examination NDE
Report
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| Station: <i>77AZ</i> Unit: <i>1</i> Date: <i>11-11-09</i> Report No: | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--------------------------------|--------------------------------------|----|---|-----------------------------------|--|--|-----------------------------------|-------------------------------|----------------------|------------------------------|--------------------------------|--------------------------|-----------------------------------|------------------------------|-------------------------------|-------------------------------|-----------|--------------------------|-------------------------|---------------------|------------------|--------------------------------|-----------------------|--------------------|
| System: <i>CONTAINMENT BUILDING</i> Component: <i>H51-49 SHOP/BUTT 1</i> WO No(s): <i>R2067551</i> | | | | | | | | | | | | | | | | | | | | | | | | | |
| Location: Building: <i>CONTAINMENT</i> Elev.: Col.: Row: Azimuth/Radius: | | | | | | | | | | | | | | | | | | | | | | | | | |
| Exam Type: <input type="checkbox"/> DV <input type="checkbox"/> GV <input checked="" type="checkbox"/> VT-1C <input type="checkbox"/> VT-3C Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote Matl. Type: <i>CONCRETE</i> | | | | | | | | | | | | | | | | | | | | | | | | | |
| Design Drawing(s) Visual Aids: <i>None</i> | | | | | | | | | | | | | | | | | | | | | | | | | |
| Surface: <i>ID</i> <input checked="" type="checkbox"/> <i>OD</i> Surface / Components Coated: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | | | | | | | | | | | | | | | | | | | | | | | | | |
| M&TE Used: <i>None</i> <input checked="" type="checkbox"/> Test Card UTC or Serial No. <i>N/A</i> Cal. Due Date: <i>N/A</i> | | | | | | | | | | | | | | | | | | | | | | | | | |
| Illumination Used: <i>FLASHLIGHT</i> Illumination Verified: Date: <i>11-11-09</i> Time: <i>9:00 AM</i> | | | | | | | | | | | | | | | | | | | | | | | | | |
| Special / Specific Instructions: <i>N/A</i> | | | | | | | | | | | | | | | | | | | | | | | | | |
| Component / Item Number and Description (e.g. EIN, EID, etc.) | RESULTS | | | Explanation / Notes (As a minimum, Record Location and Size of Recordable Indications as applicable) | | | | | | | | | | | | | | | | | | | | | |
| | NI | RI | IO | | | | | | | | | | | | | | | | | | | | | | |
| <i>H51-49 SHOP/BUTT 1 24" FROM EDGE OF BEARING PLATE</i> | <i>X</i> | | | | | | | | | | | | | | | | | | | | | | | | |
| Results Legend: NI - No Indications RI - Recordable Indication IO - Information Only | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="0" style="width:100%;"> <tr> <td colspan="3">Recordable Indication Type Codes:</td> </tr> <tr> <td>A: Cracks (Characterize and Size)</td> <td>G: Settlements Or Deflections</td> <td>M: Scaling / Dusting</td> </tr> <tr> <td>B: Exposed Reinforcing Steel</td> <td>H: Degraded Patches or Repairs</td> <td>N: Coating Deterioration</td> </tr> <tr> <td>C: Exposed Metallic Items (Other)</td> <td>I: Popouts, Voids, Honeycomb</td> <td>O: Abrasion, Cavitation, Wear</td> </tr> <tr> <td>D: Evidence Of Grease Leakage</td> <td>J: Spalls</td> <td>P: Air Voids / Bug Holes</td> </tr> <tr> <td>E: Evidence Of Moisture</td> <td>K: Cold Joint Lines</td> <td>Q: Efflorescence</td> </tr> <tr> <td>F: Leaching Or Chemical Attack</td> <td>L: Corrosion Staining</td> <td>R: Other (Explain)</td> </tr> </table> | | | | | Recordable Indication Type Codes: | | | A: Cracks (Characterize and Size) | G: Settlements Or Deflections | M: Scaling / Dusting | B: Exposed Reinforcing Steel | H: Degraded Patches or Repairs | N: Coating Deterioration | C: Exposed Metallic Items (Other) | I: Popouts, Voids, Honeycomb | O: Abrasion, Cavitation, Wear | D: Evidence Of Grease Leakage | J: Spalls | P: Air Voids / Bug Holes | E: Evidence Of Moisture | K: Cold Joint Lines | Q: Efflorescence | F: Leaching Or Chemical Attack | L: Corrosion Staining | R: Other (Explain) |
| Recordable Indication Type Codes: | | | | | | | | | | | | | | | | | | | | | | | | | |
| A: Cracks (Characterize and Size) | G: Settlements Or Deflections | M: Scaling / Dusting | | | | | | | | | | | | | | | | | | | | | | | |
| B: Exposed Reinforcing Steel | H: Degraded Patches or Repairs | N: Coating Deterioration | | | | | | | | | | | | | | | | | | | | | | | |
| C: Exposed Metallic Items (Other) | I: Popouts, Voids, Honeycomb | O: Abrasion, Cavitation, Wear | | | | | | | | | | | | | | | | | | | | | | | |
| D: Evidence Of Grease Leakage | J: Spalls | P: Air Voids / Bug Holes | | | | | | | | | | | | | | | | | | | | | | | |
| E: Evidence Of Moisture | K: Cold Joint Lines | Q: Efflorescence | | | | | | | | | | | | | | | | | | | | | | | |
| F: Leaching Or Chemical Attack | L: Corrosion Staining | R: Other (Explain) | | | | | | | | | | | | | | | | | | | | | | | |
| Supplemental Information: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Sketch <input type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | | | | | | | | | | | | | | | | | | | | | | | | | |
| Results: Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | | | | | | | | | | | | | | | | | | | | | | |
| EXAMINER/EVALUATOR (Print & Sign) <i>Daniel P. O'Shea</i> | | LEVEL <i>II</i> DATE <i>11-11-09</i> | | | | | | | | | | | | | | | | | | | | | | | |
| STATION/ADMIN REVIEW (Print & Sign) <i>Evan Johnson</i> | | DATE <i>3/15/10</i> | | | | | | | | | | | | | | | | | | | | | | | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. RI or Unacceptable results Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | | | | | | | | | | | | | | | | | | | | | | |
| Additional Actions: (Action Request, Work Order, Issue Report, etc. initiated for Corrective Action) | | | | | | | | | | | | | | | | | | | | | | | | | |
| LEVEL III or RE REVIEW (as applicable) <i>Howard T. Nadeau</i> | | DATE: <i>18 Mar 10</i> | | | | | | | | | | | | | | | | | | | | | | | |
| ANII REVIEW (as applicable) | | DATE: | | | | | | | | | | | | | | | | | | | | | | | |

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ATTACHMENT 6
ASME IWE (Class CC) Containment Concrete VT-1C or VT-3C Visual Examination NDE
Report
Page 1 of 1

| Station: <u>TMI</u> | Unit: <u>1</u> | Date: <u>8-26-09</u> | Report No: | |
|--|--|-------------------------------|---------------------------|---|
| System: <u>Containment Tendons</u> | Component: <u>H51-49</u> | WO No(s): <u>R2067551</u> | | |
| Location: Building: <u>Containment</u> | Elev.: | Col.: | Row: Azimuth/Radius: | |
| Exam Type: <input type="checkbox"/> DV <input type="checkbox"/> GV <input checked="" type="checkbox"/> VT-1C <input type="checkbox"/> VT-3C | Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote | Matl. Type: <u>Concrete</u> | | |
| Design Drawing(s) <u>P5-44</u> | Visual Aids: <u>None</u> | | | |
| Surface: <u>ID</u> <u>(OD)</u> | Surface / Components Coated: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | | | |
| M&TE Used: <u>None</u> | <input checked="" type="checkbox"/> Test Card | UTC or Serial No. <u>N/A</u> | Cal. Due Date: <u>N/A</u> | |
| Illumination Used <u>Flashlight</u> | Illumination Verified: | Date: <u>8-26-09</u> | Time: <u>7:30 AM</u> | |
| Special / Specific Instructions: <u>None</u> | | | | |
| Component / Item Number and Description (e.g: EIN, EID, etc.) | RESULTS | | | Explanation / Notes (As a minimum, Record Location and Size of Recordable Indications as applicable) |
| | NI | RI TYPE | IO | |
| <u>2' Area of concrete around H51-49 Buttress Field</u> | <input checked="" type="checkbox"/> | | | |
| <u>Note: exam limited due to the face of butt. S being covered by ventilation duct.</u> | | | | |
| Results Legend: | | | | |
| NI - No Indications RI - Recordable Indication IO - Information Only | | | | |
| Recordable Indication Type Codes: | | | | |
| A. Cracks (Characterize and Size) | G. Settlements Or Deflections | M. Scaling / Dusting | | |
| B. Exposed Reinforcing Steel | H. Degraded Patches or Repairs | N. Coating Deterioration | | |
| C. Exposed Metallic Items (Other) | I. Popouts, Voids, Honeycomb | O. Abrasion, Cavitation, Wear | | |
| D. Evidence Of Grease Leakage | J. Spalls | P. Air Voids / Bug Holes | | |
| E. Evidence Of Moisture | K. Cold Joint Lines | Q. Efflorescence | | |
| F. Leaching Or Chemical Attack | L. Corrosion Staining | R. Other (Explain) | | |
| Supplemental Information: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Sketch <input type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | | | | |
| Results: Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| EXAMINER/EVALUATOR (Print & Sign) <u>W. Bruce Robbins</u> | <u>W. Bruce Robbins</u> | LEVEL <u>II</u> | DATE <u>8-26-09</u> | |
| STATION/ADMIN REVIEW (Print & Sign) <u>Eric Johnson</u> | <u>Eric Johnson</u> | DATE <u>3/15/10</u> | | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. | | | | |
| RI or Unacceptable results Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Additional Actions: (Action Request, Work Order, Issue Report, etc. Initiated for Corrective Action) | | | | |
| LEVEL III or RE REVIEW (as applicable) | <u>[Signature]</u> | DATE: <u>12/18/10</u> | | |
| ANII REVIEW (as applicable) | | DATE: | | |

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ATTACHMENT 6
ASME IWE (Class CC) Containment Concrete VT-1C or VT-3C Visual Examination NDE
Report
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| Station: <u>TMI</u> | Unit: <u>1</u> | Date: <u>8-12-09</u> | Report No: | |
|--|--|--|-----------------------------|---|
| System: <u>Cont. Tendons</u> Component: <u>H62-26</u> | | WO No(s): <u>R 206755/1</u> | | |
| Location: Building: <u>Containment</u> | Elev.: | Col.: | Row: Azimuth/Radius: | |
| Exam Type: <input type="checkbox"/> DV <input type="checkbox"/> GV <input checked="" type="checkbox"/> VT-1C <input type="checkbox"/> VT-3C | | Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote | Matl. Type: <u>Concrete</u> | |
| Design Drawing(s) <u>P5-25</u> | | Visual Aids: <u>NONE</u> | | |
| Surface: ID <input type="checkbox"/> <u>OD</u> | Surface / Components Coated: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | | | |
| M&TE Used: <u>NONE</u> | <input checked="" type="checkbox"/> Test Card | UTC or Serial No. <u>N/A</u> | Cal. Due Date: <u>N/A</u> | |
| Illumination Used <u>Flashlight</u> | | Illumination Verified: Date: <u>8/12/09</u> | Time: <u>1:PM</u> | |
| Special / Specific Instructions: <u>NONE</u> | | | | |
| Component / Item Number and Description (e.g. EIN, EID, etc.) | RESULTS | | | Explanation / Notes (As a minimum, Record Location and Size of Recordable Indications as applicable) |
| | NI | RI | IO | |
| <u>2' Area of concrete around H62-26 tendon Buttress 6 / Shop end</u> | <u>X</u> | | | |
| Results Legend: NI - No Indications RI - Recordable Indication IO - Information Only | | | | |
| Recordable Indication Type Codes: | | | | |
| A. Cracks (Characterize and Size) | G. Settlements Or Deflections | M. Scaling / Dusting | | |
| B. Exposed Reinforcing Steel | H. Degraded Patches or Repairs | N. Coating Deterioration | | |
| C. Exposed Metallic Items (Other) | I. Popouts, Voids, Honeycomb | O. Abrasion, Cavitation, Wear | | |
| D. Evidence Of Grease Leakage | J. Spalls | P. Air Voids / Bug Holes | | |
| E. Evidence Of Moisture | K. Cold Joint Lines | Q. Efflorescence | | |
| F. Leaching Or Chemical Attack | L. Corrosion Staining | R. Other (Explain) | | |
| Supplemental Information: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Sketch <input type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | | | | |
| Results: Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| EXAMINER/EVALUATOR (Print & Sign) <u>W. Rance Robbins</u> | | LEVEL <u>#</u> | DATE <u>8-12-09</u> | |
| STATION/ADMIN REVIEW (Print & Sign) <u>Evan Johnson</u> | | DATE <u>3/15/10</u> | | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. | | | | |
| RI or Unacceptable results Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Additional Actions: (Action Request, Work Order, Issue Report, etc. Initiated for Corrective Action) | | | | |
| LEVEL III or RE REVIEW (as applicable) | | DATE: <u>18 Mar 10</u> | | |
| ANII REVIEW (as applicable) | | DATE: | | |

ATTACHMENT 6
ASME IWE (Class CC) Containment Concrete VT-1C or VT-3C Visual Examination NDE
Report
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| Station: <u>TMI</u> | Unit: <u>1</u> | Date: <u>8-28-09</u> | Report No: | |
|--|--|-------------------------------|---------------------------|---|
| System: <u>Containment Tendons</u> | Component: <u>H62-26</u> | WO No(s): <u>R2067551</u> | | |
| Location: Building: <u>Containment</u> | Elev.: | Col.: | Row: Azimuth/Radius: | |
| Exam Type: <input type="checkbox"/> DV <input type="checkbox"/> GV <input checked="" type="checkbox"/> VT-1C <input type="checkbox"/> VT-3C | Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote | Matl. Type: <u>Concrete</u> | | |
| Design Drawing(s) <u>PS-22</u> | Visual Aids: <u>None</u> | | | |
| Surface: ID <u>(OD)</u> | Surface / Components Coated: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | | | |
| M&TE Used: <u>None</u> | <input checked="" type="checkbox"/> Test Card | UTC or Serial No. <u>N/A</u> | Cal. Due Date: <u>N/A</u> | |
| Illumination Used <u>Flashlight</u> | Illumination Verified: Date: <u>8-28-09</u> | | Time: <u>7:30 AM</u> | |
| Special / Specific Instructions: <u>None</u> | | | | |
| Component / Item Number and Description (e.g. EIN, EID, etc.) | RESULTS | | | Explanation / Notes (As a minimum, Record Location and Size of Recordable Indications as applicable) |
| | NI | RI | IO | |
| <u>2' area of concrete around H62-26 buttress 2 field end.</u> | <input checked="" type="checkbox"/> | | | |
| Results Legend: NI - No Indications RI - Recordable Indication IO - Information Only | | | | |
| Recordable Indication Type Codes: | | | | |
| A. Cracks (Characterize and Size) | G. Settlements Or Deflections | M. Scaling / Dusting | | |
| B. Exposed Reinforcing Steel | H. Degraded Patches or Repairs | N. Coating Deterioration | | |
| C. Exposed Metallic Items (Other) | I. Popouts, Voids, Honeycomb | O. Abrasion, Cavitation, Wear | | |
| D. Evidence Of Grease Leakage | J. Spalls | P. Air Voids / Bug Holes | | |
| E. Evidence Of Moisture | K. Cold Joint Lines | Q. Efflorescence | | |
| F. Leaching Or Chemical Attack | L. Corrosion Staining | R. Other (Explain) | | |
| Supplemental Information: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Sketch <input type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | | | | |
| Results: Acceptable. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| EXAMINER/EVALUATOR (Print & Sign) <u>W. Lance Robbins</u> | <u>W. Lance Robbins</u> | LEVEL <u>II</u> | DATE <u>8-28-09</u> | |
| STATION/ADMIN REVIEW (Print & Sign) <u>Eric Johnson</u> | | | DATE <u>3/15/10</u> | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. | | | | |
| RI or Unacceptable (results Acceptable) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Additional Actions: (Action Request, Work Order, Issue Report, etc. Initiated for Corrective Action) | | | | |
| LEVEL III or RE REVIEW (as applicable) <u>Howard T. Hill, P.E.</u> DATE: <u>18 Mar 10</u> | | | | |
| ANII REVIEW (as applicable) _____ DATE: _____ | | | | |

ATTACHMENT 6
ASME IWE (Class CC) Containment Concrete VT-1C or VT-3C Visual Examination NDE
Report
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| Station: <u>TMI</u> Unit: <u>1</u> Date: <u>8-18-09</u> Report No: | | WO No(s): <u>R2067551</u> | | |
|--|--------------------------------|---|----|---|
| System: <u>Cont: Tendons</u> Component: <u>V-11</u> | | | | |
| Location: Building: <u>CONTAINMENT Bldg.</u> Elev.: | | Col.: Row: Azimuth/Radius: | | |
| Exam Type: <input type="checkbox"/> DV <input type="checkbox"/> GV <input checked="" type="checkbox"/> VT-1C <input type="checkbox"/> VT-3C | | Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote | | |
| Design Drawing(s) | | Mall. Type: <u>Concrete</u> | | |
| Surface: ID <u>(OD)</u> | | Surface / Components Coated: <input checked="" type="checkbox"/> YES <input checked="" type="checkbox"/> NO <u>MR 8-18-09</u> | | |
| M&TE Used: <u>None</u> <input checked="" type="checkbox"/> Test Card | | UTC or Serial No: <u>N/A</u> Cal. Due Date: <u>N/A</u> | | |
| Illumination Used <u>Flashlight</u> | | Illumination Verified: Date: <u>8-18-09</u> Time: <u>7:AM</u> | | |
| Special / Specific Instructions: <u>None</u> | | | | |
| Component / Item Number and Description (e.g. EIN, EID, etc.) | RESULTS | | | Explanation / Notes (As a minimum, Record Location and Size of Recordable Indications as applicable) |
| | NI | RI TYPE | IO | |
| <u>2' area of concrete around V-11 shop/top end.</u> | <u>X</u> | | | |
| Results Legend: NI - No Indications RI - Recordable Indication IO - Information Only | | | | |
| Recordable Indication Type Codes: | | | | |
| A. Cracks (Characterize and Size) | G. Settlements Or Deflections | M. Scaling / Dusting | | |
| B. Exposed Reinforcing Steel | H. Degraded Patches or Repairs | N. Coating Deterioration. | | |
| C. Exposed Metallic Items (Other) | I. Popouts, Voids, Honeycomb | O. Abrasion, Cavitation, Wear | | |
| D. Evidence Of Grease Leakage | J. Spalls | P. Air Voids / Bug Holes | | |
| E. Evidence Of Moisture | K. Cold Joint Lines | Q. Efflorescence | | |
| F. Leaching Or Chemical Attack | L. Corrosion Staining | R. Other (Explain) | | |
| Supplemental Information: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Sketch <input type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | | | | |
| Results: Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| EXAMINER/EVALUATOR: (Print & Sign) <u>W. Lance Robbins</u> | | LEVEL <u>II</u> DATE <u>8-18-09</u> | | |
| STATION/ADMIN REVIEW (Print & Sign) <u>Evon Johnson</u> | | DATE <u>3/15/10</u> | | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. | | | | |
| RI or Unacceptable results Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Additional Actions: (Action Request, Work Order, Issue Report, etc. Initiated for Corrective Action) | | | | |
| LEVEL III or RE REVIEW (as applicable) <u>Howard T. Hill, P.E.</u> | | DATE: <u>18 Mar 10</u> | | |
| ANII REVIEW (as applicable) | | DATE: | | |

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ATTACHMENT 6
ASME IWE (Class CC) Containment Concrete VT-1C or VT-3C Visual Examination NDE
Report
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| Station: <u>TMI</u> Unit: <u>1</u> Date: <u>8-13-09</u> Report No: | | | | |
|--|--------------------------------|-------------------------------|---------------------|---|
| System: <u>Cont. Tendons</u> Component: <u>V-11</u> WO No(s): <u>R2067551</u> | | | | |
| Location: Building: <u>R.B. Tard</u> Elev.: Col.: Row: Azimuth/Radius: | | | | |
| Exam Type: <input type="checkbox"/> DV <input type="checkbox"/> GV <input checked="" type="checkbox"/> VT-1C <input type="checkbox"/> VT-3C Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote Matl. Type: <u>Concrete</u> | | | | |
| Design Drawing(s): Visual Aids: <u>NONE</u> | | | | |
| Surface: ID <input type="checkbox"/> <u>OD</u> Surface / Components Coated: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | | | | |
| M&TE Used: <u>NONE</u> <input checked="" type="checkbox"/> Test Card UTC or Serial No. <u>N/A</u> Cal. Due Date: <u>N/A</u> | | | | |
| Illumination Used: <u>Flashlight</u> Illumination Verified: Date: <u>8-13-09</u> Time: <u>1:PM</u> | | | | |
| Special / Specific Instructions: <u>NONE</u> | | | | |
| Component / Item Number and Description (e.g. EIN, EID, etc.) | RESULTS | | | Explanation / Notes (As a minimum, Record Location and Size of Recordable Indications as applicable) |
| | NI | RI | IO | |
| <u>2' AREA of concrete around the base of tendon V-11 Gallery / Field End</u> | | | <u>Q</u> | <u>Efflorescence on exterior wall 4" strip around entire gallery.</u> |
| Results Legend: NI - No Indications RI - Recordable Indication IO - Information Only | | | | |
| Recordable Indication Type Codes: | | | | |
| A. Cracks (Characterize and Size) | G. Settlements Or Deflections | M. Scaling / Dusting | | |
| B. Exposed Reinforcing Steel | H. Degraded Patches or Repairs | N. Coating Deterioration | | |
| C. Exposed Metallic Items (Other) | I. Popouts, Voids, Honeycomb | O. Abrasion, Cavitation, Wear | | |
| D. Evidence Of Grease Leakage | J. Spalls | P. Air Voids / Bug Holes | | |
| E. Evidence Of Moisture | K. Cold Joint Lines | Q. Efflorescence | | |
| F. Leaching Or Chemical Attack | L. Corrosion Staining | R. Other (Explain) | | |
| Supplemental Information: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Sketch <input type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | | | | |
| Results: Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| EXAMINER/EVALUATOR (Print & Sign) <u>W. Lance Robbins</u> | | LEVEL <u>II</u> | DATE <u>8-13-09</u> | |
| STATION/ADMIN REVIEW (Print & Sign) <u>Eric Johnson</u> | | DATE <u>3/15/10</u> | | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. | | | | |
| RI or Unacceptable (results Acceptable) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Additional Actions: (Action Request, Work Order, Issue Report, etc. Initiated for Corrective Action) | | | | |
| LEVEL III or RE REVIEW (as applicable) <u>James J. Hill, P.E.</u> | | DATE: <u>17 Mar 10</u> | | |
| ANII REVIEW (as applicable) | | DATE: | | |

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ATTACHMENT 6
ASME IWE (Class CC) Containment Concrete VT-1C or VT-3C Visual Examination NDE
Report

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| Station: <u>TMI</u> Unit: <u>1</u> Date: <u>8-18-09</u> Report No: | | | | |
|--|--------------------------------|-------------------------------|---------------------|---|
| System: <u>Cont. Pools</u> Component: <u>V-32</u> WO No(s): <u>R2067551</u> | | | | |
| Location: Building: <u>CONTAINMENT Bldg.</u> Elev.: Col.: Row: Azimuth/Radius: | | | | |
| Exam Type: <input type="checkbox"/> DV <input type="checkbox"/> GV <input checked="" type="checkbox"/> VT-1C <input type="checkbox"/> VT-3C Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote Matl. Type: <u>Concrete</u> | | | | |
| Design Drawing(s) Visual Aids: <u>None</u> | | | | |
| Surface: ID <u>(OD)</u> Surface / Components Coated: <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | | | | |
| M&TE Used: <u>None</u> <input checked="" type="checkbox"/> Test Card UTC or Serial No: <u>N/A</u> Cal. Due Date: <u>N/A</u> | | | | |
| Illumination Used: <u>Flashlight</u> Illumination Verified: Date: <u>8-18-09</u> Time: <u>7:AM</u> | | | | |
| Special / Specific Instructions: <u>None</u> | | | | |
| Component / Item Number and Description (e.g. EIN, EID, etc.) | RESULTS | | | Explanation / Notes (As a minimum, Record Location and Size of Recordable Indications as applicable) |
| | NI | RI | IO | |
| <u>2' area of concrete around V-32 shop / top end.</u> | <u>X</u> | | | |
| Results Legend: NI - No Indications RI - Recordable Indication IO - Information Only | | | | |
| Recordable Indication Type Codes: | | | | |
| A. Cracks (Characterize and Size) | G. Settlements Or Deflections | M. Scaling / Dusting | | |
| B. Exposed Reinforcing Steel | H. Degraded Patches or Repairs | N. Coating Deterioration | | |
| C. Exposed Metallic Items (Other) | I. Popouts, Voids, Honeycomb | O. Abrasion, Cavitation, Wear | | |
| D. Evidence Of Grease Leakage | J. Spalls | P. Air Voids / Bug Holes | | |
| E. Evidence Of Moisture | K. Cold Joint Lines | Q. Efflorescence | | |
| F. Leaching Or Chemical Attack | L. Corrosion Staining | R. Other (Explain) | | |
| Supplemental Information: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Sketch <input type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | | | | |
| Results: Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| EXAMINER/EVALUATOR (Print & Sign) <u>W. Bruce Robbins</u> | | LEVEL <u>II</u> | DATE <u>8-18-09</u> | |
| STATION/ADMIN REVIEW (Print & Sign) <u>Eric Johnson</u> | | DATE <u>3/15/10</u> | | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. RI or Unacceptable <u>results Acceptable</u> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Additional Actions: (Action Request, Work Order, Issue Report, etc. Initialed for Corrective Action) | | | | |
| LEVEL III or RE REVIEW (as applicable) <u>Howard T. Hill, P.E.</u> | | DATE: <u>18 MAR 10</u> | | |
| ANII REVIEW (as applicable) | | DATE: | | |

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ATTACHMENT 6
ASME IWE (Class GC) Containment Concrete VT-1C or VT-3C Visual Examination NDE
Report
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| Station: <u>TMI</u> Unit: <u>1</u> Date: <u>8.13.09</u> Report No: | | | | |
|--|--------------------------------|-------------------------------|---------------------|---|
| System: <u>Cooling Towers</u> Component: <u>V-32</u> WO No(s): <u>R2067551</u> | | | | |
| Location: Building: <u>Reactor Bldg</u> Elev.: Col.: Row: Azimuth/Radius: | | | | |
| Exam Type: <input type="checkbox"/> DV <input type="checkbox"/> GV <input checked="" type="checkbox"/> VT-1C <input type="checkbox"/> VT-3C Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote Matl. Type: <u>concrete</u> | | | | |
| Design Drawing(s) Visual Aids: <u>None</u> | | | | |
| Surface: ID <u>(OD)</u> Surface / Components Coated: <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | | | | |
| M&TE Used: <u>None</u> <input checked="" type="checkbox"/> Test Card UTC or Serial No. <u>N/A</u> Cal. Due Date: <u>N/A</u> | | | | |
| Illumination Used: <u>Flashlight</u> Illumination Verified: Date: <u>8-13-09</u> Time: <u>1:PM</u> | | | | |
| Special / Specific Instructions: <u>None</u> | | | | |
| Component / Item Number and Description (e.g. EIN, EID, etc.) | RESULTS | | | Explanation / Notes (As a minimum, Record Location and Size of Recordable Indications as applicable) |
| | NI | RI | IO | |
| <u>2' area of concrete around V-32 Gallery/Field End</u> | <u>X</u> | | | |
| Results Legend: | | | | |
| NI - No Indications RI - Recordable Indication IO - Information Only | | | | |
| Recordable Indication Type Codes: | | | | |
| A. Cracks (Characterize and Size) | G. Settlements Or Deflections | M. Scaling / Dusting | | |
| B. Exposed Reinforcing Steel | H. Degraded Patches or Repairs | N. Coating Deterioration | | |
| C. Exposed Metallic Items (Other) | I. Popouts, Voids, Honeycomb | O. Abrasion, Cavitation, Wear | | |
| D. Evidence Of Grease Leakage | J. Spalls | P. Air Voids / Bug Holes | | |
| E. Evidence Of Moisture | K. Cold Joint Lines | Q. Efflorescence | | |
| F. Leaching Or Chemical Attack | L. Corrosion Staining | R. Other (Explain) | | |
| Supplemental Information: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Sketch <input type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | | | | |
| Results: Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| EXAMINER/EVALUATOR (Print & Sign) <u>W. Rance Robbins</u> | | LEVEL <u>II</u> | DATE <u>8-13-09</u> | |
| STATION/ADMIN REVIEW (Print & Sign) <u>Eric Johnson</u> | | DATE <u>3/15/10</u> | | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. | | | | |
| RI or Unacceptable results Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Additional Actions: (Action Request, Work Order, Issue Report, etc. Initiated for Corrective Action) | | | | |
| LEVEL III or RE REVIEW (as applicable) <u>Howard T. Hill, P.E.</u> | | DATE: <u>1/8/10</u> | | |
| ANII REVIEW (as applicable) | | DATE: | | |

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ATTACHMENT 6
ASME IWE (Class CC) Containment Concrete VT-1C or VT-3C Visual Examination NDE
Report
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| | | |
|--|--------------------------------|---|
| Station: <u>TMI</u> Unit: <u>1</u> Date: <u>8-18-09</u> Report No: | | |
| System: <u>Cont. Tension</u> Component: <u>V-90</u> WO No(s): <u>R2067551</u> | | |
| Location: Building: <u>CONTAINMENT Bldg.</u> Elev.: Col.: Row: Azimuth/Radius: | | |
| Exam Type: <input type="checkbox"/> DV <input type="checkbox"/> GV <input checked="" type="checkbox"/> VT-1C <input type="checkbox"/> VT-3C Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote Matl. Type: <u>Concrete</u> | | |
| Design Drawing(s) Visual Aids: <u>None</u> | | |
| Surface: <u>ID</u> <input checked="" type="checkbox"/> <u>OD</u> Surface / Components Coated: <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | | |
| M&TE Used: <u>None</u> <input checked="" type="checkbox"/> Test Card UTC or Serial No: <u>N/A</u> Cal. Due Date: <u>N/A</u> | | |
| Illumination Used: <u>Flashlight</u> Illumination Verified: Date: <u>8-18-09</u> Time: <u>7:30 AM</u> <u>WRR 8-19-09</u> | | |
| Special / Specific Instructions: <u>None</u> | | |
| Component / Item Number and Description (e.g. EIN, EID, etc.) | RESULTS NI RI TYPE IO | Explanation / Notes (As a minimum, Record Location and Size of Recordable Indications as applicable) |
| <u>2' area of concrete around V-90 shop/top end.</u> | <u>X</u> | |
| Results Legend: NI - No Indications RI - Recordable Indication IO - Information Only | | |
| Recordable Indication Type Codes: | | |
| A. Cracks (Characterize and Size) | G. Settlements Or Deflections | M. Scaling / Dusting |
| B. Exposed Reinforcing Steel | H. Degraded Patches or Repairs | N. Coating Deterioration |
| C. Exposed Metallic Items (Other) | I. Popouts, Voids, Honeycomb | O. Abrasion, Cavitation, Wear |
| D. Evidence Of Grease Leakage | J. Spalls | P. Air Voids / Bug Holes |
| E. Evidence Of Moisture | K. Cold Joint Lines | Q. Efflorescence |
| F. Leaching Or Chemical Attack | L. Corrosion Staining | R. Other (Explain) |
| Supplemental Information: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Sketch <input type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | | |
| Results: Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |
| EXAMINER/EVALUATOR (Print & Sign) <u>W. Lance Robbins</u> | | LEVEL <u>II</u> DATE <u>8-19-09</u> |
| STATION/ADMIN REVIEW (Print & Sign) <u>Ever Johnson</u> | | DATE <u>3/15/10</u> |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. | | |
| RI or Unacceptable results Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |
| Additional Actions: (Action Request, Work Order, Issue Report, etc. Initiated for Corrective Action) | | |
| LEVEL III or RE REVIEW (as applicable) <u>Flora [Signature]</u> (Howard J. Hill, P.E.) | | DATE: <u>18 Nov 10</u> |
| ANII REVIEW (as applicable) | | DATE: |

ATTACHMENT 6
ASME IWE (Class CC) Containment Concrete VT-1C or VT-3C Visual Examination NDE
Report

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| Station: TMI Unit: 1 Date: 8-13-09 Report No: | | | | | | | | | | | | | | | | | | | |
|---|--|--|--------------------------------------|--|---|---|---------------------------------|--|---|--------------------------------------|--------------------------------------|------------------|--|--------------------------------|----------------------------|-------------------------|--|------------------------------|---------------------------|
| System: Court Tendon Component: V-90 WO No(s): R2067551 | | | | | | | | | | | | | | | | | | | |
| Location: Building: Court Bldg Tendon Gallery Elev.: Col.: Row: Azimuth/Radius: | | | | | | | | | | | | | | | | | | | |
| Exam Type: <input type="checkbox"/> DV <input type="checkbox"/> GV <input checked="" type="checkbox"/> VT-1C <input type="checkbox"/> VT-3C Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote Matl. Type: Concrete | | | | | | | | | | | | | | | | | | | |
| Design Drawing(s) Visual Aids: None | | | | | | | | | | | | | | | | | | | |
| Surface: ID <input type="checkbox"/> OD Surface / Components Coated: <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | | | | | | | | | | | | | | | | | | | |
| M&TE Used: R-21 Scale 4-110 <input checked="" type="checkbox"/> Test Card UTC or Serial No. N/A Cal. Due Date: N/A | | | | | | | | | | | | | | | | | | | |
| Illumination Used Flash light Illumination Verified: Date: 8-13-09 Time: 1:PM | | | | | | | | | | | | | | | | | | | |
| Special / Specific Instructions: | | | | | | | | | | | | | | | | | | | |
| <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Component / Item Number and Description (e.g. EIN, EID, etc.)</th> <th colspan="3">RESULTS</th> <th rowspan="2">Explanation / Notes (As a minimum, Record Location and Size of Recordable Indications as applicable)</th> </tr> <tr> <th>NI</th> <th>RI TYPE</th> <th>IO</th> </tr> </thead> <tbody> <tr> <td rowspan="2">2' Area of concrete around V-90 tendon gallery / field end</td> <td></td> <td></td> <td>A</td> <td>Crack adjacent to the bearing plate 3' L x < than .010" wide</td> </tr> <tr> <td></td> <td></td> <td>A</td> <td>Crack from corner of bearing plate to exterior wall 10" L x < than .010" wide.</td> </tr> </tbody> </table> | Component / Item Number and Description (e.g. EIN, EID, etc.) | RESULTS | | | Explanation / Notes (As a minimum, Record Location and Size of Recordable Indications as applicable) | NI | RI TYPE | IO | 2' Area of concrete around V-90 tendon gallery / field end | | | A | Crack adjacent to the bearing plate 3' L x < than .010" wide | | | A | Crack from corner of bearing plate to exterior wall 10" L x < than .010" wide. | | |
| Component / Item Number and Description (e.g. EIN, EID, etc.) | | RESULTS | | | | Explanation / Notes (As a minimum, Record Location and Size of Recordable Indications as applicable) | | | | | | | | | | | | | |
| | NI | RI TYPE | IO | | | | | | | | | | | | | | | | |
| 2' Area of concrete around V-90 tendon gallery / field end | | | A | Crack adjacent to the bearing plate 3' L x < than .010" wide | | | | | | | | | | | | | | | |
| | | | A | Crack from corner of bearing plate to exterior wall 10" L x < than .010" wide. | | | | | | | | | | | | | | | |
| Results Legend: NI - No Indications RI - Recordable Indication IO - Information Only | | | | | | | | | | | | | | | | | | | |
| Recordable Indication Type Codes: <table style="width:100%;"> <tr> <td>A. Cracks (Characterize and Size)</td> <td>G. Settlements Or Deflections</td> <td>M. Scaling / Dusting</td> </tr> <tr> <td>B. Exposed Reinforcing Steel</td> <td>H. Degraded Patches or Repairs</td> <td>N. Coating Deterioration</td> </tr> <tr> <td>C. Exposed Metallic Items (Other)</td> <td>I. Popouts, Voids, Honeycomb</td> <td>O. Abrasion, Cavitation, Wear</td> </tr> <tr> <td>D. Evidence Of Grease Leakage</td> <td>J. Spalls</td> <td>P. Air Voids / Bug Holes</td> </tr> <tr> <td>E. Evidence Of Moisture</td> <td>K. Cold Joint Lines</td> <td>Q. Efflorescence</td> </tr> <tr> <td>F. Leaching Or Chemical Attack</td> <td>L. Corrosion Staining</td> <td>R. Other (Explain)</td> </tr> </table> | | A. Cracks (Characterize and Size) | G. Settlements Or Deflections | M. Scaling / Dusting | B. Exposed Reinforcing Steel | H. Degraded Patches or Repairs | N. Coating Deterioration | C. Exposed Metallic Items (Other) | I. Popouts, Voids, Honeycomb | O. Abrasion, Cavitation, Wear | D. Evidence Of Grease Leakage | J. Spalls | P. Air Voids / Bug Holes | E. Evidence Of Moisture | K. Cold Joint Lines | Q. Efflorescence | F. Leaching Or Chemical Attack | L. Corrosion Staining | R. Other (Explain) |
| A. Cracks (Characterize and Size) | G. Settlements Or Deflections | M. Scaling / Dusting | | | | | | | | | | | | | | | | | |
| B. Exposed Reinforcing Steel | H. Degraded Patches or Repairs | N. Coating Deterioration | | | | | | | | | | | | | | | | | |
| C. Exposed Metallic Items (Other) | I. Popouts, Voids, Honeycomb | O. Abrasion, Cavitation, Wear | | | | | | | | | | | | | | | | | |
| D. Evidence Of Grease Leakage | J. Spalls | P. Air Voids / Bug Holes | | | | | | | | | | | | | | | | | |
| E. Evidence Of Moisture | K. Cold Joint Lines | Q. Efflorescence | | | | | | | | | | | | | | | | | |
| F. Leaching Or Chemical Attack | L. Corrosion Staining | R. Other (Explain) | | | | | | | | | | | | | | | | | |
| Supplemental Information: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Sketch <input type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | | | | | | | | | | | | | | | | | | | |
| Results: Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | | | | | | | | | | | | | | | | |
| EXAMINER/EVALUATOR: W. Rance Robbins LEVEL II DATE 8-13-09 | | | | | | | | | | | | | | | | | | | |
| STATION/ADMIN REVIEW: Evan Johnson DATE 3/15/10 | | | | | | | | | | | | | | | | | | | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. RI or Unacceptable (results Acceptable) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Additional Actions: (Action Request, Work Order, Issue Report, etc. Initiated for Corrective Action) | | | | | | | | | | | | | | | | | | | |
| LEVEL III or RE REVIEW (as applicable) Howard T. Nel, P.E. DATE: 18 MAR 10 | | | | | | | | | | | | | | | | | | | |
| ANII REVIEW (as applicable) DATE: | | | | | | | | | | | | | | | | | | | |

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ATTACHMENT 6
ASME IWE (Class CC) Containment Concrete VT-1C or VT-3C Visual Examination NDE Report
Page 1 of 1

| Station: <u>TMI</u> Unit: <u>1</u> Date: <u>8-13-09</u> Report No: | | | | | | | | | | | | |
|--|---|-------------------------------|---|--|---|----|----|------|--|--|---|--|
| System: <u>Cont. Bldg. Windows</u> Component: <u>V-132</u> WO No(s): <u>R 2067551</u> | | | | | | | | | | | | |
| Location: Building: <u>Cont. Bldg.</u> Elev.: Col.: Row: Azimuth/Radius: | | | | | | | | | | | | |
| Exam Type: <input type="checkbox"/> DV <input type="checkbox"/> GV <input checked="" type="checkbox"/> VT-1C <input type="checkbox"/> VT-3C Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote Matl. Type: <u>Concrete</u> | | | | | | | | | | | | |
| Design Drawing(s) Visual Aids: <u>None</u> | | | | | | | | | | | | |
| Surface: <u>ID (OD)</u> Surface / Components Coated: <input checked="" type="checkbox"/> YES <input checked="" type="checkbox"/> NO WRR 8-13-09 | | | | | | | | | | | | |
| M&TE Used: <u>None</u> <input checked="" type="checkbox"/> Test Card UTC or Serial No. <u>N/A</u> Cal. Due Date: <u>N/A</u> | | | | | | | | | | | | |
| Illumination Used <u>Flashlight</u> Illumination Verified: Date: <u>8-13-09</u> Time: <u>8:AM</u> | | | | | | | | | | | | |
| Special / Specific Instructions: <u>None</u> | | | | | | | | | | | | |
| Component / Item Number and Description (e.g. EIN, EID, etc.) | <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3" style="text-align:center;">RESULTS</th> <th rowspan="2" style="text-align:center;">Explanation / Notes (As a minimum, Record Location and Size of Recordable Indications as applicable)</th> </tr> <tr> <th style="width:10%;">NI</th> <th style="width:10%;">RI</th> <th style="width:10%;">TYPE</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td style="text-align:center;">P</td> <td>Small bugholes present in the entire area.</td> </tr> </tbody> </table> | RESULTS | | | Explanation / Notes (As a minimum, Record Location and Size of Recordable Indications as applicable) | NI | RI | TYPE | | | P | Small bugholes present in the entire area. |
| RESULTS | | | Explanation / Notes (As a minimum, Record Location and Size of Recordable Indications as applicable) | | | | | | | | | |
| NI | RI | TYPE | | | | | | | | | | |
| | | P | Small bugholes present in the entire area. | | | | | | | | | |
| Results Legend: NI - No Indications RI - Recordable Indication IO - Information Only | | | | | | | | | | | | |
| Recordable Indication Type Codes: | | | | | | | | | | | | |
| A. Cracks (Characterize and Size) | G. Settlements Or Deflections | M. Scaling / Dusting | | | | | | | | | | |
| B. Exposed Reinforcing Steel | H. Degraded Patches or Repairs | N. Coating Deterioration | | | | | | | | | | |
| C. Exposed Metallic Items (Other) | I. Popouts, Voids, Honeycomb | O. Abrasion, Cavitation, Wear | | | | | | | | | | |
| D. Evidence Of Grease Leakage | J. Spalls | P. Air Voids / Bug Holes | | | | | | | | | | |
| E. Evidence Of Moisture | K. Cold Joint Lines | Q. Efflorescence | | | | | | | | | | |
| F. Leaching Or Chemical Attack | L. Corrosion Staining | R. Other (Explain) | | | | | | | | | | |
| Supplemental Information: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Sketch <input type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | | | | | | | | | | | | |
| Results: Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | | | | | | | | | |
| EXAMINER/EVALUATOR: <u>W. Lance Robbins</u> LEVEL <u>II</u> DATE <u>8-13-09</u> | | | | | | | | | | | | |
| STATION/ADMIN REVIEW: <u>Evan Johnson</u> DATE <u>3/15/10</u> | | | | | | | | | | | | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. | | | | | | | | | | | | |
| RI or Unacceptable <u>results Acceptable</u> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | | | | | | | | | |
| Additional Actions: (Action Request, Work Order, Issue Report, etc. Initiated for Corrective Action) | | | | | | | | | | | | |
| LEVEL III or RE REVIEW (as applicable): <u>Howard T. Hill, P.E.</u> DATE: <u>18 Mar 10</u> | | | | | | | | | | | | |
| ANII REVIEW (as applicable) DATE: | | | | | | | | | | | | |

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ATTACHMENT 6
ASME IWE (Class CC) Containment Concrete VT-1C or VT-3C Visual Examination NDE
Report
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| Station: <u>TMF</u> Unit: <u>1</u> Date: <u>8-13-09</u> Report No: | | | | |
|--|--------------------------------|-------------------------------|---------------------|---|
| System: <u>CONT. TENDONS</u> Component: <u>V-132</u> WO No(s): <u>R2067551</u> | | | | |
| Location: Building: <u>Cont. Bldg.</u> Elev.: Col.: Row: Azimuth/Radius: | | | | |
| Exam Type: <input type="checkbox"/> DV <input type="checkbox"/> GV <input checked="" type="checkbox"/> VT-1C <input type="checkbox"/> VT-3C Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote Matl. Type: <u>Concrete</u> | | | | |
| Design Drawing(s) Visual Aids: <u>NONE</u> | | | | |
| Surface: ID <input checked="" type="checkbox"/> <u>OD</u> Surface / Components Coated: <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO | | | | |
| M&TE Used: <u>NONE</u> <input checked="" type="checkbox"/> Test Card UTC or Serial No. <u>N/A</u> Cal. Due Date: <u>N/A</u> | | | | |
| Illumination Used <u>Flashlight</u> Illumination Verified: Date: <u>8-13-09</u> Time: <u>1:PM</u> | | | | |
| Special / Specific Instructions: <u>NONE</u> | | | | |
| Component / Item Number and Description (e.g. EIN, EID, etc.) | RESULTS | | | Explanation / Notes (As a minimum, Record Location and Size of Recordable Indications as applicable) |
| | NI | RI | IO | |
| <u>2' Area of concrete Around V-132 gallery field end.</u> | | | <u>Q</u> | <u>Efflorescence on inner wall.</u> |
| Results Legend: NI - No Indications RI - Recordable Indication IO - Information Only | | | | |
| Recordable Indication Type Codes: | | | | |
| A. Cracks (Characterize and Size) | G. Settlements Or Deflections | M. Scaling / Dusting | | |
| B. Exposed Reinforcing Steel | H. Degraded Patches or Repairs | N. Coating Deterioration | | |
| C. Exposed Metallic Items (Other) | I. Popouts, Voids, Honeycomb | O. Abrasion, Cavitation, Wear | | |
| D. Evidence Of Grease Leakage | J. Spalls | P. Air Voids / Bug Holes | | |
| E. Evidence Of Moisture | K. Cold Joint Lines | Q. Efflorescence | | |
| F. Leaching Or Chemical Attack | L. Corrosion Staining | R. Other (Explain) | | |
| Supplemental Information: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Sketch <input type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | | | | |
| Results: Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| EXAMINER/EVALUATOR: (Print & Sign) <u>W. Lance Robbins</u> | | LEVEL <u>II</u> | DATE <u>8-13-09</u> | |
| STATION/ADMIN REVIEW: (Print & Sign) <u>Evan Johnson</u> | | DATE <u>3/15/10</u> | | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. RI or Unacceptable results Acceptable. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Additional Actions: (Action Request, Work Order, Issue Report, etc. Initiated for Corrective Action) | | | | |
| LEVEL III or RE REVIEW (as applicable) <u>Howard J. Hill, P.E.</u> | | DATE: <u>18 March 10</u> | | |
| ANII REVIEW (as applicable) | | DATE: | | |

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ATTACHMENT 6
ASME IWE (Class CC) Containment Concrete VT-1C or VT-3C Visual Examination NDE
Report
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| Station: <u>TMI</u> Unit: <u>1</u> Date: <u>8-17-09</u> Report No: | | | | |
|--|--------------------------------|-------------------------------|---------------------|---|
| System: <u>Curt. bldg tendons</u> Component: <u>D-122</u> WO No(s): <u>R2067551</u> | | | | |
| Location: Building: <u>Curt. bldg.</u> Elev.: Col.: Row: Azimuth/Radius: | | | | |
| Exam Type: <input type="checkbox"/> DV <input type="checkbox"/> GV <input checked="" type="checkbox"/> VT-1C <input type="checkbox"/> VT-3C Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote Matl. Type: <u>Concrete</u> | | | | |
| Design Drawing(s) Visual Aids: <u>None</u> | | | | |
| Surface: ID <input checked="" type="checkbox"/> (OD) Surface / Components Coated: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | | | | |
| M&TE Used: <u>Scale R21 calibration</u> Test Card UTC or Serial No. <u>N/A</u> Cal. Due Date: <u>N/A</u> | | | | |
| Illumination Used <u>Flash light</u> Illumination Verified: Date: <u>8/17/09</u> Time: <u>7:30AM</u> | | | | |
| Special / Specific Instructions: <u>None</u> | | | | |
| Component / Item Number and Description (e.g. EIN, EID, etc.) | RESULTS | | | Explanation / Notes (As a minimum, Record Location and Size of Recordable Indications as applicable) |
| | NI | RI | IO | |
| 2' area of concrete around D-122 tendon buttress 5 shop end. | | | M | Large area of light scaling above tendon |
| | | | A | Crack from top center of bearing plate 4' long x < than .010" wide. |
| | | | A | Crack from bottom center of bearing plate 6' long x < than .010" wide. |
| Results Legend: NI - No Indications RI - Recordable Indication IO - Information Only | | | | |
| Recordable Indication Type Codes: | | | | |
| A. Cracks (Characterize and Size) | G. Settlements Or Deflections | M. Scaling / Dusting | | |
| B. Exposed Reinforcing Steel | H. Degraded Patches or Repairs | N. Coating Deterioration | | |
| C. Exposed Metallic Items (Other) | I. Popouts, Voids, Honeycomb | O. Abrasion, Cavitation, Wear | | |
| D. Evidence Of Grease Leakage | J. Spalls | P. Air Voids / Bug Holes | | |
| E. Evidence Of Moisture | K. Cold Joint Lines | Q. Efflorescence | | |
| F. Leaching Or Chemical Attack | L. Corrosion Staining | R. Other (Explain) | | |
| Supplemental Information: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Sketch <input type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | | | | |
| Results: Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| EXAMINER/EVALUATOR (Print & Sign) <u>W. Lance Robbins</u> | | LEVEL <u>II</u> | DATE <u>8-17-09</u> | |
| STATION/ADMIN REVIEW (Print & Sign) <u>Eva Johnson</u> | | DATE <u>3/15/10</u> | | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. | | | | |
| RI or Unacceptable (results Acceptable) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Additional Actions: (Action Request, Work Order, Issue Report, etc. Initiated for Corrective Action) | | | | |
| LEVEL III or RE REVIEW (as applicable) <u>Jason D. Howard</u> | | DATE: <u>18 Mar 10</u> | | |
| ANII REVIEW (as applicable) | | DATE: | | |

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ATTACHMENT 6
ASME IWE (Class CC) Containment Concrete VT-1C or VT-3C Visual Examination NDE
Report
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| Station: <i>TMI</i> | Unit: <i>1</i> | Date: <i>11-13-09</i> | Report No: | |
|--|--|---------------------------------|------------------------|---|
| System: <i>CONTAINMENT TENDONS</i> | Component: <i>D-122</i> | WO No(s): <i>R2067551</i> | | |
| Location: Building <i>CONTAINMENT</i> | Elev: | Col.: | Row: | |
| Exam Type: <input type="checkbox"/> DV <input type="checkbox"/> GV <input checked="" type="checkbox"/> VT-1C <input type="checkbox"/> VT-3C | Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote | Matl. Type: <i>CONCRETE</i> | | |
| Design Drawing(s) | Visual Aids: <i>None</i> | | | |
| Surface: ID <input type="checkbox"/> OD <input checked="" type="checkbox"/> | Surface / Components Coated: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | | | |
| M&TE Used: <i>PORTABLE TESTER</i> <input checked="" type="checkbox"/> Test Card | UTC or Serial No. <i>N/A</i> | Cal. Due Date: <i>N/A</i> | | |
| Illumination Used <i>FLASHLIGHT</i> | Illumination Verified: | Date: <i>11-13-09</i> | Time: <i>1:00 PM</i> | |
| Special / Specific Instructions: <i>N/A</i> | | | | |
| Component / Item Number and Description (e.g. EIN, EID, etc.) | RESULTS | | | Explanation / Notes (As a minimum, Record Location and Size of Recordable Indications as applicable) |
| | NI | RI TYPE | IO | |
| <i>D-122</i> <i>FIELD/NE</i> <i>24" FROM EDGE OF BEARING PLATE</i> | <i>X</i> | | | |
| Results Legend: | | | | |
| NI - No Indications RI - Recordable Indication IO - Information Only | | | | |
| Recordable Indication Type Codes: | | | | |
| A. Cracks (Characterize and Size) | G. Settlements Or Deflections | M. Scaling / Dusting | | |
| B. Exposed Reinforcing Steel | H. Degraded Patches or Repairs | N. Coating Deterioration | | |
| C. Exposed Metallic Items (Other) | I. Popouts, Voids, Honeycomb | O. Abrasion, Cavitation, Wear | | |
| D. Evidence Of Grease Leakage | J. Spalls | P. Air Voids / Bug Holes | | |
| E. Evidence Of Moisture | K. Cold Joint Lines | Q. Efflorescence | | |
| F. Leaching Or Chemical Attack | L. Corrosion Staining | R. Other (Explain) | | |
| Supplemental Information: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Sketch <input type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | | | | |
| Results Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| EXAMINER/EVALUATOR (Print & Sign) <i>DANIEL P. O'SHEA</i> | <i>D.P.O.</i> | LEVEL <i>II</i> | DATE <i>11-13-09</i> | |
| STATION/ADMIN REVIEW (Print & Sign) <i>EVAN JONES</i> | | | DATE <i>3/15/10</i> | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. | | | | |
| RI or Unacceptable results Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Additional Actions: (Action Request, Work Order, Issue Report, etc. initiated for Corrective Action) | | | | |
| LEVEL III or RE REVIEW (as applicable) <i>HOWARD T. HILL</i> | <i>H.T.H.</i> | (<i>HOWARD T. HILL, P.E.</i>) | DATE: <i>12 MAR 10</i> | |
| ANII REVIEW (as applicable) | | | DATE: | |

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ATTACHMENT 6
ASME IWE (Class CC) Containment Concrete VT-1C or VT-3C Visual Examination NDE
Report
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| Station: <u>TMI</u> Unit: <u>1</u> Date: <u>8-11-09</u> Report No: | | | | |
|--|--------------------------------|-------------------------------|---------------------|---|
| System: <u>Court. Test Bldg</u> Component: <u>D-225</u> WO No(s): <u>R2067551</u> | | | | |
| Location: Building: <u>Containment Bldg</u> Elev.: Col.: Row: Azimuth/Radius: | | | | |
| Exam Type: <input type="checkbox"/> DV <input type="checkbox"/> GV <input checked="" type="checkbox"/> VT-1C <input type="checkbox"/> VT-3C Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote Matl. Type: <u>Concrete</u> | | | | |
| Design Drawing(s) Visual Aids: <u>NONE</u> | | | | |
| Surface: ID <u>(OD)</u> Surface / Components Coated: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | | | | |
| M&TE Used: <u>Scale R-21 1/4" to 1/2"</u> Test Card UTC or Serial No. <u>N/A</u> Cal. Due Date <u>N/A</u> | | | | |
| Illumination Used <u>Flashlight</u> Illumination Verified: Date: <u>8-11-09</u> Time: <u>7:AM</u> | | | | |
| Special / Specific Instructions: <u>NONE</u> | | | | |
| Component / Item Number and Description (e.g. EIN, EID, etc.) | RESULTS | | | Explanation / Notes (As a minimum, Record Location and Size of Recordable Indications as applicable) |
| | NI | RI TYPE | IO | |
| 2' area of concrete around D-225 buttress 5 / sloped | | | A | Crack extending from right upper corner of bearing plate 49" long x < than .010 wide |
| | | | A | Crack extending from lower right corner 49" long x < than .010 wide |
| Results Legend: NI - No Indications RI - Recordable Indication IO - Information Only | | | | |
| Recordable Indication Type Codes: | | | | |
| A. Cracks (Characterize and Size) | G. Settlements Or Deflections | M. Scaling / Dusting | | |
| B. Exposed Reinforcing Steel | H. Degraded Patches or Repairs | N. Coating Deterioration | | |
| C. Exposed Metallic Items (Other) | I. Popouts, Voids, Honeycomb | O. Abrasion, Cavitation, Wear | | |
| D. Evidence Of Grease Leakage | J. Spalls | P. Air Voids / Bug Holes | | |
| E. Evidence Of Moisture | K. Cold Joint Lines | Q. Efflorescence | | |
| F. Leaching Or Chemical Attack | L. Corrosion Staining | R. Other (Explain) | | |
| Supplemental Information: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Sketch <input type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | | | | |
| Results: Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| EXAMINER/EVALUATOR (Print & Sign) <u>N. Lance Robbins</u> <u>N. Lance Robbins</u> | | LEVEL <u>II</u> | DATE <u>8-11-09</u> | <u>8-15-09</u> |
| STATION/ADMIN REVIEW (Print & Sign) <u>Eric Johnson</u> | | DATE <u>3/15/10</u> | <u>8-11-09</u> | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. RI or Unacceptable results Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Additional Actions: (Action Request, Work Order, Issue Report, etc. initiated for Corrective Action) | | | | |
| LEVEL III or RE REVIEW (as applicable) <u>Howard T. Hill, P.E.</u> | | DATE: <u>18 Mar 10</u> | | |
| ANII REVIEW (as applicable) | | DATE: | | |

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ATTACHMENT 6
ASME IWE (Class CC) Containment Concrete VT-1C or VT-3C Visual Examination NDE
Report
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| | | | |
|---|--|------------------------------|---------------------------|
| Station: <u>TMI</u> | Unit: <u>1</u> | Date: <u>8-12-09</u> | Report No: |
| System: <u>Cont. Tendons</u> | Component: <u>D-225</u> | WO No(s): <u>R2067551</u> | |
| Location: Building: <u>Containment Bldg.</u> | Elev.: | Col.: | Row: Azimuth/Radius: |
| Exam Type: <input type="checkbox"/> DV <input type="checkbox"/> GV <input checked="" type="checkbox"/> VT-1C <input type="checkbox"/> VT-3C | Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote | Matl. Type: <u>Concrete</u> | |
| Design Drawing(s) | Visual Aids: <u>None</u> | | |
| Surface: ID <input type="checkbox"/> <u>OD</u> <input type="checkbox"/> | Surface / Components Coated: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | | |
| M&TE Used: <u>None</u> | <input checked="" type="checkbox"/> Test Card | UTC or Serial No. <u>N/A</u> | Cal. Due Date: <u>N/A</u> |
| Illumination Used: <u>Flashlight</u> | Illumination Verified: Date: <u>8-12-09</u> | | Time: <u>7:AM</u> |
| Special / Specific Instructions: <u>None</u> | | | |

| Component / Item Number and Description (e.g. EIN, EID, etc.) | RESULTS | | | Explanation / Notes (As a minimum, Record Location and Size of Recordable Indications as applicable) |
|---|---------|----|----------|---|
| | NI | RI | IO | |
| <u>2 foot area of concrete around D-225 buttress 2 field end.</u> | | | <u>H</u> | <u>Grout patch from lower left to upper right corner of bearing plate. Separating from concrete.</u> |

Results Legend:
NI - No Indications RI - Recordable Indication IO - Information Only

Recordable Indication Type Codes:

| | | |
|-----------------------------------|--------------------------------|-------------------------------|
| A. Cracks (Characterize and Size) | G. Settlements Or Deflections | M. Scaling / Dusting |
| B. Exposed Reinforcing Steel | H. Degraded Patches or Repairs | N. Coating Deterioration |
| C. Exposed Metallic Items (Other) | I. Popouts, Voids, Honeycomb | O. Abrasion, Cavitation, Wear |
| D. Evidence Of Grease Leakage | J. Spalls | P. Air Voids / Bug Holes |
| E. Evidence Of Moisture | K. Cold Joint Lines | Q. Efflorescence |
| F. Leaching Or Chemical Attack | L. Corrosion Staining | R. Other (Explain) |

Supplemental Information: Yes No Sketch Photo Video Other (Describe):

Results: Acceptable Yes No

| | | |
|--|---------------------|---------------------|
| EXAMINER/EVALUATOR (Print & Sign) <u>W. Rance Robbins</u> <u>W. Rance Robbins</u> | LEVEL <u>II</u> | DATE <u>8-12-09</u> |
| STATION/ADMIN REVIEW (Print & Sign) <u>Eric Johnson</u> | DATE <u>3/15/10</u> | |

This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition.

RI or Unacceptable results Acceptable Yes No

Additional Actions:
(Action Request, Work Order, Issue Report, etc. Initiated for Corrective Action)

| | |
|--|------------------------|
| LEVEL III or RE REVIEW (as applicable) <u>Howard T. Nico, P.E.</u> | DATE: <u>12 Mar 10</u> |
| ANII REVIEW (as applicable) | DATE: |

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ATTACHMENT 6
ASME IWE (Class CC) Containment Concrete VT-1C or VT-3C Visual Examination NDE
Report
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| Station: <i>TMZ</i> Unit: <i>1</i> Date: <i>11-16-09</i> Report No: | | WO No(s): <i>R2067551</i> | | |
|--|-------------------------------|--|-----------------------------|---|
| System: <i>CONTAINMENT TENDONS</i> Component: <i>D-322</i> | | | | |
| Location: Building: <i>Containment</i> Elev.: | | Col.: | Row: Azimuth/Radius: | |
| Exam Type: <input type="checkbox"/> DV <input type="checkbox"/> GV <input checked="" type="checkbox"/> VT-1C <input type="checkbox"/> VT-3C | | Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote | Matl. Type: <i>CONCRETE</i> | |
| Design Drawing(s) | | Visual Aids: <i>None</i> | | |
| Surface: ID <i>OD</i> | | Surface / Components Coated: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | | |
| M&TE Used: <i>UNIVERSITY POLYTECHNIC</i> <input checked="" type="checkbox"/> Test Card | | UTC or Serial No. <i>N/A</i> | Cal. Due Date: <i>N/A</i> | |
| Illumination Used: <i>FLASHLIGHT</i> | | Illumination Verified: | Date: Time: | |
| Special / Specific Instructions: <i>N/A</i> | | | | |
| Component / Item Number and Description (e.g. EIN, EID, etc.) | RESULTS | | | Explanation / Notes (As a minimum, Record Location and Size of Recordable Indications as applicable) |
| | NI | RI | IO | |
| <i>D-322</i> <i>SHOP / NORTH</i> | <i>X</i> | | | |
| Results Legend: NI - No Indications RI - Recordable Indication IO - Information Only | | | | |
| Recordable Indication Type Codes | | | | |
| A Cracks (Characterize and Size) | G Settlements Or Deflections | M Scaling / Dusting | | |
| B Exposed Reinforcing Steel | H Degraded Patches or Repairs | N Coating Deterioration | | |
| C Exposed Metallic Items (Other) | I Popouts, Voids, Honeycomb | O Abrasion, Cavitation, Wear | | |
| D Evidence Of Grease Leakage | J Spalls | P Air Voids / Bug Holes | | |
| E Evidence Of Moisture | K Cold Joint Lines | Q Efflorescence | | |
| F Leaching Or Chemical Attack | L Corrosion Staining | R Other (Explain) | | |
| Supplemental Information <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Sketch <input type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe) | | | | |
| Results Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| EXAMINER/EVALUATOR (Print & Sign) <i>Daniel P. O'Shea</i> | | LEVEL <i>II</i> | DATE <i>11-16-09</i> | |
| STATION/ADMIN REVIEW (Print & Sign) <i>Evan Johnson</i> | | DATE <i>3/15/10</i> | | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. | | | | |
| RI or Unacceptable (results Acceptable) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Additional Actions (Action Request, Work Order, Issue Report, etc. Indicated for Corrective Action) | | | | |
| LEVEL III or RE REVIEW (as applicable) <i>Howard T. Kuc, PE</i> | | DATE <i>12 Mar 10</i> | | |
| ANII REVIEW (as applicable): | | DATE: | | |

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ATTACHMENT 6
ASME IWE (Class CC) Containment Concrete VT-1C or VT-3C Visual Examination NDE Report
Page 1 of 1

| Station: <u>TMZ</u> Unit: <u>1</u> Date: _____ Report No: _____ | | | | | | | | | | | | | | | | | | | |
|---|--|----------------------------------|------------------------------|---------------------|---|---|-------------------------|----------------------------------|---|------------------------------|------------------------------|----------|-------------------------|------------------------|--------------------|-----------------|-------------------------------|----------------------|-------------------|
| System: <u>CONTAINMENT TENDONS</u> Component: <u>D-322</u> WO No(s): <u>R2067551</u> | | | | | | | | | | | | | | | | | | | |
| Location: Building: <u>CONTAINMENT</u> Elev.: _____ Col.: _____ Row: _____ Azimuth/Radius: _____ | | | | | | | | | | | | | | | | | | | |
| Exam Type: <input type="checkbox"/> DV <input type="checkbox"/> GV <input checked="" type="checkbox"/> VT-1C <input type="checkbox"/> VT-3C Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote Matl. Type: <u>CONCRETE</u> | | | | | | | | | | | | | | | | | | | |
| Design Drawing(s) _____ Visual Aids: <u>None</u> | | | | | | | | | | | | | | | | | | | |
| Surface: <u>ID</u> <input checked="" type="checkbox"/> <u>OD</u> Surface / Components Coated: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | | | | | | | | | | | | | | | | | | | |
| M&TE Used: <u>ULTRA-SONIC</u> <input checked="" type="checkbox"/> Test Card UTC or Serial No. <u>N/A</u> Cal. Due Date: <u>N/A</u> | | | | | | | | | | | | | | | | | | | |
| Illumination Used: <u>FLASHLIGHT</u> Illumination Verified: _____ Date: <u>3/15/10</u> Time: <u>8:00 AM</u> | | | | | | | | | | | | | | | | | | | |
| Special / Specific Instructions: <u>N/A</u> | | | | | | | | | | | | | | | | | | | |
| <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Component / Item Number and Description (e.g. EIN, EID, etc.)</th> <th colspan="3">RESULTS</th> <th rowspan="2">Explanation / Notes (As a minimum, Record Location and Size of Recordable Indications as applicable)</th> </tr> <tr> <th>NI</th> <th>RI</th> <th>IO</th> </tr> </thead> <tbody> <tr> <td><u>D322</u> <u>Field/507A</u> <u>24" FROM EDGE</u> <u>OF REINFORCING PLATE</u></td> <td align="center"><u>X</u></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> | Component / Item Number and Description (e.g. EIN, EID, etc.) | RESULTS | | | Explanation / Notes (As a minimum, Record Location and Size of Recordable Indications as applicable) | NI | RI | IO | <u>D322</u> <u>Field/507A</u> <u>24" FROM EDGE</u> <u>OF REINFORCING PLATE</u> | <u>X</u> | | | | | | | | | |
| Component / Item Number and Description (e.g. EIN, EID, etc.) | | RESULTS | | | | Explanation / Notes (As a minimum, Record Location and Size of Recordable Indications as applicable) | | | | | | | | | | | | | |
| | NI | RI | IO | | | | | | | | | | | | | | | | |
| <u>D322</u> <u>Field/507A</u> <u>24" FROM EDGE</u> <u>OF REINFORCING PLATE</u> | <u>X</u> | | | | | | | | | | | | | | | | | | |
| Results Legend: NI - No Indications RI - Recordable Indication IO - Information Only | | | | | | | | | | | | | | | | | | | |
| Recordable Indication Type Codes: <table style="width:100%; font-size: small;"> <tr> <td>A Cracks (Characterize and Size)</td> <td>G Settlements Or Deflections</td> <td>M Scaling / Dusting</td> </tr> <tr> <td>B Exposed Reinforcing Steel</td> <td>H Degraded Patches or Repairs</td> <td>N Coating Deterioration</td> </tr> <tr> <td>C Exposed Metallic Items (Other)</td> <td>I Popouts, Voids, Honeycomb</td> <td>O Abrasion, Cavitation, Wear</td> </tr> <tr> <td>D Evidence Of Grease Leakage</td> <td>J Spalls</td> <td>P Air Voids / Bug Holes</td> </tr> <tr> <td>E Evidence Of Moisture</td> <td>K Cold Joint Lines</td> <td>Q Efflorescence</td> </tr> <tr> <td>F Leaching Or Chemical Attack</td> <td>L Corrosion Staining</td> <td>R Other (Explain)</td> </tr> </table> | | A Cracks (Characterize and Size) | G Settlements Or Deflections | M Scaling / Dusting | B Exposed Reinforcing Steel | H Degraded Patches or Repairs | N Coating Deterioration | C Exposed Metallic Items (Other) | I Popouts, Voids, Honeycomb | O Abrasion, Cavitation, Wear | D Evidence Of Grease Leakage | J Spalls | P Air Voids / Bug Holes | E Evidence Of Moisture | K Cold Joint Lines | Q Efflorescence | F Leaching Or Chemical Attack | L Corrosion Staining | R Other (Explain) |
| A Cracks (Characterize and Size) | G Settlements Or Deflections | M Scaling / Dusting | | | | | | | | | | | | | | | | | |
| B Exposed Reinforcing Steel | H Degraded Patches or Repairs | N Coating Deterioration | | | | | | | | | | | | | | | | | |
| C Exposed Metallic Items (Other) | I Popouts, Voids, Honeycomb | O Abrasion, Cavitation, Wear | | | | | | | | | | | | | | | | | |
| D Evidence Of Grease Leakage | J Spalls | P Air Voids / Bug Holes | | | | | | | | | | | | | | | | | |
| E Evidence Of Moisture | K Cold Joint Lines | Q Efflorescence | | | | | | | | | | | | | | | | | |
| F Leaching Or Chemical Attack | L Corrosion Staining | R Other (Explain) | | | | | | | | | | | | | | | | | |
| Supplemental Information: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Sketch <input type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): _____ | | | | | | | | | | | | | | | | | | | |
| Results Acceptable: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | | | | | | | | | | | | | | | | |
| EXAMINER/EVALUATOR (Print & Sign) <u>Daniel P. D'Silva</u> LEVEL <u>II</u> DATE <u>11-16-09</u> | | | | | | | | | | | | | | | | | | | |
| STATION/ADMIN REVIEW (Print & Sign) <u>Evan Johnson</u> DATE <u>3/15/10</u> | | | | | | | | | | | | | | | | | | | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. RI or Unacceptable (results Acceptable) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | | | | | | | | | | | | | | | | |
| Additional Actions: (Action Request, Work Order, Issue Report, etc. initiated for Corrective Action) | | | | | | | | | | | | | | | | | | | |
| LEVEL III or RE REVIEW (as applicable) <u>None</u> DATE: <u>18 Mar 10</u> | | | | | | | | | | | | | | | | | | | |
| ANII REVIEW (as applicable) _____ DATE: _____ | | | | | | | | | | | | | | | | | | | |

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ATTACHMENT 6
ASME IWE (Class CC) Containment Concrete VT-1C or VT-3C Visual Examination NDE
Report
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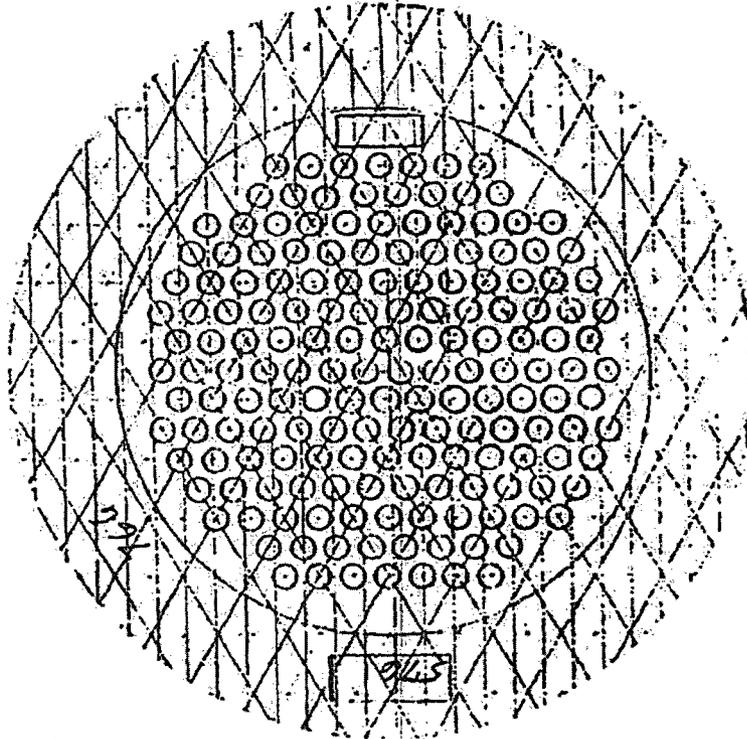
| Station: <u>TMI</u> Unit: <u>1</u> Date: <u>8-17-09</u> Report No: | | | | |
|---|--------------------------------|-------------------------------------|----------|---|
| System: <u>CONTAINMENT TENDONS</u> Component: <u>D342</u> WO No(s): <u>R2067551</u> | | | | |
| Location: Building: <u>CONTAINMENT RIDG.</u> Elev.: Col.: Row: Azimuth/Radius: | | | | |
| Exam Type: <input type="checkbox"/> DV <input type="checkbox"/> GV <input checked="" type="checkbox"/> VT-1C <input type="checkbox"/> VT-3C Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote Mat. Type: <u>concrete</u> | | | | |
| Design Drawing(s) Visual Aids: <u>None</u> | | | | |
| Surface: <u>ID</u> <u>OD</u> Surface / Components Coated: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | | | | |
| M&TE Used: <u>R21 scale plate 12" x 12"</u> <input checked="" type="checkbox"/> Test Card UTC or Serial No. <u>N/A</u> Cal. Due Date <u>N/A</u> | | | | |
| Illumination Used: <u>Flashlight</u> Illumination Verified: Date: <u>8-17-09</u> Time: <u>7:30 AM</u> | | | | |
| Special / Specific Instructions: <u>None</u> | | | | |
| Component / Item Number and Description (e.g. EIN, EID, etc.) | RESULTS | | | Explanation / Notes (As a minimum, Record Location and Size of Recordable Indications as applicable) |
| | NI | RI | IO | |
| <u>2' Area of concrete around D 342 tendon Shop End Buttress</u> | | | <u>A</u> | <u>3 cracks 3" x 2" at top and 1" at bottom of the bearing plate 12" max length x 1/8" wide.</u> <u>WR 8-17-09</u> |
| Results Legend: | | | | |
| NI - No Indications RI - Recordable Indication IO - Information Only | | | | |
| Recordable Indication Type Codes: | | | | |
| A. Cracks (Characterize and Size) | G. Settlements Or Deflections | M. Scaling / Dusting | | |
| B. Exposed Reinforcing Steel | H. Degraded Patches or Repairs | N. Coating Deterioration | | |
| C. Exposed Metallic Items (Other) | I. Popouts, Voids, Honeycomb | O. Abrasion, Cavitation, Wear | | |
| D. Evidence Of Grease Leakage | J. Spalls | P. Air Voids / Bug Holes | | |
| E. Evidence Of Moisture | K. Cold Joint Lines | Q. Efflorescence | | |
| F. Leaching Or Chemical Attack | L. Corrosion Staining | R. Other (Explain) | | |
| Supplemental Information: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Sketch <input type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | | | | |
| Results: Acceptable <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | | | |
| EXAMINER/EVALUATOR (Print & Sign) <u>W. Bruce Robbins</u> | | LEVEL <u>II</u> DATE <u>8-17-09</u> | | |
| STATION/ADMIN REVIEW (Print & Sign) <u>Evon Johnson</u> | | DATE <u>3/15/10</u> | | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. | | | | |
| RI or Unacceptable results Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Additional Actions: (Action Request, Work Order, Issue Report, etc. Initialed for Corrective Action) | | | | |
| LEVEL III or RE REVIEW (as applicable) <u>Howard T. Hinc, P.E.</u> | | DATE: <u>18 Mar 10</u> | | |
| ANII REVIEW (as applicable) | | DATE: | | |

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ATTACHMENT 6
ASME IWE (Class CC) Containment Concrete VT-1C or VT-3C Visual Examination NDE
Report
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| Station: <u>TMI</u> | Unit: <u>1</u> | Date: <u>8-17-09</u> | Report No: | |
|--|--|-------------------------------|---------------------------|---|
| System: <u>Containment Tendons</u> | Component: <u>D-342</u> | WO No(s): <u>R2067551</u> | | |
| Location: Building: <u>Cont. Bldg.</u> | Elev.: | Col.: | Row: Azimuth/Radius: | |
| Exam Type: <input type="checkbox"/> DV <input type="checkbox"/> GV <input checked="" type="checkbox"/> VT-1C <input type="checkbox"/> VT-3C | Type Of Exam: <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Remote | Mall. Type: <u>Concrete</u> | | |
| Design Drawing(s) | Visual Aids: <u>None</u> | | | |
| Surface: ID <u>OD</u> | Surface / Components Coated: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | | | |
| M&TE Used: <u>RZI scale, ultrasonic</u> | <input checked="" type="checkbox"/> Test Card | UTC or Serial No. <u>N/A</u> | Cal. Due Date: <u>N/A</u> | |
| Illumination Used: <u>Flashlight</u> | Illumination Verified: Date: <u>8-17-09</u> Time: <u>1:PM</u> | | | |
| Special / Specific Instructions: <u>None</u> | | | | |
| Component / Item Number and Description (e.g. EIN, EID, etc.) | RESULTS | | | Explanation / Notes (As a minimum, Record Location and Size of Recordable Indications as applicable) |
| | NI | RI TYPE | IO | |
| <u>2' Area of concrete around D-342 tendon. Buttress 4 Field End.</u> | | | <u>A</u> | <u>1 crack above bearing plate 17" long x <.010" wide</u> |
| Results Legend: NI - No Indications RI - Recordable Indication IO - Information Only | | | | |
| Recordable Indication Type Codes: | | | | |
| A. Cracks (Characterize and Size) | G. Settlements Or Deflections | M. Scaling / Dusting | | |
| B. Exposed Reinforcing Steel | H. Degraded Patches or Repairs | N. Coating Deterioration | | |
| C. Exposed Metallic Items (Other) | I. Popouts, Voids, Honeycomb | O. Abrasion, Cavitation, Wear | | |
| D. Evidence Of Grease Leakage | J. Spalls | P. Air Voids / Bug Holes | | |
| E. Evidence Of Moisture | K. Cold Joint Lines | Q. Efflorescence | | |
| F. Leaching Or Chemical Attack | L. Corrosion Staining | R. Other (Explain): | | |
| Supplemental Information: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Sketch <input type="checkbox"/> Photo <input type="checkbox"/> Video <input type="checkbox"/> Other (Describe): | | | | |
| Results: Acceptable <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| EXAMINER/EVALUATOR (Print & Sign) <u>W. Bruce Robbins</u> | | LEVEL <u>II</u> | DATE <u>8-17-09</u> | |
| STATION/ADMIN REVIEW (Print & Sign) <u>Eric Johnson</u> | | DATE <u>3/15/10</u> | | |
| This section to be completed only if Examiner/Evaluator notes RI or Unacceptable condition. RI or Unacceptable results <u>Acceptable</u> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | | | |
| Additional Actions: (Action Request, Work Order, Issue Report, etc. Initialed for Corrective Action) | | | | |
| LEVEL III or RE REVIEW (as applicable) | | DATE: <u>18 Mar 10</u> | | |
| ANII REVIEW (as applicable) | | DATE: | | |

Tendon Buttonhead Inspection



RB Tendon Surveillance

COMMENT: *SHIM STACK 6.50" (1, 2, 4, 48")*
NO CORROSION

INSPECTED BY _____ Date _____
CONTRACTOR FOREMAN *[Signature]*
VERIFIED BY _____ Date _____
COGNIZANT QV INSPECTOR *[Signature]* Date *11-12-09*
COGNIZANT MECH/STRUCT ENGINEER *[Signature]* Date *12-01-10*
REVIEWED BY _____

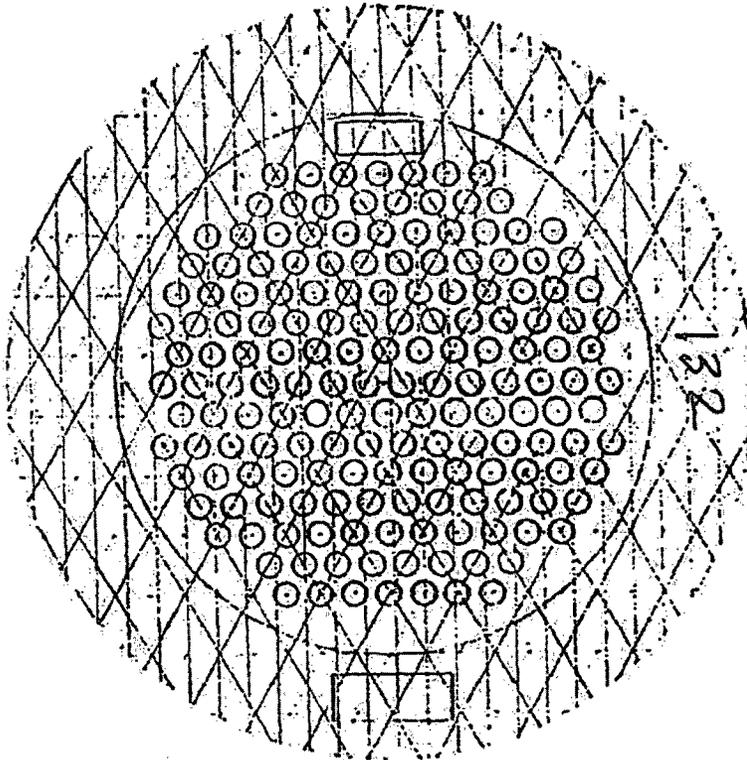
INSPECTION PERIOD 35TH 1/2

Tendon # H13-41
H21-41 2001-29-10
END: FIELD _____ (1 piece washer)
SHOP X (2 piece washer)

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ENCLOSURE 6
Data Sheet 4

Tendon Buttonhead Inspection



RB Tendon Surveillance

COMMENT: Shim stack ht. - 6.7"
(4, 2, 1/2, 1/8)
No corrosion

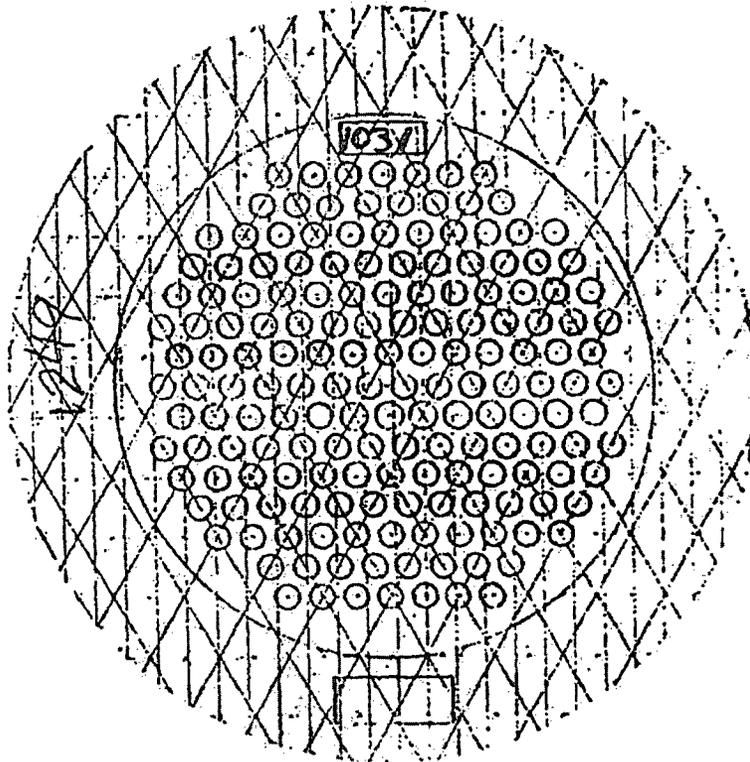
Anchor head ID# did not match, we verified we were on the correct tendon by counting down from the top of the buttress.

INSPECTED BY _____
CONTRACTOR FOREMAN N/A Date _____
VERIFIED BY _____
COGNIZANT QV INSPECTOR W. Bruce Pollock Date 8/25/19
COGNIZANT MECH/STRUCT ENGINEER _____ Date 13 APR 19
REVIEWED BY _____

INSPECTION PERIOD 35 yrth
Tendon # H13-41
END: FIELD X (1 piece washer)
SHOP _____ (2 piece washer)

ENCLOSURE 6
Data Sheet 4

Tendon Buttonhead Inspection



RB Tendon Surveillance

COMMENT: Shim stack ht. - 6.5" (4", 2", 1/2")
light surface rust on shims (no pitting)
Note: Bushing I.D. # Did not match. We verified
we were on the correct tendons by counting down
from the top of the buttress.

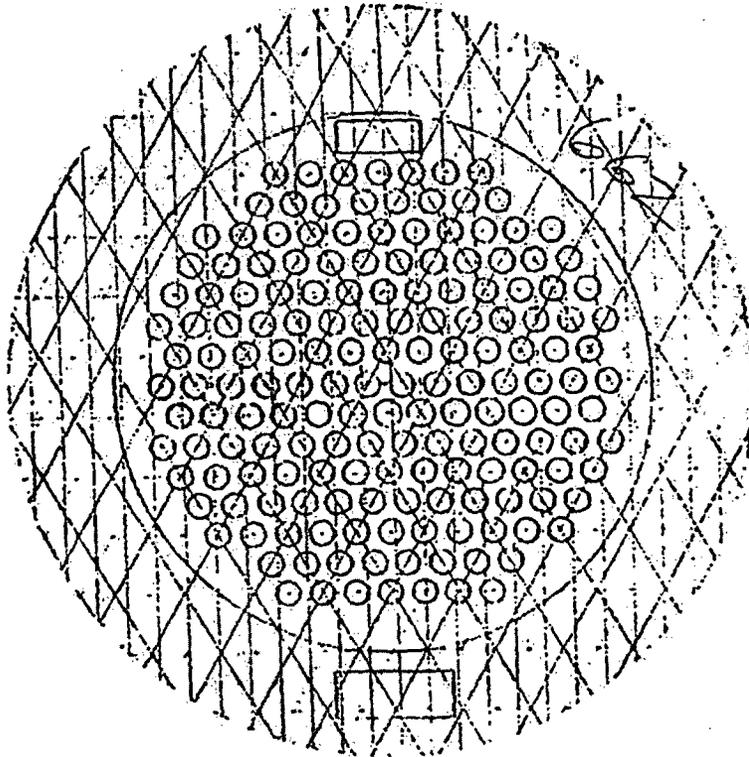
INSPECTED BY _____
CONTRACTOR FOREMAN N/A Date _____
VERIFIED BY _____
COGNIZANT QV INSPECTOR W. Roman Palt Date 8/1/09
COGNIZANT MECH/STRUCT ENGINEER _____ Date 12 APR 10
REVIEWED BY _____

INSPECTION PERIOD 35th yr.

Tendon # H 24-33
END: FIELD _____ (1 piece washer)
SHOP X (2 piece washer)

ENCLOSURE 6
Data Sheet 4

Tendon Buttonhead Inspection



RB Tendon Surveillance

COMMENT: Shim stack hts - 7.6" (4, 2, 1, 1/2)
NO CORROSION.

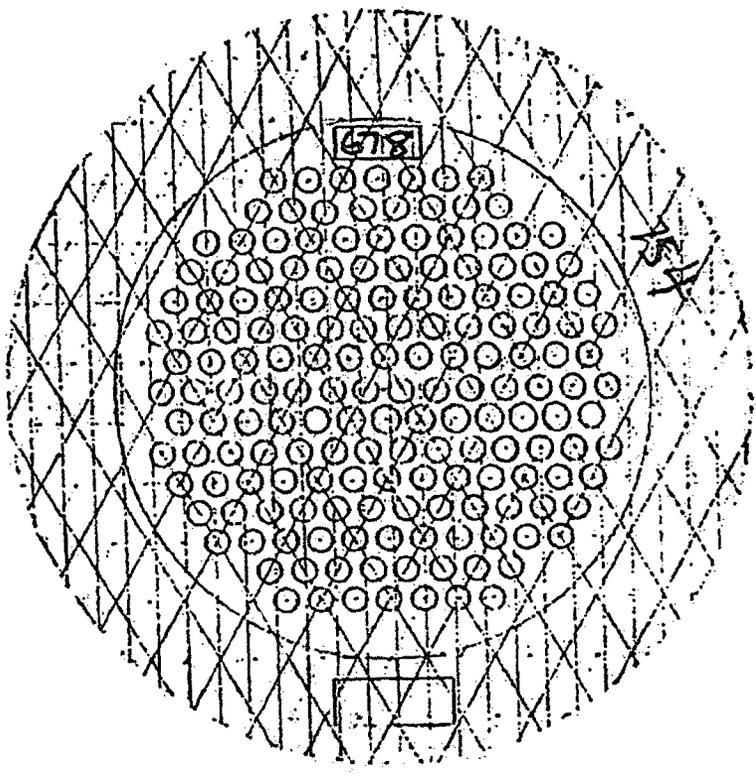
INSPECTED BY _____
CONTRACTOR FOREMAN N/A Date _____
VERIFIED BY _____
COGNIZANT QV INSPECTOR W. Rocco Palumbo Date 8-24-09
COGNIZANT MECH/STRUCT ENGINEER [Signature] Date 19 March 10
REVIEWED BY _____

INSPECTION PERIOD 35 th Jan

Tendon # H24-33
END: FIELD X (1 piece washer)
SHOP _____ (2 piece washer)

ENCLOSURE 6
Data Sheet 4

Tendon Buttonhead Inspection



RB Tendon Surveillance

COMMENT: Shim stack ht. 6.4" (4, 2, 1/4, 1/8)
No corrosion

INSPECTED BY _____
CONTRACTOR FOREMAN N/A Date _____
VERIFIED BY _____
COGNIZANT QV INSPECTOR W. Bruce Robb Date 8-12-09
COGNIZANT MECH/STRUCT ENGINEER [Signature] Date 19 MAR 10
REVIEWED BY _____

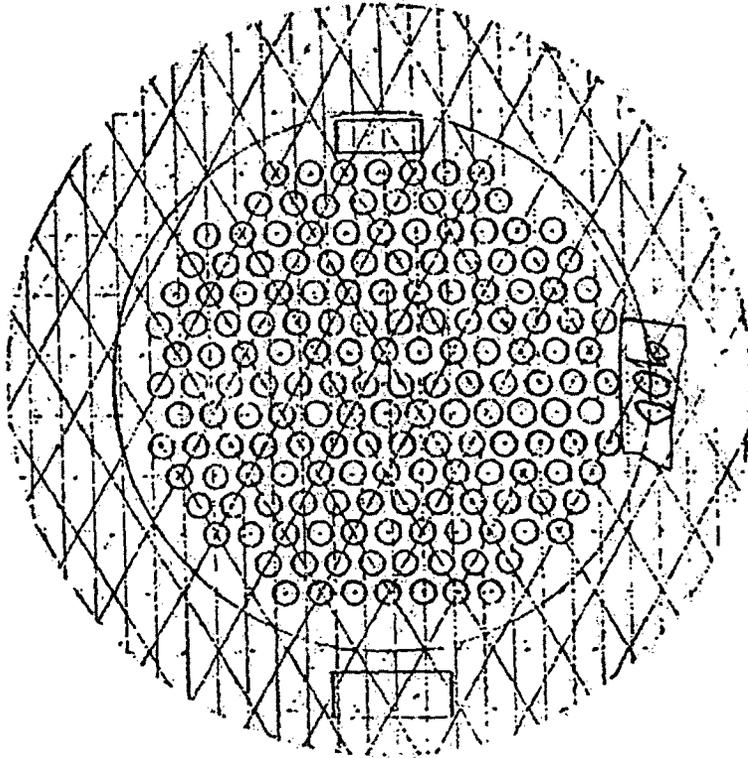
INSPECTION PERIOD 35 th _{yr}

Tendon # H 46 50
END: FIELD _____ (1 piece washer)
SHOP X (2 piece washer)

ENCLOSURE 6
Data Sheet 4

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Revision 20
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Tendon Buttonhead Inspection



RB Tendon Surveillance

COMMENT: *Shim stack ht 7" (4,2,1)*
Light surface rust on shims, NO pitting

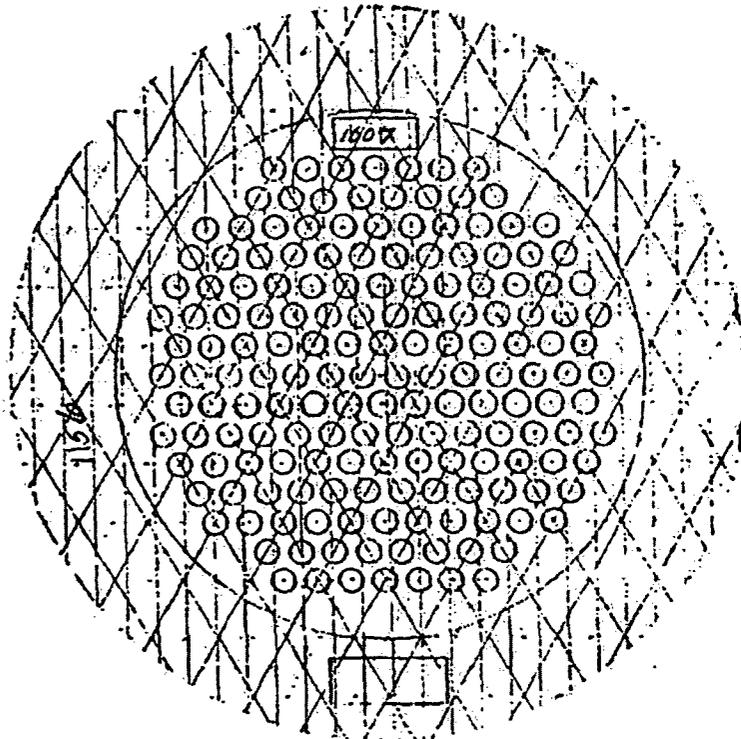
INSPECTED BY
CONTRACTOR FOREMAN N/A Date _____
VERIFIED BY
COGNIZANT QV INSPECTOR W. Ramon Collin Date 8/1/09
COGNIZANT MECH/STRUCT ENGINEER [Signature] Date 1/4/2010
REVIEWED BY

INSPECTION PERIOD 35th yr.

Tendon # H46-50
END: FIELD (1 piece washer)
SHOP _____ (2 piece washer)

ENCLOSURE 6
Data Sheet 4

Tendon Buttonhead Inspection
As Found



RB Tendon Surveillance

COMMENT: *SUMP STACK 7.1" (4, 2, 1")*
NO CORROSION

INSPECTED BY _____ Date _____
CONTRACTOR FOREMAN *N/A*
VERIFIED BY _____ Date *11-11-09*
COGNIZANT QV INSPECTOR *[Signature]*
COGNIZANT MECH/STRUCT ENGINEER *[Signature]* Date *19 Mar 10*
REVIEWED BY _____

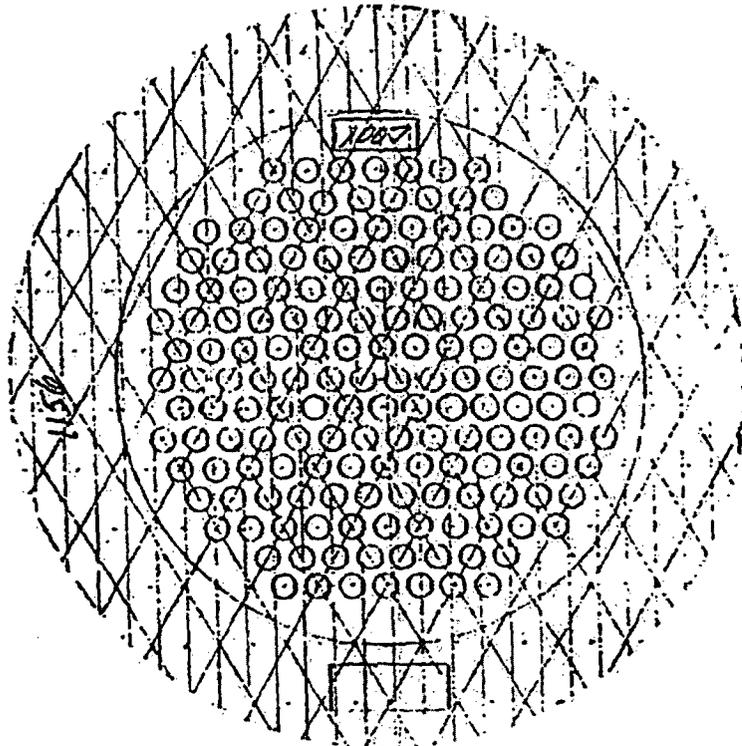
INSPECTION PERIOD *35th 10*

Tendon # *1151-49*
END: FIELD _____ (1 piece washer)
SHOP *X* (2 piece washer)

ENCLOSURE 6
Data Sheet 4

Tendon Buttonhead Inspection

Detached



RB Tendon Surveillance

COMMENT: *No change in conditions*

INSPECTED BY _____ Date *n/a*
CONTRACTOR FOREMAN *n/a*
VERIFIED BY _____ Date *11-12-09*
COGNIZANT QV INSPECTOR *[Signature]*
COGNIZANT MECH/STRUCT ENGINEER *[Signature]* Date *12-11-09*
REVIEWED BY _____

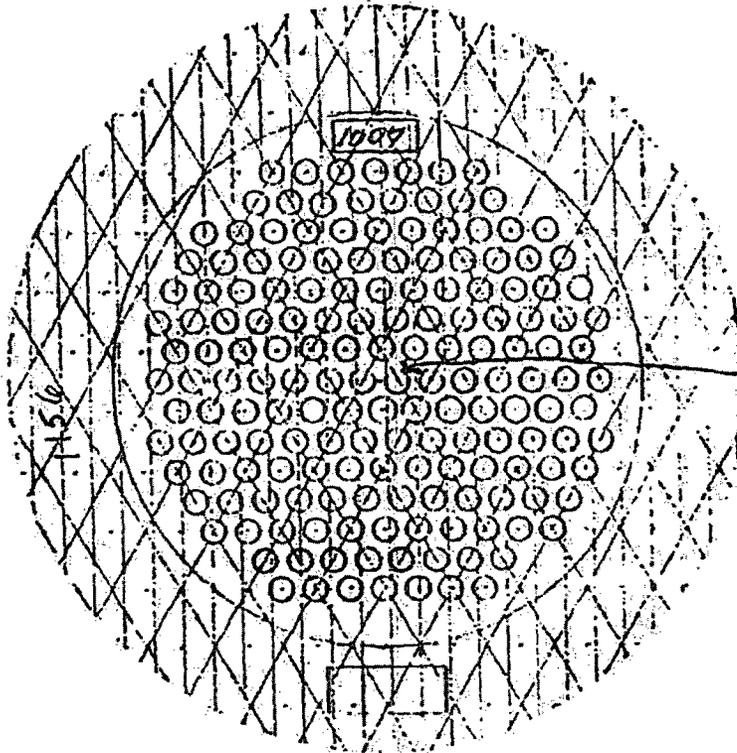
INSPECTION PERIOD *35TH / 12*

Tendon # *151-49*
END: FIELD _____ (1 piece washer)
SHOP *X* (2 piece washer)

ENCLOSURE 6
Data Sheet 4

Tendon Buttonhead Inspection

RETENTION



RB Tendon Surveillance

COMMENT: SHIM STACK 7.5 (4, 2, 4, 4, 51)

REMOVED FOR
TESTING THIS
SURVEILLANCE
PER 11-12-09

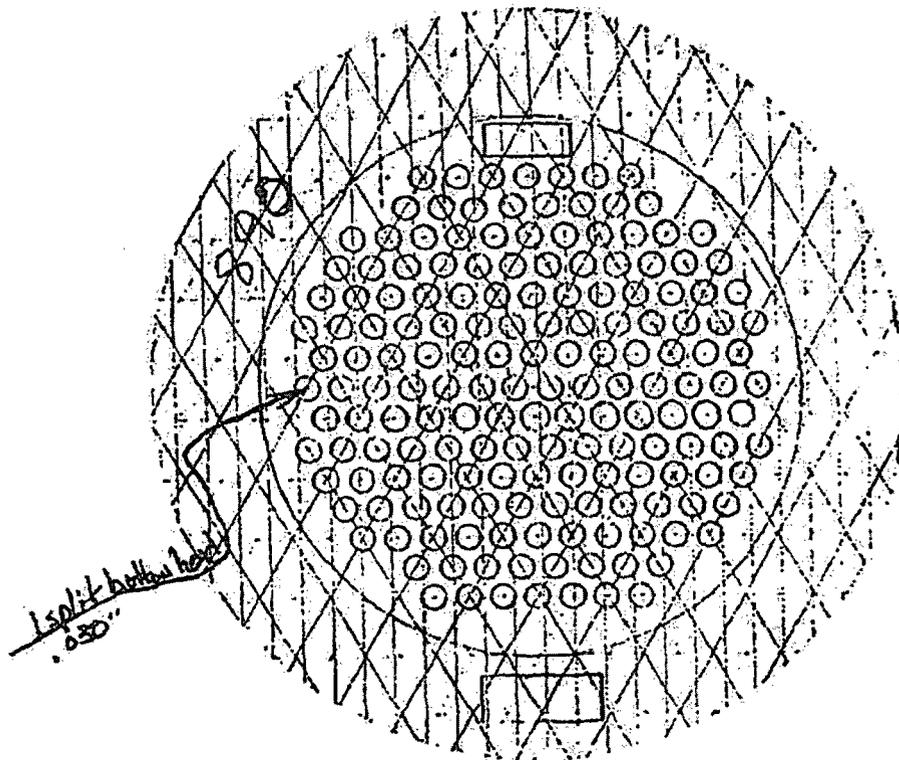
INSPECTED BY _____ Date n/a
CONTRACTOR FOREMAN n/a
VERIFIED BY _____ Date 11-12-09
COGNIZANT QV INSPECTOR [Signature]
COGNIZANT MECH/STRUCT ENGINEER [Signature] Date 19 MAR 10
REVIEWED BY _____

INSPECTION PERIOD 35TH YR

Tendon # H51-49
END: FIELD (1 piece washer)
SHOP X (2 piece washer)

ENCLOSURE 6
Data Sheet 4

Tendon Buttonhead Inspection
AS-FOUND



RB Tendon Surveillance

COMMENT: *Shim Stack ht. - 6.6" (4, 2, 1/2)*
NO CORROSION

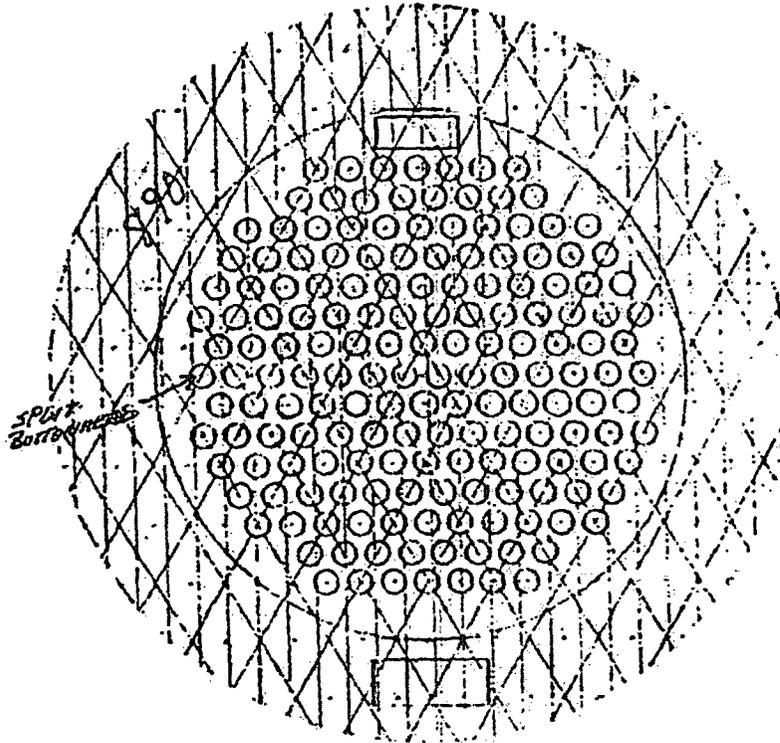
INSPECTED BY _____ Date _____
CONTRACTOR FOREMAN *N/A*
VERIFIED BY _____
COGNIZANT QV INSPECTOR *W. Bruce Rallo* Date *8-26-09*
COGNIZANT MECH/STRUCT ENGINEER *[Signature]* Date *19 MAR 10*
REVIEWED BY _____

INSPECTION PERIOD *35* ^{yr}

Tendon # *H51-49*
END: FIELD *X* (1 piece washer)
SHOP _____ (2 piece washer)

Tendon Buttonhead Inspection

DETENTION



RB Tendon Surveillance

COMMENT: *No change in conditions*

INSPECTED BY _____ Date *N/A*
CONTRACTOR FOREMAN *N/A*
VERIFIED BY _____
COGNIZANT QV INSPECTOR *[Signature]* Date *11-11-07*
COGNIZANT MECH/STRUCT ENGINEER *[Signature]* Date *19 Mar 10*
REVIEWED BY _____

INSPECTION PERIOD 36TH YR

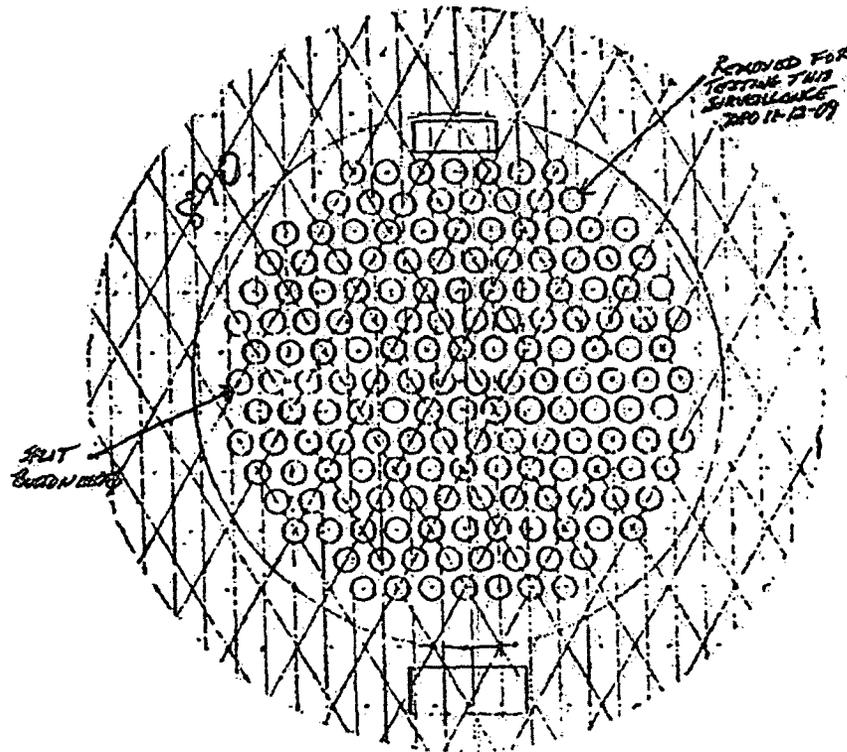
Tendon # H51-49

END: FIELD (1 piece washer)
SHOP _____ (2 piece washer)

ENCLOSURE 6
Data Sheet 4

Tendon Buttonhead Inspection

REVISION



RB Tendon Surveillance

COMMENT: *SHIA SDCR 7.6 (3, 4, 2, 4)*

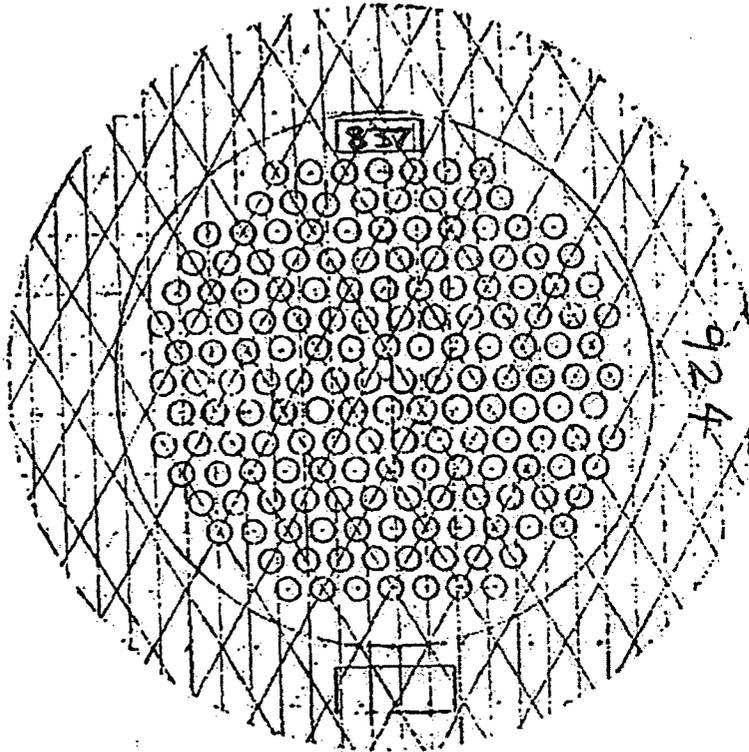
INSPECTED BY _____
CONTRACTOR FOREMAN N/A Date N/A
VERIFIED BY _____
COGNIZANT QV INSPECTOR [Signature] Date 11-13-09
COGNIZANT MECH/STRUCT ENGINEER [Signature] Date 19 MAR 10
REVIEWED BY _____

INSPECTION PERIOD 35TH 12

Tendon # H51-49
END: FIELD X (1 piece washer)
SHOP _____ (2 piece washer)

ENCLOSURE 6
Data Sheet 4

Tendon Buttonhead Inspection



RB Tendon Surveillance

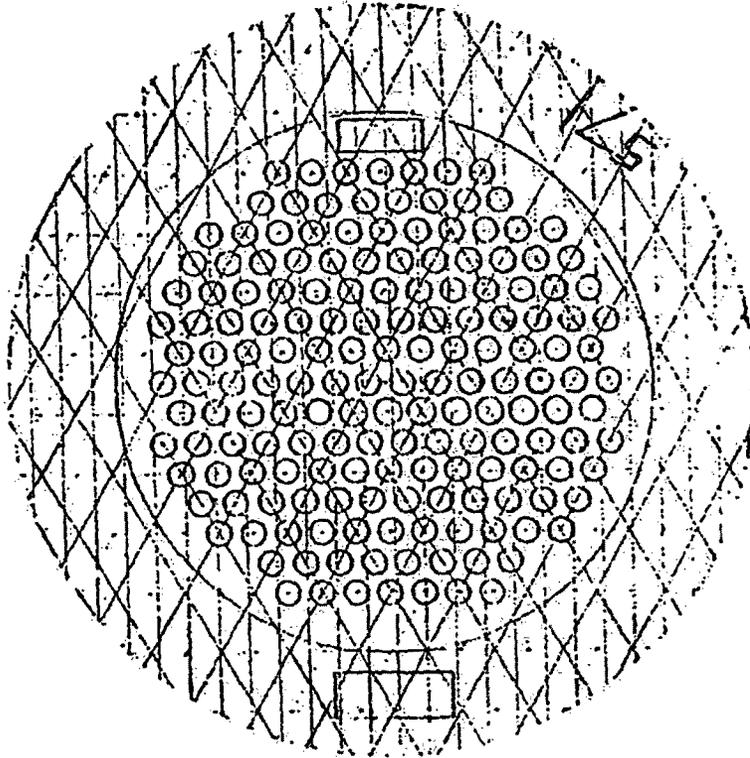
COMMENT: *Shim stack ht. - 6.8"*
(4, 2, 1/2, 1/4)
NO CORROSION

INSPECTED BY _____ Date _____
CONTRACTOR FOREMAN *W/A*
VERIFIED BY _____ Date *8-12-09*
COGNIZANT QV INSPECTOR *W. Renee Peltz*
COGNIZANT MECH/STRUCT ENGINEER *[Signature]* Date *19 APR 10*
REVIEWED BY _____

INSPECTION PERIOD *35th yr*

Tendon # *H 62-26*
END: FIELD _____ (1 piece washer)
SHOP *X* (2 piece washer)

Tendon Buttonhead Inspection



RB Tendon Surveillance

COMMENT: Shim stack ht. - 7.3" (4, 2, 1, 1/8)
No corrosion.

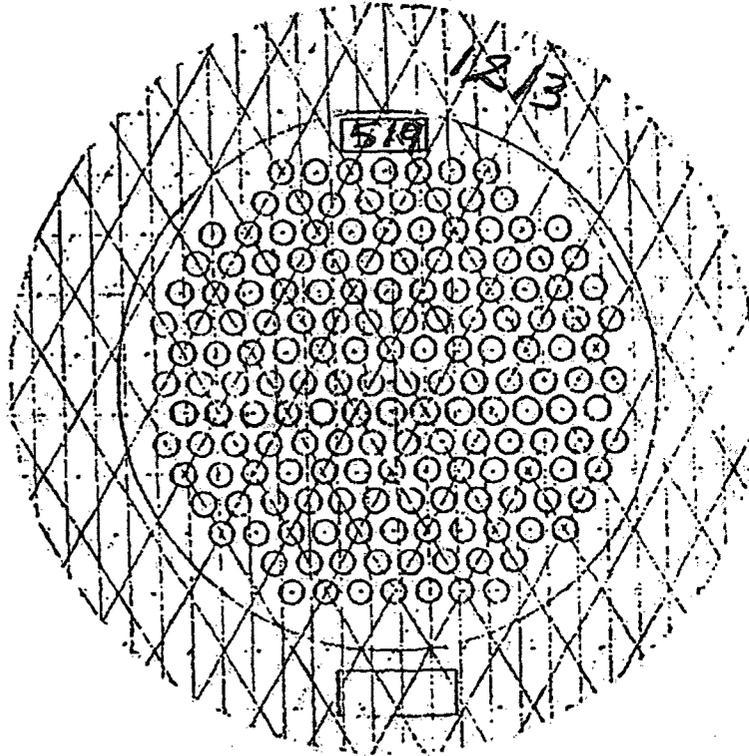
INSPECTED BY _____ Date _____
CONTRACTOR FOREMAN N/A
VERIFIED BY _____
COGNIZANT QV INSPECTOR N. Panoz Polt Date 8-28-09
COGNIZANT MECH/STRUCT ENGINEER [Signature] Date 10/1/09
REVIEWED BY _____

INSPECTION PERIOD 35th year

Tendon # H62-26
END: FIELD (1 piece washer)
SHOP (2 piece washer)

ENCLOSURE 6
Data Sheet 4

Tendon Buttonhead Inspection



RB Tendon Surveillance

COMMENT: Shim stack ht. - 14.3"
(4, 4, 4, 2)

No corrosion

INSPECTED BY
CONTRACTOR FOREMAN N/A Date _____
VERIFIED BY
COGNIZANT QV INSPECTOR W. Rance Collier Date 8-18-09
COGNIZANT MECH/STRUCT ENGINEER [Signature] Date 19 MAR 10
REVIEWED BY

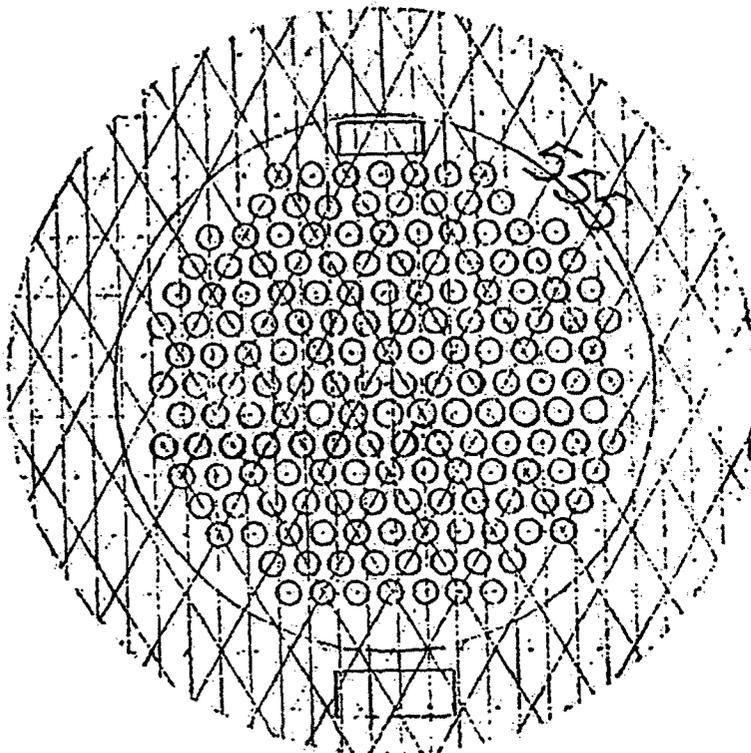
INSPECTION PERIOD 35 ^{1/2} year

Tendon # V-11
END: FIELD _____ (1 piece washer)
SHOP X (2 piece washer)

ENCLOSURE 6
Data Sheet 4

1301-9.1
Revision 20
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Tendon Buttonhead Inspection



RB Tendon Surveillance

COMMENT: *Shim stack ht. - 5.75"*
(4, 1/8, 1/2, 1) NO CORROSION

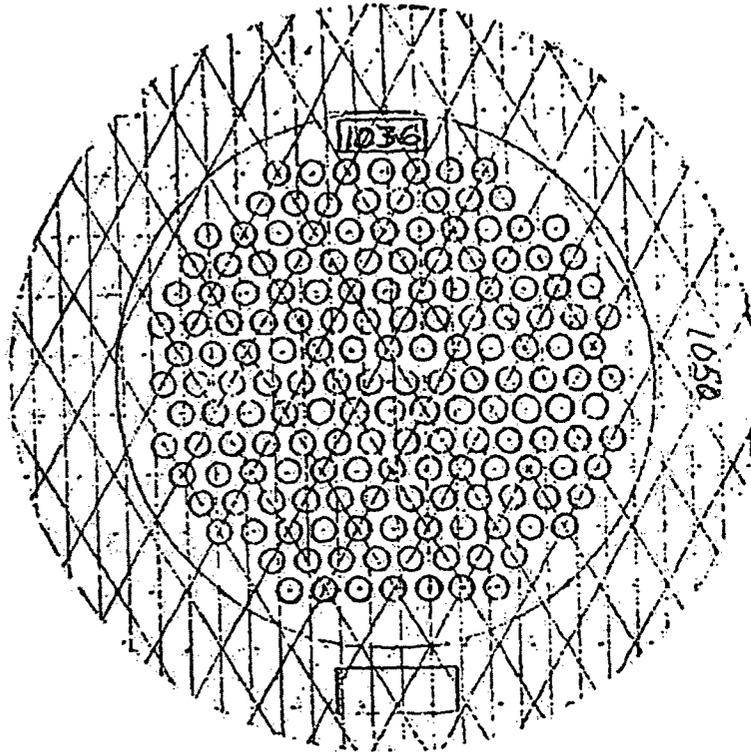
INSPECTED BY _____
CONTRACTOR FOREMAN *U/A* _____ Date _____
VERIFIED BY _____
COGNIZANT QV INSPECTOR *W. Prince Valle* _____ Date *8-13-09*
COGNIZANT MECH/STRUCT ENGINEER *[Signature]* _____ Date *19 APR 10*
REVIEWED BY _____

INSPECTION PERIOD *35th*
yr.

Tendon # *V-11*
END: FIELD (1 piece washer)
SHOP _____ (2 piece washer)

ENCLOSURE 6
Data Sheet 4

Tendon Buttonhead Inspection



RB Tendon Surveillance

COMMENT: *skin stack wt. = 14.15*
(4, 4, 4, 1, 1/2, 1/4)
No corrosion

INSPECTED BY _____ Date _____
CONTRACTOR FOREMAN *N/A*
VERIFIED BY _____ Date _____
COGNIZANT QV INSPECTOR *W. Lance Ralston* Date *9-18-09*
COGNIZANT MECH/STRUCT ENGINEER *Thomas P. [Signature]* Date *9.18.09*
REVIEWED BY _____

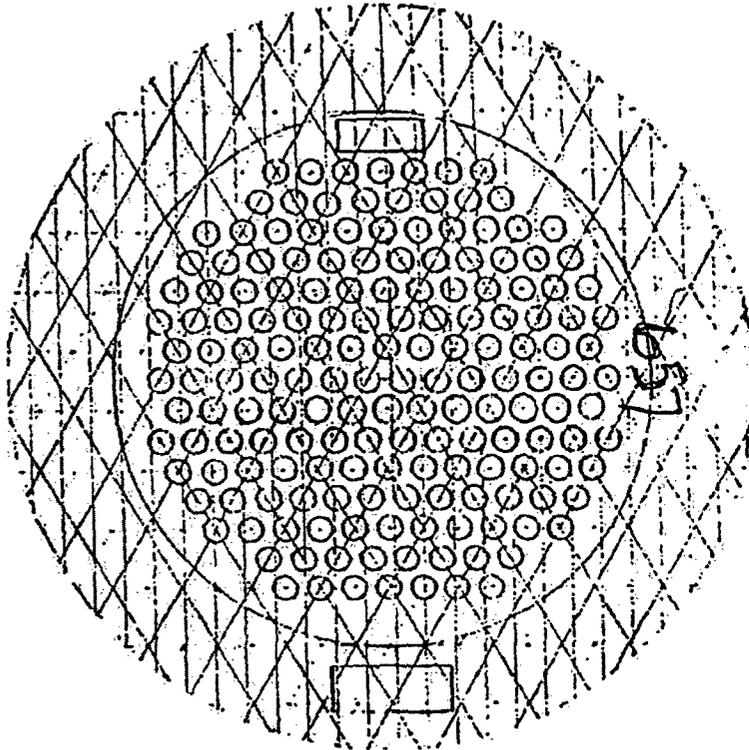
INSPECTION PERIOD *35th year*

Tendon # *V-32*
END: FIELD _____ (1 piece washer)
SHOP (2 piece washer)

ENCLOSURE 6
Data Sheet 4

1301-9.1
Revision 20
Page 9 of 16

Tendon Buttonhead Inspection



RB Tendon Surveillance

COMMENT: Shim stack ht. - 2"
(1 shim) NO CORROSION.

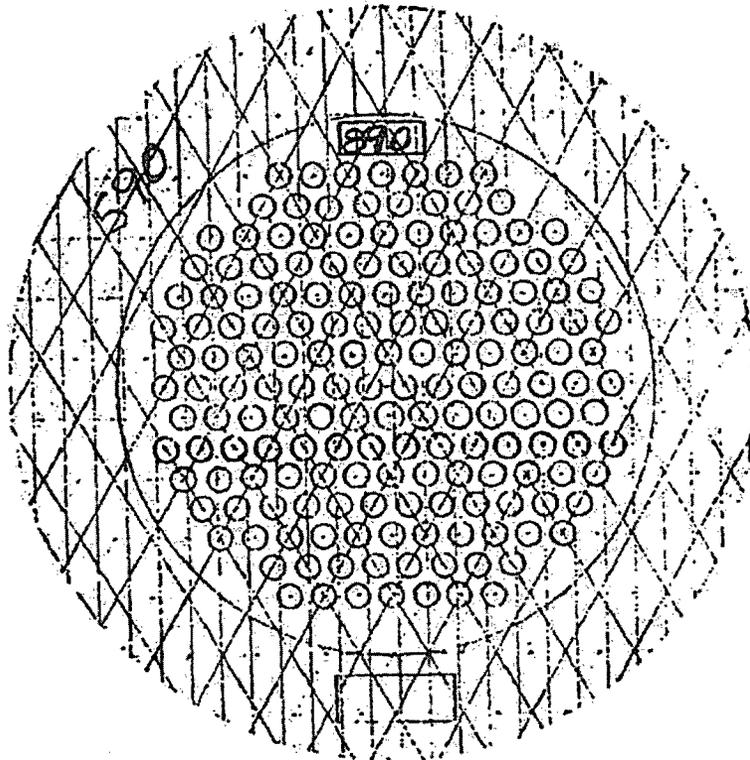
INSPECTED BY _____ Date _____
CONTRACTOR FOREMAN N/A
VERIFIED BY _____
COGNIZANT QV INSPECTOR W. Ponce Pallas Date 8-13-09
COGNIZANT MECH/STRUCT ENGINEER [Signature] Date 19 Nov 10
REVIEWED BY _____

INSPECTION PERIODS 7th
5 yr

Tendon # V-32
END: FIELD X (1 piece washer)
SHOP _____ (2 piece washer)

ENCLOSURE 6
Data Sheet 4

Tendon Buttonhead Inspection
AS FOUND INSPECTION



RB Tendon Surveillance

COMMENT: Shim stack ht. - 15" (4, 4, 4, 2, 1/2, 1/4)
(NO corrosion)

Note: Bushing I.D. did not match, we did verify we were on the correct tendon

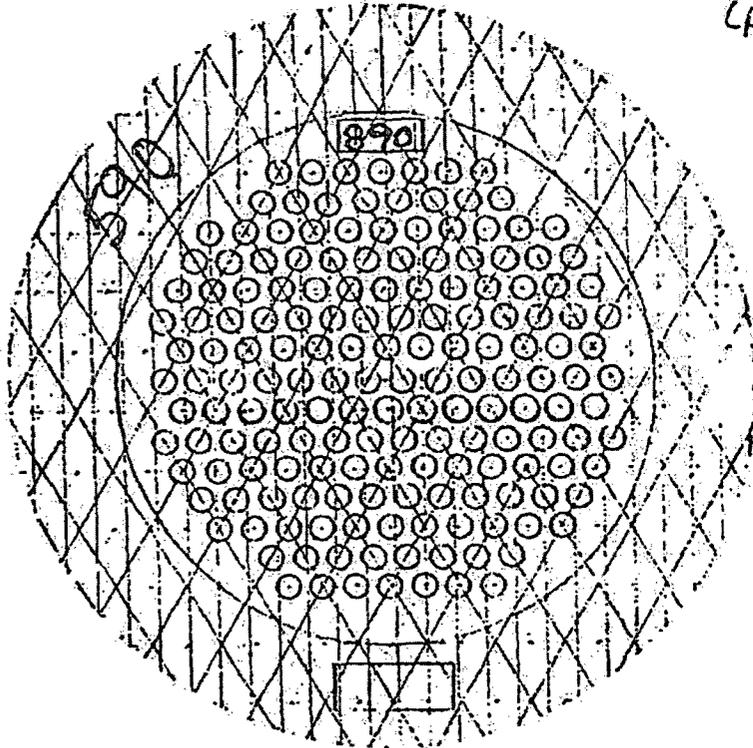
INSPECTED BY _____ Date _____
 CONTRACTOR FOREMAN N/A
 VERIFIED BY _____ Date _____
 COGNIZANT QV INSPECTOR W. Bruce Poble Date 8/9/89
 COGNIZANT MECH/STRUCT ENGINEER _____ Date 17 MAR 90
 REVIEWED BY _____

INSPECTION PERIOD 35th year

Tendon # V-90
END: FIELD _____ (1 piece washer)
SHOP X (2 piece washer)

Tendon Buttonhead Inspection

Post detension
(pre wire removal)



RB Tendon Surveillance

COMMENT: No shims
Wire is in good condition
No corrosion.

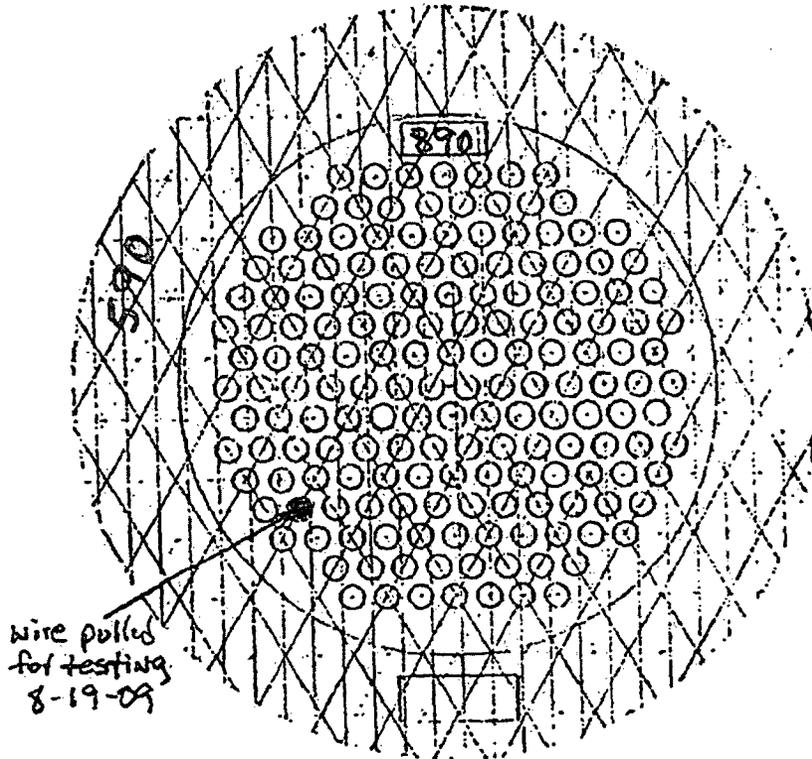
INSPECTED BY _____
CONTRACTOR FOREMAN N/A Date _____
VERIFIED BY _____
COGNIZANT QV INSPECTOR W. Renee Pabbe Date 8-19-09
COGNIZANT MECH/STRUCT ENGINEER [Signature] Date 19 MAR 10
REVIEWED BY _____

INSPECTION PERIOD 35th
1 YEAR

Tendon # V-90
END: FIELD _____ (1 piece washer)
SHOP X (2 piece washer)

ENCLOSURE 6
Data Sheet 4

Tendon Buttonhead Inspection
Post Retension



RB Tendon Surveillance

COMMENT: Shim stack h.t. 15.8"
(4, 4, 4, 2, 1/4, 1/2, 3/4)

Added 1 new 3/4" shim heat # 401H73010

INSPECTED BY _____ Date _____
CONTRACTOR FOREMAN N/A
VERIFIED BY _____ Date _____
COGNIZANT QV INSPECTOR W. L. ... Date 8-20-09
COGNIZANT MECH/STRUCT ENGINEER ... Date 19 MAR 10
REVIEWED BY _____

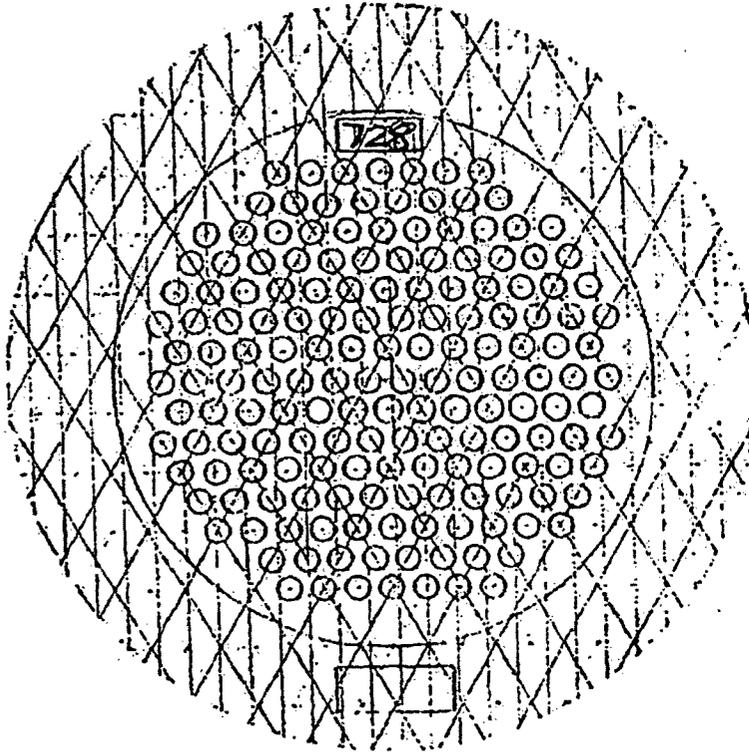
INSPECTION PERIOD 35 th year

Tendon # V-90
END: FIELD _____ (1 piece washer)
SHOP X (2 piece washer)

ENCLOSURE 6
Data Sheet 4

Tendon Buttonhead Inspection

AS found inspection



RB Tendon Surveillance:

COMMENT: Shim stack ht. = 2.4"
(2", 3/8")
No corrosion

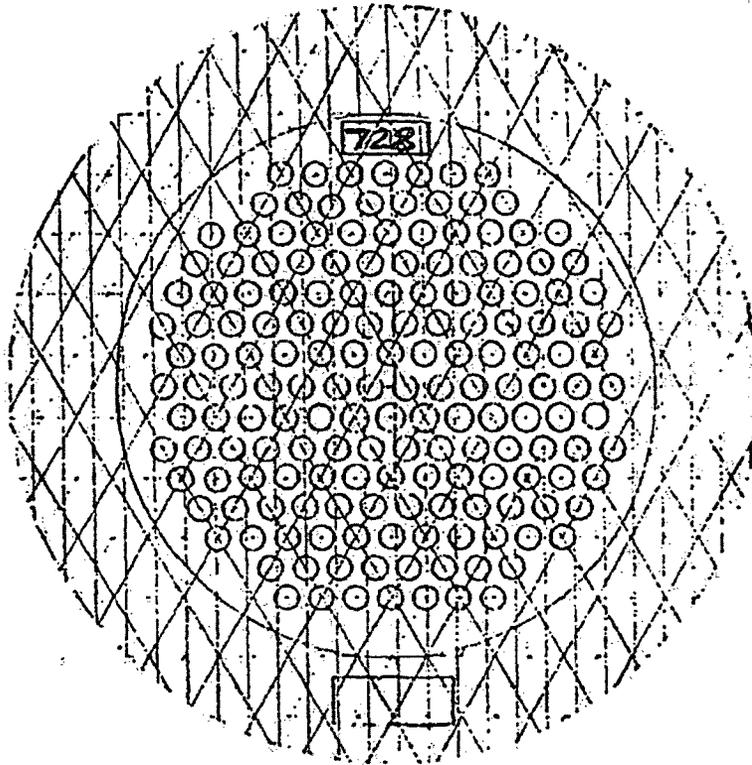
INSPECTED BY
CONTRACTOR FOREMAN N/A Date _____
VERIFIED BY
COGNIZANT QV INSPECTOR W. Bruce Paldani Date 8-13-09
COGNIZANT MECH/STRUCT ENGINEER [Signature] Date 19 Dec 10
REVIEWED BY

INSPECTION PERIOD 35th yr.

Tendon # V-90
END: FIELD (1 piece washer)
SHOP _____ (2 piece washer)

Tendon Buttonhead Inspection

Post detension pre wire removal



RB Tendon Surveillance

COMMENT: No shims
No corrosion

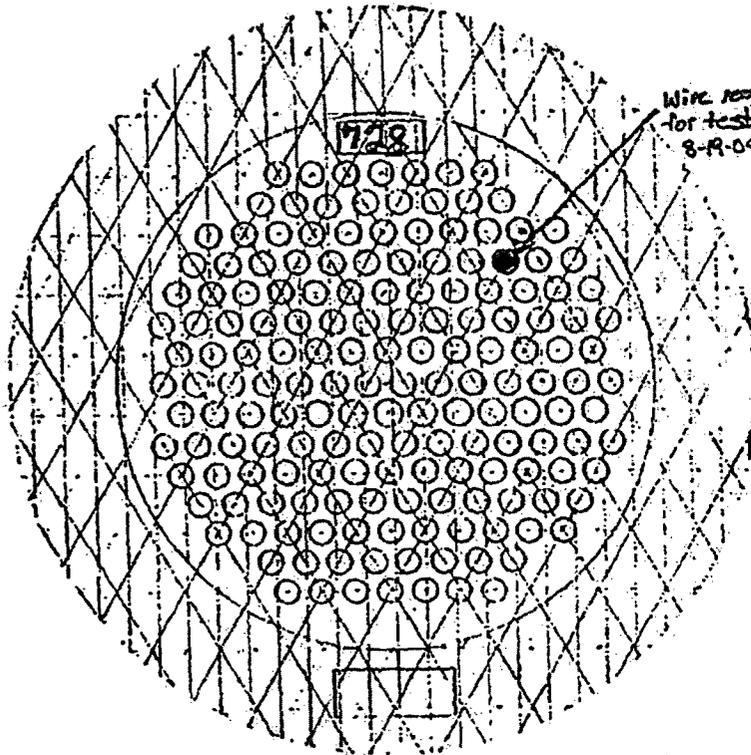
INSPECTED BY _____
CONTRACTOR FOREMAN N/A Date _____
VERIFIED BY _____
COGNIZANT QV INSPECTOR W. Rance Robb Date 8-19-09
COGNIZANT MECH/STRUCT ENGINEER [Signature] Date 19 MAR 10
REVIEWED BY _____

INSPECTION PERIOD 35th year

Tendon # V-90
END: FIELD X (1 piece washer)
SHOP _____ (2 piece washer)

ENCLOSURE 6
Data Sheet 4

Tendon Buttonhead Inspection
Post re-tension



RB Tendon Surveillance

COMMENT: Shim stack height - 2.4"
(2" $\frac{3}{8}$ ")

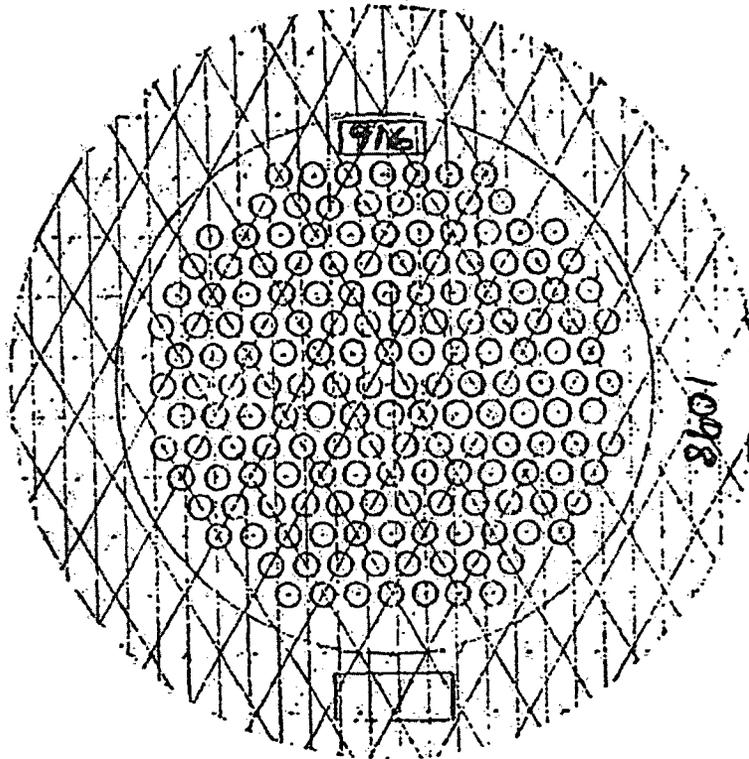
INSPECTED BY _____ Date _____
CONTRACTOR FOREMAN N/A
VERIFIED BY _____
COGNIZANT QV INSPECTOR W. Bruce Robb Date 8-20-09
COGNIZANT MECH/STRUCT ENGINEER Lawrence J. ... Date 10/1/09
REVIEWED BY _____

INSPECTION PERIOD 3rd yr.

Tendon # V-90
END: FIELD (1 piece washer)
SHOP (2 piece washer)

ENCLOSURE 6
Data Sheet 4

Tendon Buttonhead Inspection



RB Tendon Surveillance

COMMENT: *Shim stack ht. - 15.5"* *NO CORROSION*
(4, 4, 4, 2, 1/2, 1, 1/4)

AS FOUND EXAM

INSPECTED BY _____ Date _____
CONTRACTOR FOREMAN *N/A*

VERIFIED BY _____ Date _____
COGNIZANT QV INSPECTOR *V. Rance* *R. B. [Signature]* Date *8-13-89*
COGNIZANT MECH/STRUCT ENGINEER _____ Date *19 MAR 90*

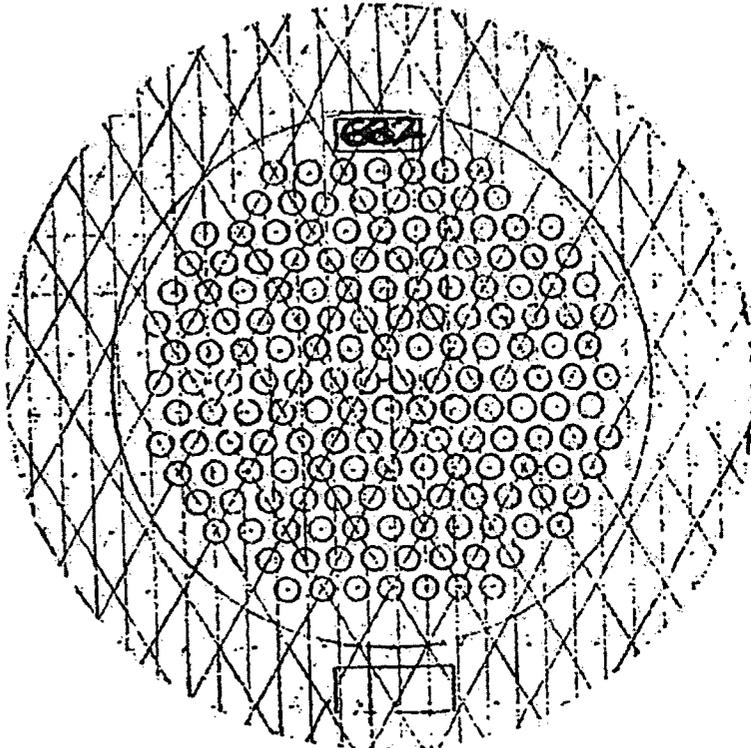
REVIEWED BY _____

INSPECTION PERIOD *35th*
4th

Tendon # *V-132*
END: FIELD _____ (1 piece washer)
SHOP (2 piece washer)

ENCLOSURE 6
Data Sheet 4

Tendon Buttonhead Inspection



RB Tendon Surveillance

COMMENT: *Shim stack ht. 2" (1 shim)*
No corrosion

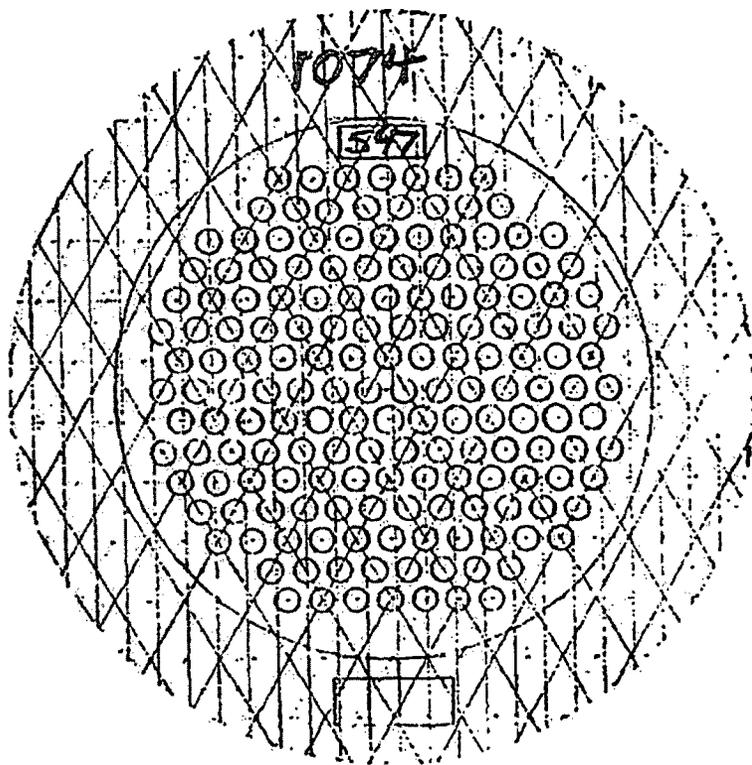
INSPECTED BY _____ Date _____
CONTRACTOR FOREMAN *N/A*
VERIFIED BY _____ Date _____
COGNIZANT QV INSPECTOR *W. Renee Roldan* Date *8-13-09*
COGNIZANT MECH/STRUCT ENGINEER *J. [Signature]* Date *7-29-09*
REVIEWED BY _____

INSPECTION PERIOD *35th yr.*

Tendon # *V-132*
END: FIELD (1 piece washer)
SHOP (2 piece washer)

ENCLOSURE 6
Data Sheet 4

Tendon Buttonhead Inspection



RB Tendon Surveillance

COMMENT: Shim stack ht. - 5.65"
(4, 1, 1/2)

Light surface rust on
shims. (NO pitting)

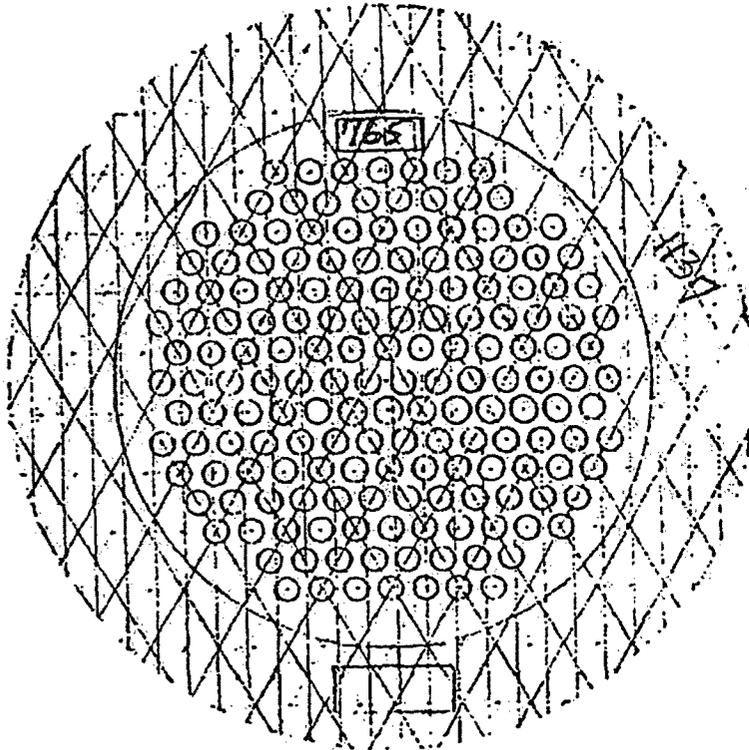
INSPECTED BY _____
CONTRACTOR FOREMAN N/A Date _____
VERIFIED BY _____
COGNIZANT QV INSPECTOR W. Lance Collins Date 8-17-89
COGNIZANT MECH/STRUCT ENGINEER [Signature] Date 17 MAR 10
REVIEWED BY _____

INSPECTION PERIOD 35th yr.

Tendon # D-122
END: FIELD _____ (1 piece washer)
SHOP X (2 piece washer)

ENCLOSURE 6
Data Sheet 4

Tendon Buttonhead Inspection



RB Tendon Surveillance

COMMENT: Shim Stack Height
7.7"
(2, 2, 2, 1, 1/2)
Light surface rust on shims
and bearing plate. No pitting

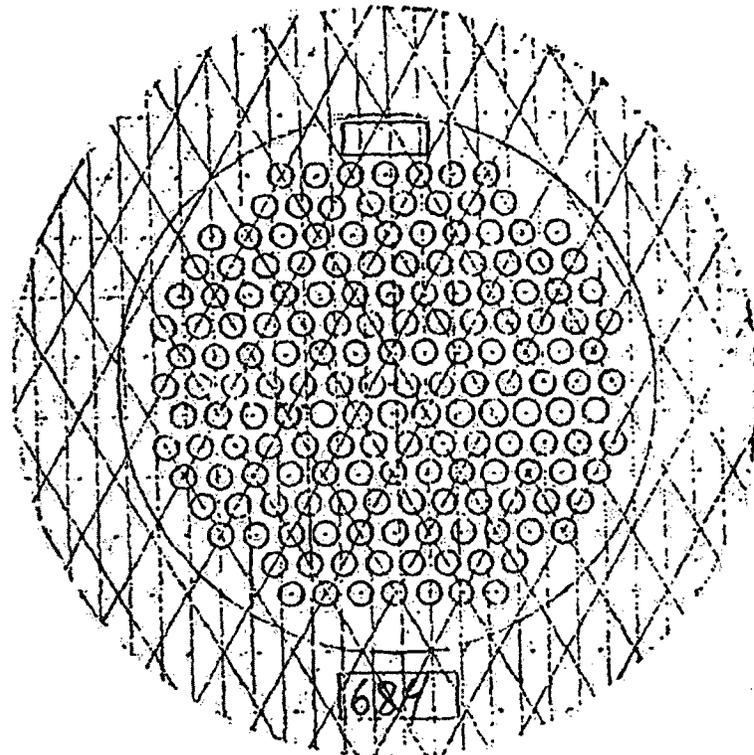
INSPECTED BY _____
CONTRACTOR FOREMAN N/A Date _____
VERIFIED BY _____
COGNIZANT QV INSPECTOR W. Rocco Colli Date 8-11-09
COGNIZANT MECH/STRUCT ENGINEER [Signature] Date 12 APR 10
REVIEWED BY _____

INSPECTION PERIOD 35th

Tendon # 0-225
END: FIELD _____ (1 piece washer)
SHOP X (2 piece washer)

ENCLOSURE 6
Data Sheet 4

Tendon Buttonhead Inspection



RB Tendon Surveillance

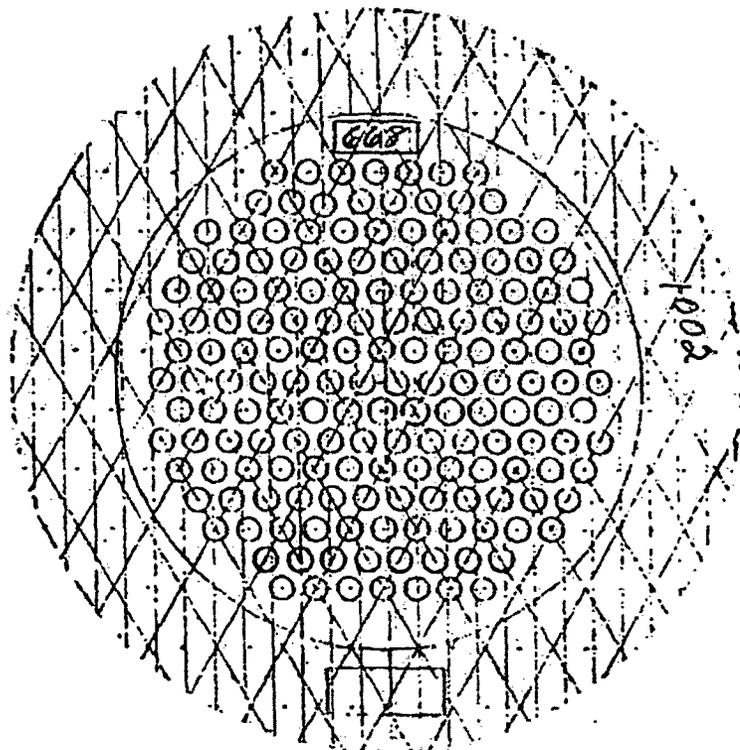
COMMENT: Shim stack height 4.7"
(2, 2, 1/2, 1/8)
No corrosion.

INSPECTED BY _____ Date _____
CONTRACTOR FOREMAN N/A
VERIFIED BY _____
COGNIZANT QV INSPECTOR W. Ramon Palla Date 8-12-09
COGNIZANT MECH/STRUCT ENGINEER [Signature] Date 19 MAR 10
REVIEWED BY _____

INSPECTION PERIOD 35 yr.
Tendon # 0225
END: FIELD X (1 piece washer)
SHOP _____ (2 piece washer)

ENCLOSURE 6
Data Sheet 4

Tendon Buttonhead Inspection
AS FOUND



RB Tendon Surveillance

COMMENT: *SHIM STACK 6.65 (4, 2, 1/2")*

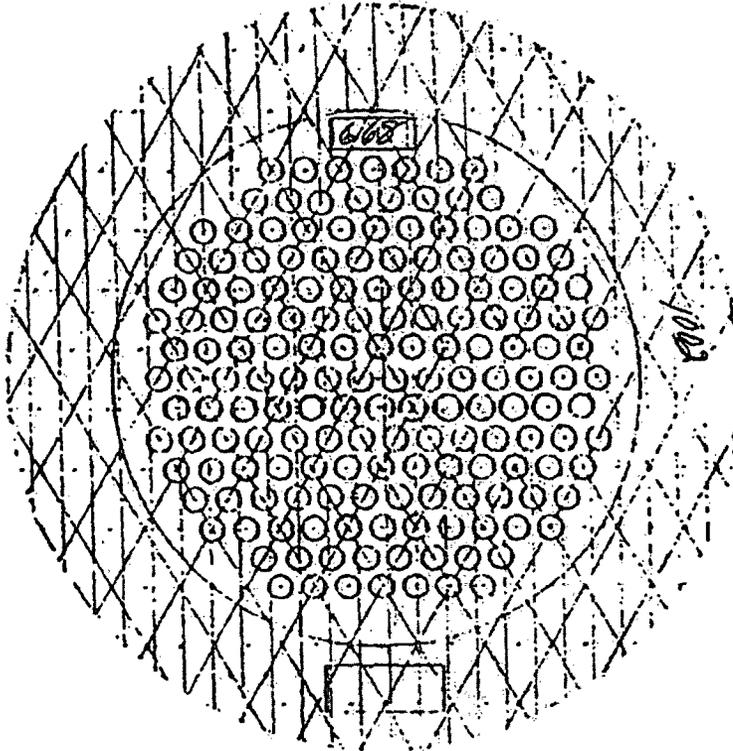
INSPECTED BY _____
CONTRACTOR FOREMAN *ELA* Date _____
VERIFIED BY _____
COGNIZANT QV INSPECTOR *D. J. P. O. M.* Date *11-16-09*
COGNIZANT MECH/STRUCT ENGINEER *FLA...* Date *19.11.2010*
REVIEWED BY _____

INSPECTION PERIOD *35TH / 2*

Tendon # *A-322*
END: FIELD _____ (1 piece washer)
SHOP *X* (2 piece washer)

ENCLOSURE 6
Data Sheet 4

Tendon Buttonhead Inspection
DEFERRED



RB Tendon Surveillance

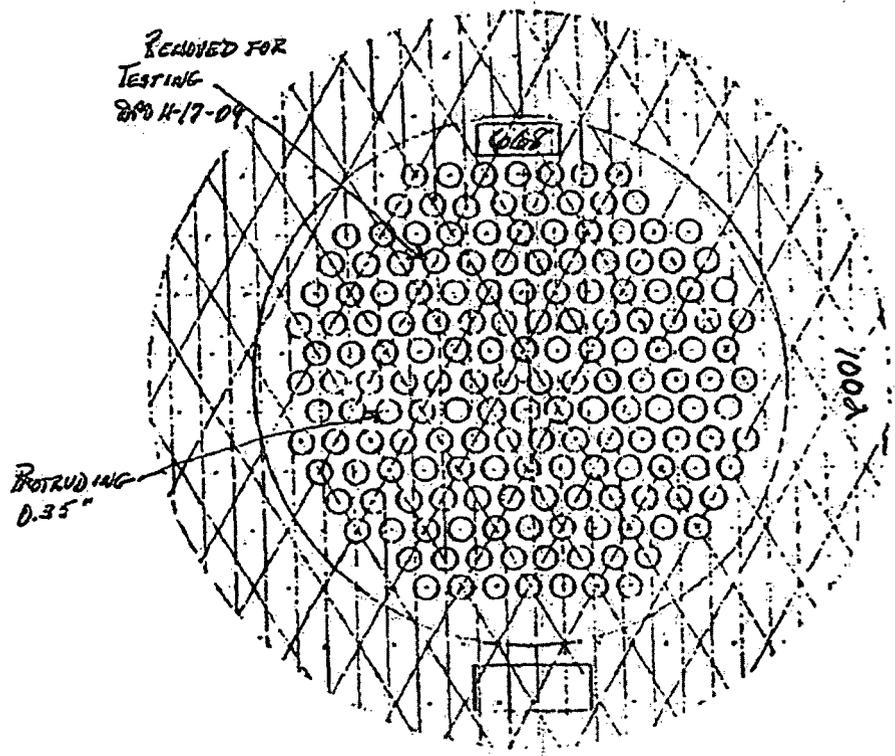
COMMENT: *No change in conditions*

INSPECTED BY
CONTRACTOR FOREMAN N/A Date N/A
VERIFIED BY
COGNIZANT QV INSPECTOR [Signature] Date 11-16-09
COGNIZANT MECH/STRUCT ENGINEER [Signature] Date 12 MAR 10
REVIEWED BY

INSPECTION PERIOD 95TH YR
Tendon # A-32a
END: FIELD (1 piece washer)
SHOP X (2 piece washer)

ENCLOSURE 6
 Data Sheet 4

Tendon Buttonhead Inspection
RETENSION



RB Tendon Surveillance

COMMENT: *SHIM STACK 6.85"*
(2, 1/8, 1/2, 4)

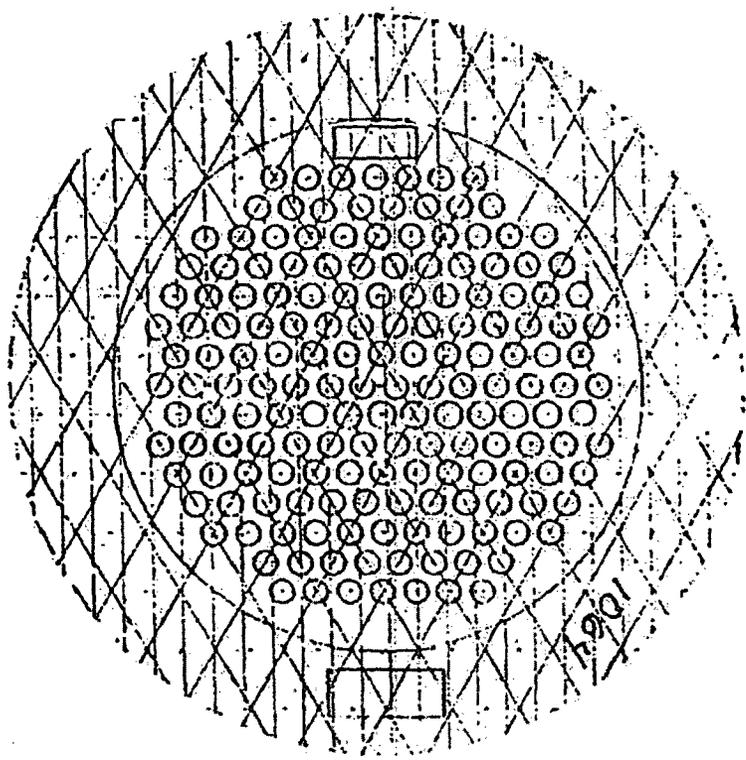
INSPECTED BY _____ Date *N/A*
 CONTRACTOR FOREMAN *N/A* Date *N/A*
 VERIFIED BY _____ Date *11-17-09*
 COGNIZANT QV INSPECTOR *[Signature]* Date *11-17-09*
 COGNIZANT MECH/STRUCT ENGINEER *[Signature]* Date *11-17-09*
 REVIEWED BY _____

INSPECTION PERIOD *35th yr*
 Tendon # *1-322*
 END: FIELD _____ (1 piece washer)
 SHOP *X* (2 piece washer)

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ENCLOSURE 6
Data Sheet 4

Tendon Buttonhead Inspection
As Found



RB Tendon Surveillance

COMMENT: *SWR Stack 6.40" (4, 2, 14")*
NO CORROSION

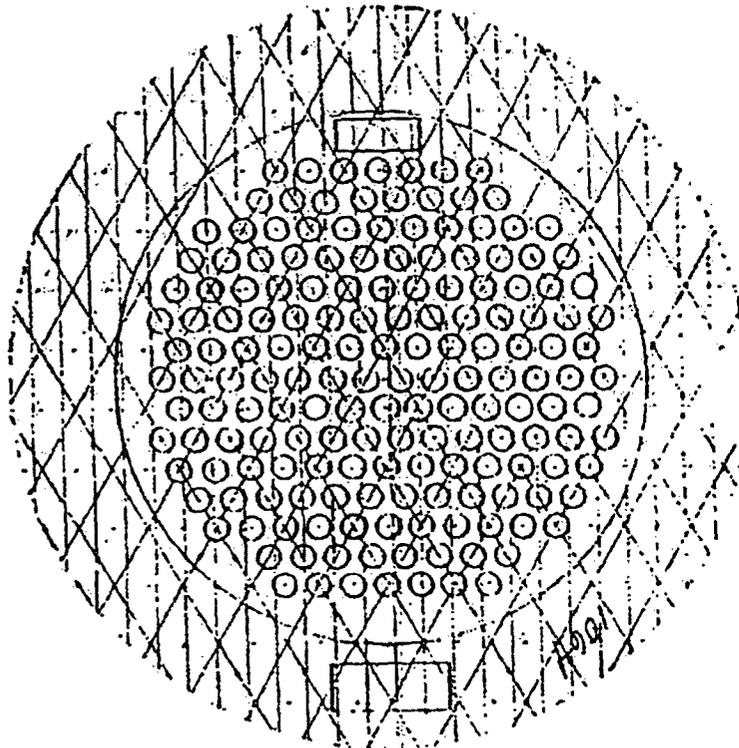
INSPECTED BY _____ Date _____
CONTRACTOR FOREMAN *WLB*
VERIFIED BY _____ Date _____
COGNIZANT QV INSPECTOR *D. P. O'Brien* Date *11-16-07*
COGNIZANT MECH/STRUCT ENGINEER *[Signature]* Date *12/11/07*
REVIEWED BY _____

INSPECTION PERIOD 35 TH YR

Tendon # D-322
END: FIELD X (1 piece washer)
SHOP _____ (2 piece washer)

ENCLOSURE 6
Data Sheet 4

Tendon Buttonhead Inspection
DETACHED



RB Tendon Surveillance

COMMENT: *NO CHANGE IN CONDITION*

INSPECTED BY
CONTRACTOR FOREMAN N/A Date N/A
VERIFIED BY
COGNIZANT QV INSPECTOR [Signature] Date 11-16-09
COGNIZANT MECH/STRUCT ENGINEER [Signature] Date 17 MAR 10
REVIEWED BY

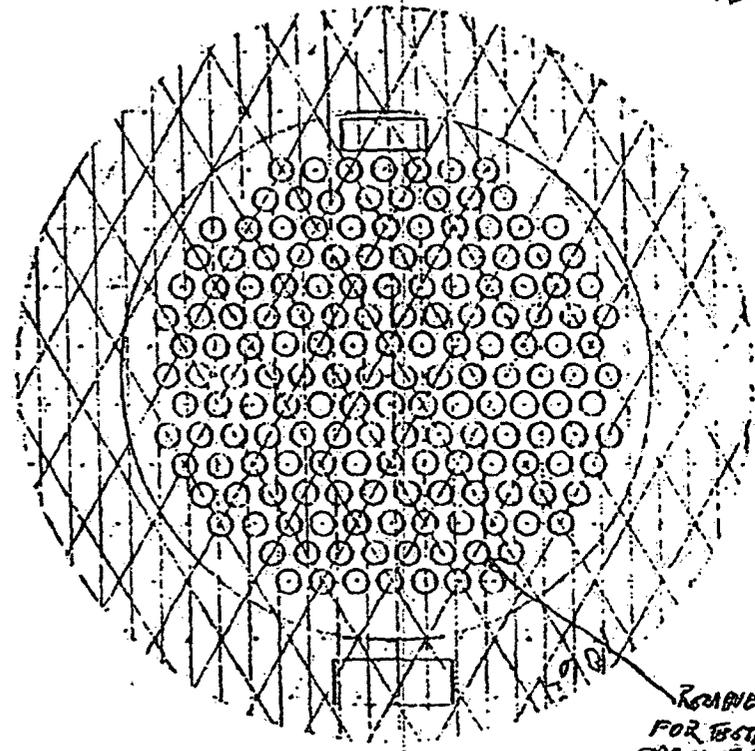
INSPECTION PERIOD 35TH YR

Tendon # D-322
END: FIELD X (1 piece washer)
SHOP _____ (2 piece washer)

ENCLOSURE 6
Data Sheet 4

Tendon Buttonhead Inspection

RETENSION



RB Tendon Surveillance

COMMENT: *SHIA STACK 7.30"*
(4, 5 1/8, 2")

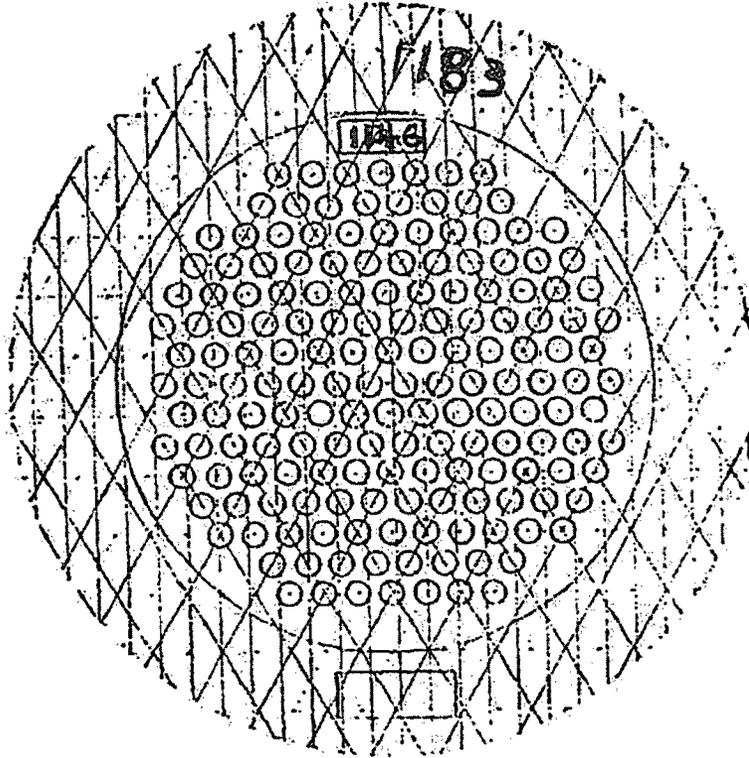
INSPECTED BY _____
CONTRACTOR FOREMAN *N/A* Date *N/A*
VERIFIED BY _____
COGNIZANT QV INSPECTOR *[Signature]* Date *11-17-09*
COGNIZANT MECH/STRUCT ENGINEER *[Signature]* Date *17 MAR 10*
REVIEWED BY _____

INSPECTION PERIOD *85TH yr*

Tendon # *D-322*
END: FIELD *X* (1 piece washer)
SHOP _____ (2 piece washer)

*REMOVED
FOR TESTING
200 11-17-09*

Tendon Buttonhead Inspection



RB Tendon Surveillance

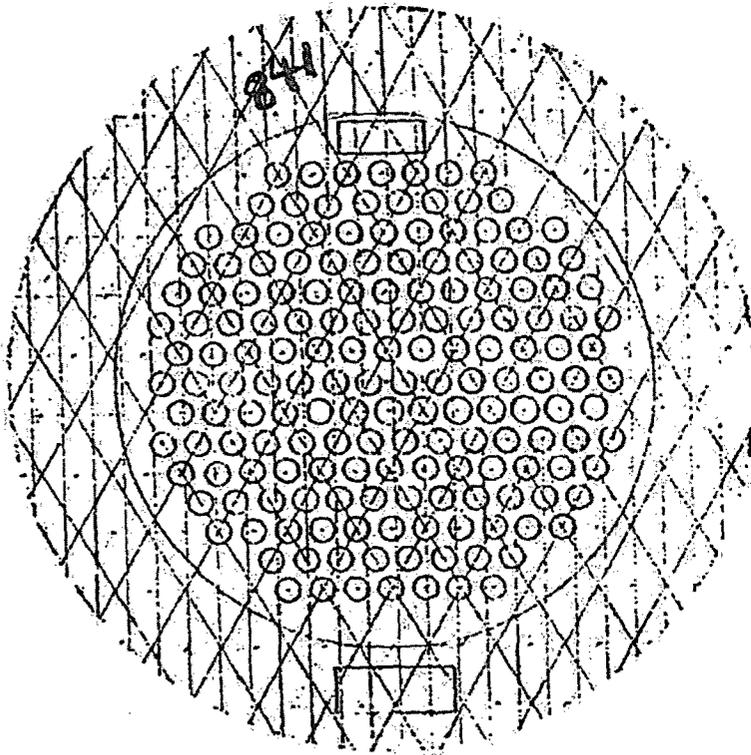
COMMENT: *Shim stack ht. - 5.4" (4, 1, 1/4)*
Light surface rust on shims
(NO pitting)

INSPECTED BY _____
CONTRACTOR FOREMAN N/A Date _____
VERIFIED BY _____
COGNIZANT QV INSPECTOR W. Kerner Pollock Date 8-17-07
COGNIZANT MECH/STRUCT ENGINEER [Signature] Date 19 MAR 07
REVIEWED BY _____

INSPECTION PERIOD 35 1/2 yr.
Tendon # D342
END: FIELD _____ (1 piece washer)
SHOP X (2 piece washer)

ENCLOSURE 6
Data Sheet 4

Tendon Buttonhead Inspection



RB Tendon Surveillance

COMMENT: *Skim stack ht. - 5.1" (4,1)*
No corrosion

INSPECTED BY
CONTRACTOR FOREMAN N/A Date _____
VERIFIED BY
COGNIZANT QV INSPECTOR W. Conner Rabb Date 8-17-09
COGNIZANT MECH/STRUCT ENGINEER [Signature] Date 29 MAR 10
REVIEWED BY

INSPECTION PERIOD 35th / 2008

Tendon # D-342
END: FIELD X (1 piece washer)
SHOP _____ (2 piece washer)



Project: TMI - 35th YEAR TENDON SURVEILLANCE

Tendon No.: H13-41 Tendon End/Buttress No.: SNP/BUTT 1

Anchorage ID.: 569/766 Adaptor ID: A5

| EQUIPMENT | MICROMETER | | WIRE | | SHIMS | | |
|------------|-------------|----------------|-------------|---------------|--------------|---------------|------------|
| | Thread | Mic ID | Recal Date | ID No. | Recal Date | ID No. | Recal Date |
| Ext. Major | <u>QC53</u> | <u>1-27-10</u> | | | | | |
| Ext. Pitch | <u>QC53</u> | <u>1-27-10</u> | <u>BLUE</u> | <u>2-5-10</u> | <u>SUR 1</u> | <u>2-5-10</u> | |
| Ext. Minor | <u>QC53</u> | <u>1-27-10</u> | <u>BLUE</u> | <u>2-5-10</u> | <u>SUR 4</u> | <u>2-5-10</u> | |
| Int. Major | N/A | N/A | | | | | |
| Int. Minor | N/A | N/A | | | | | |

| MEASUREMENTS | Thread | Read | THREAD | | | Average | Wire Constant | Wire Diameter | Shim Size | Average Diameter |
|----------------|--------|--------------|-----------------|-----------------|-----------------|-------------|---------------|---------------|--------------|------------------|
| | | | 3 rd | 6 th | 9 th | | | | | |
| Ext. Major | 1 | <u>9.369</u> | <u>9.372</u> | <u>9.375</u> | | | | | | |
| | 2 | <u>9.369</u> | <u>9.372</u> | <u>9.376</u> | | | | | <u>9.372</u> | |
| Ext. Pitch (1) | 1 | <u>9.513</u> | | <u>9.518</u> | <u>9.518</u> | <u>.231</u> | | <u>.032</u> | <u>9.255</u> | |
| | 2 | <u>9.517</u> | | <u>9.524</u> | | | | | | |
| Ext. Minor (2) | 1 | <u>9.454</u> | | <u>9.459</u> | <u>9.455</u> | | <u>.120</u> | <u>.032</u> | <u>9.183</u> | |
| | 2 | <u>9.452</u> | | <u>9.456</u> | | | | | | |
| Int. Major | 1 | N/A | | N/A | | | | | | |
| | 2 | N/A | | N/A | | | | | | |
| Int. Minor | 1 | N/A | N/A | N/A | | | | | | |
| | 2 | N/A | N/A | N/A | | | | | | |

Int. Go Gauge ID: N/A Recal Date: N/A Result: N/A

Pitch No-Go Gauge ID: N/A Recal Date: N/A Result: N/A

- Notes: (1) External Pitch Diameter = [Average] - [Wire Constant] - [Shim Size]
(2) External Minor Diameter = [Average] - [2 X Wire Diameter] - [Shim Size]

DISPOSITION

| | Trial 1 | Trial 2 | Trial 3 | Trial 4 |
|--|--------------|---------|---------|---------|
| Adaptor Mark | <u>A5</u> | | | |
| Min. Minor Diameter from Adaptor Table | <u>8.598</u> | | | |
| Acceptable? (Yes or No) | <u>Yes</u> | | | |

QC Signoff: [Signature] Level: II Date: 11-12-09
Reviewed: [Signature] Level: III Date: 2/2/10



Project: TMI - 35th YEAR TENDON SURVEILLANCE

Tendon No.: H13-41 Tendon End/Buttress No.: Buttress 3 / Field end

Anchorage ID.: 132 Adaptor ID.: A-5

| EQUIPMENT | MICROMETER | | WIRE | | SHIMS | | |
|------------|------------|---------|------------|--------|------------|--------|------------|
| | Thread | Mic ID | Recal Date | ID No. | Recal Date | ID No. | Recal Date |
| Ext. Major | QC53 | 1-27-10 | | | | | |
| Ext. Pitch | QC53 | 1-27-10 | Blue | 2-5-10 | SUR1 | 2-5-10 | |
| Ext. Minor | QC53 | 1-27-10 | Blue | 2-5-10 | SUR4 | 2-5-10 | |
| Int. Major | N/A | N/A | | | | | |
| Int. Minor | N/A | N/A | | | | | |

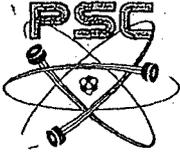
| MEASUREMENTS | | THREAD | | | Average | Wire Constant | Wire Diameter | Shim Size | Average Diameter | |
|----------------|-----------------|-----------------|-----------------|-----------------|-------------|---------------|---------------|-----------|------------------|--|
| Thread | Read | 3 rd | 6 th | 9 th | | | | | | |
| Ext. Major | 1 | 9.374 | 9.375 | 9.375 | | | | | 9.369 | |
| | 2 | 9.364 | 9.362 | 9.362 | | | | | | |
| Ext. Pitch (1) | 1 | 9.530 | | 9.542 | 9.533 | .231 | | .032 | 9.270 | |
| | 2 | 9.527 | | 9.532 | | | | | | |
| Ext. Minor (2) | 1 | 9.451 | | 9.453 | 9.449 | | .120 | .032 | 9.177 | |
| | 2 | 9.444 | | 9.447 | | | | | | |
| Int. Major | 1 | N/A | | N/A | | | | | | |
| | 2 | N/A | | N/A | | | | | | |
| Int. Minor | 1 | N/A | N/A | N/A | | | | | | |
| | 2 | N/A | N/A | N/A | | | | | | |
| Int. | Go Gauge ID: | N/A | | | Recal Date: | N/A | | Result: | N/A | |
| Pitch | No-Go Gauge ID: | N/A | | | Recal Date: | N/A | | Result: | N/A | |

Notes: (1) External Pitch Diameter = [Average] - [Wire Constant] - [Shim Size]
(2) External Minor Diameter = [Average] - [2 X Wire Diameter] - [Shim Size]

DISPOSITION

| | Trial 1 | Trial 2 | Trial 3 | Trial 4 |
|--|---------|---------|---------|---------|
| Adaptor Mark | A-5 | | | |
| Min. Minor Diameter from Adaptor Table | 8.579 | | | |
| Acceptable? (Yes or No) | Yes | | | |

QC Signoff: W. Lance Roberts Level: II Date: 8-26-09
 Reviewed: Jimmy C. Jones Level: I Date: 8-26-09



Project: TMI - 35th YEAR TENDON SURVEILLANCE

Tendon No.: H 24-23 Tendon End/Buttress No.: Shop/Butt. 4

Anchorage ID.: 1249 Adaptor ID.: A-5

| EQUIPMENT | MICROMETER | | WIRE | | SHIMS | | |
|------------|------------|--------------|----------------|-------------|---------------|--------------|---------------|
| | Thread | Mic ID | Recal Date | ID No. | Recal Date | ID No. | Recal Date |
| Ext. Major | | <u>QC 53</u> | <u>1-27-10</u> | | | | |
| Ext. Pitch | | <u>QC 53</u> | <u>1-27-10</u> | <u>Blue</u> | <u>2-5-10</u> | <u>SUR 4</u> | <u>2-5-10</u> |
| Ext. Minor | | <u>QC 53</u> | <u>1-27-10</u> | <u>Blue</u> | <u>2-5-10</u> | <u>SUR 1</u> | <u>2-5-10</u> |
| Int. Major | | <u>N/A</u> | <u>N/A</u> | | | | |
| Int. Minor | | <u>N/A</u> | <u>N/A</u> | | | | |

| MEASUREMENTS | Thread | Read | THREAD | | | Average | Wire Constant | Wire Diameter | Shim Size | Average Diameter |
|----------------|--------|--------------|-----------------|-----------------|-----------------|-------------|---------------|---------------|--------------|------------------|
| | | | 3 rd | 6 th | 9 th | | | | | |
| Ext. Major | 1 | <u>9.370</u> | <u>9.373</u> | <u>9.377</u> | | | | | <u>9.374</u> | |
| | 2 | <u>9.372</u> | <u>9.374</u> | <u>9.376</u> | | | | | | |
| Ext. Pitch (1) | 1 | <u>9.512</u> | | <u>9.514</u> | <u>9.512</u> | <u>.231</u> | | <u>.032</u> | <u>9.249</u> | |
| | 2 | <u>9.510</u> | | <u>9.513</u> | <u>9.374</u> | | | | | |
| Ext. Minor (2) | 1 | <u>9.446</u> | | <u>9.453</u> | <u>9.451</u> | | <u>.120</u> | <u>.032</u> | <u>9.179</u> | |
| | 2 | <u>9.450</u> | | <u>9.454</u> | | | | | | |
| Int. Major | 1 | <u>N/A</u> | | <u>N/A</u> | | | | | | |
| | 2 | <u>N/A</u> | | <u>N/A</u> | | | | | | |
| Int. Minor | 1 | <u>N/A</u> | <u>N/A</u> | <u>N/A</u> | | | | | | |
| | 2 | <u>N/A</u> | <u>N/A</u> | <u>N/A</u> | | | | | | |

Int. Go Gauge ID: N/A Recal Date: N/A Result: N/A
 Pitch No-Go Gauge ID: N/A Recal Date: N/A Result: N/A

- Notes: (1) External Pitch Diameter = [Average] - [Wire Constant] - [Shim Size]
 (2) External Minor Diameter = [Average] - [2 X Wire Diameter] - [Shim Size]

DISPOSITION

| Adaptor Mark | Trial 1 | Trial 2 | Trial 3 | Trial 4 |
|--|--------------|---------|---------|---------|
| <u>A-5</u> | | | | |
| Min. Minor Diameter from Adaptor Table | <u>8.598</u> | | | |
| Acceptable? (Yes or No) | <u>Yes</u> | | | |

QC Signoff: W. Vance, Robert Level: II Date: 8-11-09
 Reviewed: Thomas C. Dine Level: I Date: 8-11-09



Project: TMI - 35th YEAR TENDON SURVEILLANCE

Tendon No.: H 24-33 Tendon End/Buttress No.: Butt. 2

Anchorage ID.: 662 Adaptor ID: A-5

| EQUIPMENT | MICROMETER | | WIRE | | SHIMS | | |
|------------|------------|---------|------------|---------|------------|---------|------------|
| | Thread | Mic ID | Recal Date | ID No. | Recal Date | ID No. | Recal Date |
| Ext. Major | QC-75 | 1-27-10 | | | | | |
| Ext. Pitch | QC-75 | 1-27-10 | Black | 7-27-10 | Sur 5 | 1-27-10 | |
| Ext. Minor | QC-75 | 1-27-10 | Black | 7-27-10 | Sur 9 | 2-5-10 | |
| Int. Major | N/A | N/A | | | | | |
| Int. Minor | N/A | N/A | | | | | |

| MEASUREMENTS | | THREAD | | | Average | Wire Constant | Wire Diameter | Shim Size | Average Diameter |
|----------------|------|-----------------|-----------------|-----------------|---------|---------------|---------------|-----------|------------------|
| Thread | Read | 3 rd | 6 th | 9 th | | | | | |
| Ext. Major | 1 | 9.405 | 9.378 | 9.375 | | | | | 9.390 |
| | 2 | 9.424 | 9.380 | 9.380 | | | | | |
| Ext. Pitch (1) | 1 | 9.521 | | 9.513 | 9.524 | .231 | | .032 | 9.261 |
| | 2 | 9.530 | | 9.533 | | | | | |
| Ext. Minor (2) | 1 | 9.475 | | 9.477 | 9.476 | | .120 | .032 | 9.204 |
| | 2 | 9.476 | | 9.477 | | | | | |
| Int. Major | 1 | N/A | | N/A | | | | | |
| | 2 | N/A | | N/A | | | | | |
| Int. Minor | 1 | N/A | N/A | N/A | | | | | |
| | 2 | N/A | N/A | N/A | | | | | |

Int. Go Gauge ID: N/A Recal Date: N/A Result: N/A
Pitch No-Go Gauge ID: N/A Recal Date: N/A Result: N/A

- Notes: (1) External Pitch Diameter = [Average] - [Wire Constant] - [Shim Size]
(2) External Minor Diameter = [Average] - [2 X Wire Diameter] - [Shim Size]

DISPOSITION

| | Trial 1 | Trial 2 | Trial 3 | Trial 4 |
|--|---------|---------|---------|---------|
| Adaptor Mark | A-5 | | | |
| Min. Minor Diameter from Adaptor Table | 8.598 | | | |
| Acceptable? (Yes or No) | Yes | | | |

QC Signoff: [Signature] Level: I Date: 8-24-09
Reviewed: [Signature] Level: II Date: 8-24-09



Project: TMI - 35th YEAR TENDON SURVEILLANCE

Tendon No.: H 46-50 Tendon End/Buttress No.: Butt. 6 / Shop

Anchorage ID.: 754 Adaptor ID: A-5

| EQUIPMENT | MICROMETER | | WIRE | | SHIMS | | |
|------------|------------|---------|------------|--------|------------------------|--------|------------|
| | Thread | Mic ID | Recal Date | ID No. | Recal Date | ID No. | Recal Date |
| Ext. Major | QC 53 | 1-27-10 | | | | | |
| Ext. Pitch | QC 53 | 1-27-10 | Blue | 2-5-10 | Sur 4 | 2-5-10 | |
| Ext. Minor | QC 53 | 1-27-10 | Blue | 2-5-10 | WIRE 8-12-10 Sur 41 | 2-5-10 | |
| Int. Major | N/A | N/A | | | | | |
| Int. Minor | N/A | N/A | | | | | |

| MEASUREMENTS | | THREAD | | | Average | Wire Constant | Wire Diameter | Shim Size | Average Diameter |
|----------------|-----------------|-----------------|-----------------|-----------------|-------------|---------------|---------------|-----------|------------------|
| Thread | Read | 3 rd | 6 th | 9 th | | | | | |
| Ext. Major | 1 | 9.372 | 9.373 | 9.378 | | | | | 9.375 |
| | 2 | 9.373 | 9.377 | 9.379 | | | | | |
| Ext. Pitch (1) | 1 | 9.542 | | 9.550 | 9.547 | .231 | | .032 | 9.284 |
| | 2 | 9.545 | | 9.549 | | | | | |
| Ext. Minor (2) | 1 | 9.463 | | 9.470 | 9.466 | | .120 | .032 | 9.194 |
| | 2 | 9.461 | | 9.471 | | | | | |
| Int. Major | 1 | N/A | | N/A | | | | | |
| | 2 | N/A | | N/A | | | | | |
| Int. Minor | 1 | N/A | N/A | N/A | | | | | |
| | 2 | N/A | N/A | N/A | | | | | |
| Int. | Go Gauge ID: | N/A | | | Recal Date: | N/A | Result: | N/A | |
| Pitch | No-Go Gauge ID: | N/A | | | Recal Date: | N/A | Result: | N/A | |

- Notes: (1) External Pitch Diameter = [Average] - [Wire Constant] - [Shim Size]
(2) External Minor Diameter = [Average] - [2 X Wire Diameter] - [Shim Size]

DISPOSITION

| | Trial 1 | Trial 2 | Trial 3 | Trial 4 |
|--|---------|---------|---------|---------|
| Adaptor Mark | A-5 | | | |
| Min. Minor Diameter from Adaptor Table | 8.513 | | | |
| Acceptable? (Yes or No) | YES | | | |

QC Signoff: W. Ponce Robles Level: II Date: 8-12-09
 Reviewed: Tom C. [Signature] Level: I Date: 8-13-09



Project: TMI - 35th YEAR TENDON SURVEILLANCE

Tendon No.: H 4650 Tendon End/Buttress No.: Butt. 4 / Field end

Anchorage ID.: 900 Adaptor ID: A-5

| EQUIPMENT | MICROMETER | | WIRE | | SHIMS | | |
|------------|------------|---------|------------|--------|------------|--------|------------|
| | Thread | Mic ID | Recal Date | ID No. | Recal Date | ID No. | Recal Date |
| Ext. Major | QC-53 | 1-27-10 | | | | | |
| Ext. Pitch | QC-53 | 1-27-10 | Blue | 2-5-10 | Sur 4 | 2-5-10 | |
| Ext. Minor | QC-53 | 1-27-10 | Blue | 2-5-10 | Sur 1 | 2-5-10 | |
| Int. Major | N/A | N/A | | | | | |
| Int. Minor | N/A | N/A | | | | | |

| MEASUREMENTS | | THREAD | | | Average | Wire Constant | Wire Diameter | Shim Size | Average Diameter |
|----------------|------|-----------------|-----------------|-----------------|---------|---------------|---------------|-----------|------------------|
| Thread | Read | 3 rd | 6 th | 9 th | | | | | |
| Ext. Major | 1 | 9.368 | 9.370 | 9.372 | | | | | 9.371 |
| | 2 | 9.369 | 9.371 | 9.373 | | | | | |
| Ext. Pitch (1) | 1 | 9.513 | | 9.516 | 9.513 | .231 | | .032 | 9.250 |
| | 2 | 9.509 | | 9.513 | | | | | |
| Ext. Minor (2) | 1 | 9.440 | | 9.446 | 9.444 | | .120 | .032 | 9.172 |
| | 2 | 9.442 | | 9.446 | | | | | |
| Int. Major | 1 | N/A | | N/A | | | | | |
| | 2 | N/A | | N/A | | | | | |
| Int. Minor | 1 | N/A | N/A | N/A | | | | | |
| | 2 | N/A | N/A | N/A | | | | | |

Int. Go Gauge ID: N/A Recal Date: N/A Result: N/A

Pitch No-Go Gauge ID: N/A Recal Date: N/A Result: N/A

- Notes: (1) External Pitch Diameter = [Average] - [Wire Constant] - [Shim Size]
(2) External Minor Diameter = [Average] - [2 X Wire Diameter] - [Shim Size]

DISPOSITION

| | Trial 1 | Trial 2 | Trial 3 | Trial 4 |
|--|---------|---------|---------|---------|
| Adaptor Mark | A-5 | | | |
| Min. Minor Diameter from Adaptor Table | 8.717 | | | |
| Acceptable? (Yes or No) | Yes | | | |

QC Signoff: W. James Robb
Reviewed: Tommy C. D...

Level: II Date: 8-11-09
Level: I Date: 8-11-09



Project: TMI - 35th YEAR TENDON SURVEILLANCE

Tendon No.: H51-49 Tendon End/Buttress No.: SNOP / BUTT 1

Anchorage ID.: 1007/1154 Adaptor ID: A5

| EQUIPMENT | MICROMETER | | WIRE | | SHIMS | | |
|------------|------------|---------|------------|--------|------------|--------|------------|
| | Thread | Mic ID | Recal Date | ID No. | Recal Date | ID No. | Recal Date |
| Ext. Major | QC53 | 1-27-10 | | | | | |
| Ext. Pitch | QC53 | 1-27-10 | BLUE | 2-5-10 | SUR1 | 2-5-10 | |
| Ext. Minor | QC53 | 1-27-10 | BLUE | 2-5-10 | SUR4 | 2-5-10 | |
| Int. Major | N/A | N/A | | | | | |
| Int. Minor | N/A | N/A | | | | | |

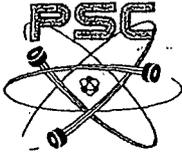
| MEASUREMENTS | | THREAD | | | Average | Wire Constant | Wire Diameter | Shim Size | Average Diameter | |
|----------------|-----------------|-----------------|-----------------|-----------------|-------------|---------------|---------------|-----------|------------------|--|
| Thread | Read | 3 rd | 6 th | 9 th | | | | | | |
| Ext. Major | 1 | 9.396 | 9.396 | 9.398 | | | | | 9.397 | |
| | 2 | 9.397 | 9.397 | 9.398 | | | | | | |
| Ext. Pitch (1) | 1 | 9.526 | | 9.528 | 9.527 | .231 | | .032 | 9.264 | |
| | 2 | 9.525 | | 9.529 | | | | | | |
| Ext. Minor (2) | 1 | 9.472 | | 9.474 | 9.472 | | .120 | .032 | 9.200 | |
| | 2 | 9.470 | | 9.471 | | | | | | |
| Int. Major | 1 | N/A | | N/A | | | | | | |
| | 2 | N/A | | N/A | | | | | | |
| Int. Minor | 1 | N/A | N/A | N/A | | | | | | |
| | 2 | N/A | N/A | N/A | | | | | | |
| Int. | Go Gauge ID: | N/A | | | Recal Date: | N/A | | Result: | N/A | |
| Pitch | No-Go Gauge ID: | N/A | | | Recal Date: | N/A | | Result: | N/A | |

Notes: (1) External Pitch Diameter = [Average] - [Wire Constant] - [Shim Size]
(2) External Minor Diameter = [Average] - [2 X Wire Diameter] - [Shim Size]

DISPOSITION

| | Trial 1 | Trial 2 | Trial 3 | Trial 4 |
|--|---------|---------|---------|---------|
| Adaptor Mark | A5 | | | |
| Min. Minor Diameter from Adaptor Table | 8.443 | | | |
| Acceptable? (Yes or No) | Yes | | | |

QC Signoff: *David P. O'Hara* Level: II Date: 11-11-09
Reviewed: *A. Bussone* Level: III Date: 2/2/10



Project: TMI - 35th YEAR TENDON SURVEILLANCE

Tendon No.: H5149 Tendon End/Buttress No.: Butt. 5 / Field end

Anchorage ID.: 890 Adaptor ID: X-2

| EQUIPMENT | MICROMETER | | WIRE | | SHIMS | | |
|------------|------------|---------|------------|--------|------------|--------|------------|
| | Thread | Mic ID | Recal Date | ID No. | Recal Date | ID No. | Recal Date |
| Ext. Major | QC53 | 1-27-10 | | | | | |
| Ext. Pitch | QC53 | 1-27-10 | Blue | 2-5-10 | Sur 1 | 2-5-10 | |
| Ext. Minor | QC53 | 1-27-10 | Blue | 2-5-10 | Sur 4 | 2-5-10 | |
| Int. Major | N/A | N/A | | | | | |
| Int. Minor | N/A | N/A | | | | | |

| MEASUREMENTS | | THREAD | | | Average | Wire Constant | Wire Diameter | Shim Size | Average Diameter |
|----------------|------|-----------------|-----------------|-----------------|---------|---------------|---------------|-----------|------------------|
| Thread | Read | 3 rd | 6 th | 9 th | | | | | |
| Ext. Major | 1 | 9.378 | 9.380 | 9.380 | | | | | 9.378 |
| | 2 | 9.376 | 9.376 | 9.378 | | | | | |
| Ext. Pitch (1) | 1 | 9.532 | | 9.534 | 9.533 | .231 | .032 | .032 | 9.290 |
| | 2 | 9.531 | | 9.533 | | | | | |
| Ext. Minor (2) | 1 | 9.438 | | 9.440 | 9.438 | | .120 | .032 | 9.166 |
| | 2 | 9.435 | | 9.438 | | | | | |
| Int. Major | 1 | N/A | | N/A | | | | | |
| | 2 | N/A | | N/A | | | | | |
| Int. Minor | 1 | N/A | N/A | N/A | | | | | |
| | 2 | N/A | N/A | N/A | | | | | |

Int. Go Gauge ID: N/A Recal Date: N/A Result: N/A

Pitch No-Go Gauge ID: N/A Recal Date: N/A Result: N/A

- Notes: (1) External Pitch Diameter = [Average] - [Wire Constant] - [Shim Size]
(2) External Minor Diameter = [Average] - [2 X Wire Diameter] - [Shim Size]

DISPOSITION

| | Trial 1 | Trial 2 | Trial 3 | Trial 4 |
|--|---------|---------|---------|---------|
| Adaptor Mark | X-2 | | | |
| Min. Minor Diameter from Adaptor Table | 8.755 | | | |
| Acceptable? (Yes or No) | Yes | | | |

QC Signoff: W. Ramez Jaber
Reviewed: James C. Jones

Level: II Date: 8-26-09
Level: I Date: 8-26-09



Project: TMI - 35th YEAR TENDON SURVEILLANCE

Tendon No.: H 62-26 Tendon End/Buttress No.: BUTT. 6 / SHOP

Anchorage ID.: 924 Adaptor ID: A-5

| EQUIPMENT | MICROMETER | | WIRE | | SHIMS | | |
|------------|------------|---------|------------|--------|------------|--------|------------|
| | Thread | Mic ID | Recal Date | ID No. | Recal Date | ID No. | Recal Date |
| Ext. Major | QC-53 | 1-27-10 | | | | | |
| Ext. Pitch | QC-53 | 1-27-10 | Blue | 2-5-10 | Sur 4 | 2-5-10 | |
| Ext. Minor | QC-53 | 1-27-10 | Blue | 2-5-10 | Sur 1 | 2-5-10 | |
| Int. Major | N/A | N/A | | | | | |
| Int. Minor | N/A | N/A | | | | | |

| MEASUREMENTS | | THREAD | | | Average | Wire Constant | Wire Diameter | Shim Size | Average Diameter |
|----------------|-----------------|-----------------|-----------------|-----------------|-------------|---------------|---------------|-----------|------------------|
| Thread | Read | 3 rd | 6 th | 9 th | | | | | |
| Ext. Major | 1 | 9.370 | 9.374 | 9.377 | | | | | 9.375 |
| | 2 | 9.373 | 9.376 | 9.379 | | | | | |
| Ext. Pitch (1) | 1 | 9.531 | | 9.540 | 9.538 | .231 | | .032 | 9.275 |
| | 2 | 9.536 | | 9.542 | | | | | |
| Ext. Minor (2) | 1 | 9.447 | | 9.453 | 9.447 | | .120 | .032 | 9.175 |
| | 2 | 9.437 | | 9.450 | | | | | |
| Int. Major | 1 | N/A | | N/A | | | | | |
| | 2 | N/A | | N/A | | | | | |
| Int. Minor | 1 | N/A | N/A | N/A | | | | | |
| | 2 | N/A | N/A | N/A | | | | | |
| Int. | Go Gauge ID: | N/A | | | Recal Date: | N/A | Result: | N/A | |
| Pitch | No-Go Gauge ID: | N/A | | | Recal Date: | N/A | Result: | N/A | |

Notes: (1) External Pitch Diameter = [Average] - [Wire Constant] - [Shim Size]
(2) External Minor Diameter = [Average] - [2 X Wire Diameter] - [Shim Size]

DISPOSITION

| | Trial 1 | Trial 2 | Trial 3 | Trial 4 |
|--|---------|---------|---------|---------|
| Adaptor Mark | A-5 | | | |
| Min. Minor Diameter from Adaptor Table | 8.543 | | | |
| Acceptable? (Yes or No) ^a | Yes | | | |

QC Signoff: W. Ramo Level: II Date: 8-12-09
 Reviewed: [Signature] Level: I Date: 8-13-09



Project: TMI - 35th YEAR TENDON SURVEILLANCE

Tendon No.: H62-26 Tendon End/Buttress No.: Buttress 2 / Field End

Anchorage ID.: S71 Adaptor ID: A-5

| EQUIPMENT | MICROMETER | | WIRE | | SHIMS | | |
|------------|------------|---------|------------|--------|------------|--------|------------|
| | Thread | Mic ID | Recal Date | ID No. | Recal Date | ID No. | Recal Date |
| Ext. Major | QC 53 | 1-27-10 | | | | | |
| Ext. Pitch | QC 53 | 1-27-10 | Blue | 2-5-10 | SUR1 | 2-5-10 | |
| Ext. Minor | QC 53 | 1-27-10 | Blue | 2-5-10 | SUR4 | 2-5-10 | |
| Int. Major | N/A | N/A | | | | | |
| Int. Minor | N/A | N/A | | | | | |

| MEASUREMENTS | | THREAD | | | Average | Wire Constant | Wire Diameter | Shim Size | Average Diameter |
|----------------|-----------------|-----------------|-----------------|-----------------|-------------|---------------|---------------|-----------|------------------|
| Thread | Read | 3 rd | 6 th | 9 th | | | | | |
| Ext. Major | 1 | 9.380 | 9.380 | 9.379 | | | | | 9.380 |
| | 2 | 9.381 | 9.377 | 9.385 | | | | | |
| Ext. Pitch (1) | 1 | 9.529 | | 9.531 | 9.531 | .231 | | .032 | 9.268 |
| | 2 | 9.530 | | 9.535 | | | | | |
| Ext. Minor (2) | 1 | 9.440 | | 9.441 | 9.440 | | .120 | .032 | 9.168 |
| | 2 | 9.438 | | 9.442 | | | | | |
| Int. Major | 1 | N/A | | N/A | | | | | |
| | 2 | N/A | | N/A | | | | | |
| Int. Minor | 1 | N/A | N/A | N/A | | | | | |
| | 2 | N/A | N/A | N/A | | | | | |
| Int. | Go Gauge ID: | N/A | | | Recal Date: | N/A | | Result: | N/A |
| Pitch | No-Go Gauge ID: | N/A | | | Recal Date: | N/A | | Result: | N/A |

- Notes: (1) External Pitch Diameter = [Average] - [Wire Constant] - [Shim Size]
 (2) External Minor Diameter = [Average] - [2 X Wire Diameter] - [Shim Size]

DISPOSITION

| | Trial 1 | Trial 2 | Trial 3 | Trial 4 |
|--|---------|---------|---------|---------|
| Adaptor Mark | A-5 | | | |
| Min. Minor Diameter from Adaptor Table | 9.168 | | | |
| Acceptable? (Yes or No) | Yes | | | |

QC Signoff: W. Vance Rablin Level: II Date: 8-28-09
 Reviewed: [Signature] Level: I Date: 8-28-09



Project: TMI - 35th YEAR TENDON SURVEILLANCE
 Tendon No.: V-11 Tendon End/Buttress No.: Butt, 1 / shop
 Anchorage ID.: 1213 Adaptor ID: X2

| EQUIPMENT | MICROMETER | | WIRE | | SHIMS | | |
|------------|------------|---------|------------|---------|------------|---------|------------|
| | Thread | Mic ID | Recal Date | ID No. | Recal Date | ID No. | Recal Date |
| Ext. Major | QC-75 | 1-27-10 | | | | | |
| Ext. Pitch | QC-75 | 1-27-10 | Black | 7-27-10 | Sur 5 | 1-27-10 | |
| Ext. Minor | QC-75 | 1-27-10 | Black | 7-27-10 | Sur 9 | 2-5-10 | |
| Int. Major | N/A | N/A | | | | | |
| Int. Minor | N/A | N/A | | | | | |

| MEASUREMENTS | | THREAD | | | Average | Wire Constant | Wire Diameter | Shim Size | Average Diameter | |
|----------------|-----------------|-----------------|-----------------|-----------------|-------------|---------------|---------------|-----------|------------------|--|
| Thread | Read | 3 rd | 6 th | 9 th | | | | | | |
| Ext. Major | 1 | 9.367 | 9.370 | 9.374 | | | | | 9.371 | |
| | 2 | 9.366 | 9.373 | 9.376 | | | | | | |
| Ext. Pitch (1) | 1 | 9.512 | | 9.512 | 9.513 | .231 | | .032 | 9.250 | |
| | 2 | 9.507 | | 9.511 | | | | | | |
| Ext. Minor (2) | 1 | 9.453 | | 9.459 | 9.456 | | .120 | .032 | 9.184 | |
| | 2 | 9.451 | | 9.461 | | | | | | |
| Int. Major | 1 | N/A | | N/A | | | | | | |
| | 2 | N/A | | N/A | | | | | | |
| Int. Minor | 1 | N/A | N/A | N/A | | | | | | |
| | 2 | N/A | N/A | N/A | | | | | | |
| Int. | Go Gauge ID: | N/A | | | Recal Date: | N/A | | Result: | N/A | |
| Pitch | No-Go Gauge ID: | N/A | | | Recal Date: | N/A | | Result: | N/A | |

Notes: (1) External Pitch Diameter = [Average] - [Wire Constant] - [Shim Size]
 (2) External Minor Diameter = [Average] - [2 X Wire Diameter] - [Shim Size]

DISPOSITION

| | Trial 1 | Trial 2 | Trial 3 | Trial 4 |
|--|---------|---------|---------|---------|
| Adaptor Mark | X2 | | | |
| Min. Minor Diameter from Adaptor Table | 8.677 | | | |
| Acceptable? (Yes or No) | Yes | | | |

QC Signoff: [Signature] Level: I Date: 8-14-09
 Reviewed: [Signature] Level: II Date: 8-18-09



Project: TMI - 35th YEAR TENDON SURVEILLANCE

Tendon No.: V-32 Tendon End/Buttress No.: Butt. 2 /shop

Anchorage ID.: 1050 Adaptor ID: x2

| EQUIPMENT | MICROMETER | | WIRE | | SHIMS | | |
|------------|------------|---------|------------|---------|------------|---------|------------|
| | Thread | Mic ID | Recal Date | ID No. | Recal Date | ID No. | Recal Date |
| Ext. Major | QC-75 | 1-27-10 | | | | | |
| Ext. Pitch | QC 75 | 1-27-10 | Black | 7-27-10 | Sur 5 | 1-27-10 | |
| Ext. Minor | QC-75 | 1-27-10 | Black | 7-27-10 | Sur 9 | 2-5-10 | |
| Int. Major | N/A | N/A | | | | | |
| Int. Minor | N/A | N/A | | | | | |

| MEASUREMENTS | | THREAD | | | Average | Wire Constant | Wire Diameter | Shim Size | Average Diameter | |
|----------------|-----------------|-----------------|-----------------|-----------------|-------------|---------------|---------------|-----------|------------------|--|
| Thread | Read | 3 rd | 6 th | 9 th | | | | | | |
| Ext. Major | 1 | 9.361 | 9.357 | 9.367 | | | | | 9.363 | |
| | 2 | 9.361 | 9.364 | 9.372 | | | | | | |
| Ext. Pitch (1) | 1 | 9.517 | | 9.517 | 9.515 | .231 | | .032 | 9.252 | |
| | 2 | 9.513 | | 9.516 | | | | | | |
| Ext. Minor (2) | 1 | 9.428 | | 9.442 | 9.436 | | .120 | .032 | 9.164 | |
| | 2 | 9.432 | | 9.443 | | | | | | |
| Int. Major | 1 | N/A | | N/A | | | | | | |
| | 2 | N/A | | N/A | | | | | | |
| Int. Minor | 1 | N/A | N/A | N/A | | | | | | |
| | 2 | N/A | N/A | N/A | | | | | | |
| Int. | Go Gauge ID: | N/A | | | Recal Date: | N/A | | Result: | N/A | |
| Pitch | No-Go Gauge ID: | N/A | | | Recal Date: | N/A | | Result: | N/A | |

Notes: (1) External Pitch Diameter = [Average] - [Wire Constant] - [Shim Size]
(2) External Minor Diameter = [Average] - [2 X Wire Diameter] - [Shim Size]

DISPOSITION

| | Trial 1 | Trial 2 | Trial 3 | Trial 4 |
|--|---------|---------|---------|---------|
| Adaptor Mark | x2 | | | |
| Min. Minor Diameter from Adaptor Table | 8.720 | | | |
| Acceptable? (Yes or No) | Yes | | | |

QC Signoff: [Signature] Level: I Date: 8-14-09
 Reviewed: W. Renee Pabla Level: II Date: 8-20-09



Project: TMI - 35th YEAR TENDON SURVEILLANCE

Tendon No.: V-90 Tendon End/Buttress No.: Butt. 4/shop

Anchorage ID.: 590 Adaptor ID: X2

| EQUIPMENT | MICROMETER | | WIRE | | SHIMS | | |
|------------|------------|---------|------------|---------|------------|---------|------------|
| | Thread | Mic ID | Recal Date | ID No. | Recal Date | ID No. | Recal Date |
| Ext. Major | QC-75 | 1-27-10 | | | | | |
| Ext. Pitch | QC-75 | 1-27-10 | Black | 7-27-10 | Swc 5 | 1-27-10 | |
| Ext. Minor | QC-75 | 1-27-10 | Black | 7-27-10 | Swc 9 | 2-5-10 | |
| Int. Major | N/A | N/A | | | | | |
| Int. Minor | N/A | N/A | | | | | |

| MEASUREMENTS | | THREAD | | | Average | Wire Constant | Wire Diameter | Shim Size | Average Diameter |
|----------------|------|-----------------|-----------------|-----------------|---------|---------------|---------------|-----------|------------------|
| Thread | Read | 3 rd | 6 th | 9 th | | | | | |
| Ext. Major | 1 | 9.360 | 9.361 | 9.362 | | | | | 9.362 |
| | 2 | 9.363 | 9.364 | 9.363 | | | | | |
| Ext. Pitch (1) | 1 | 9.516 | | 9.519 | 9.517 | .231 | | .032 | 9.254 |
| | 2 | 9.524 | | 9.512 | | | | | |
| Ext. Minor (2) | 1 | 9.473 | | 9.464 | 9.462 | | .120 | .032 | 9.190 |
| | 2 | 9.463 | | 9.450 | | | | | |
| Int. Major | 1 | N/A | | N/A | | | | | |
| | 2 | N/A | | N/A | | | | | |
| Int. Minor | 1 | N/A | N/A | N/A | | | | | |
| | 2 | N/A | N/A | N/A | | | | | |

Int. Go Gauge ID: N/A Recal Date: N/A Result: N/A
 Pitch No-Go Gauge ID: N/A Recal Date: N/A Result: N/A

- Notes: (1) External Pitch Diameter = [Average] - [Wire Constant] - [Shim Size]
 (2) External Minor Diameter = [Average] - [2 X Wire Diameter] - [Shim Size]

DISPOSITION

| | Trial 1 | Trial 2 | Trial 3 | Trial 4 |
|--|---------|---------|---------|---------|
| Adaptor Mark | X2 | | | |
| Min. Minor Diameter from Adaptor Table | 8.720 | | | |
| Acceptable? (Yes or No) | Yes | | | |

QC Signoff: James C. B... Level: I Date: 8-14-09
 Reviewed: W. Lance Rabb Level: II Date: 8-19-09



Project: TMI - 35th YEAR TENDON SURVEILLANCE

Tendon No.: V-132 Tendon End/Buttress No.: TOP / shop curd

Anchorage ID.: 1098 Adaptor ID: A-5

| EQUIPMENT | MICROMETER | | WIRE | | SHIMS | | |
|------------|------------|---------|------------|--------|------------|--------|------------|
| | Thread | Mic ID | Recal Date | ID No. | Recal Date | ID No. | Recal Date |
| Ext. Major | QC53 | 1-27-10 | | | | | |
| Ext. Pitch | QC53 | 1-27-10 | Blue | 2-5-10 | SUR1 | 2-5-10 | |
| Ext. Minor | QC53 | 1-27-10 | Blue | 2-5-10 | SUR4 | 2-5-10 | |
| Int. Major | N/A | N/A | | | | | |
| Int. Minor | N/A | N/A | | | | | |

| MEASUREMENTS | | THREAD | | | Average | Wire Constant | Wire Diameter | Shim Size | Average Diameter |
|----------------|------|-----------------|-----------------|-----------------|---------|---------------|---------------|-----------|------------------|
| Thread | Read | 3 rd | 6 th | 9 th | | | | | |
| Ext. Major | 1 | 9.371 | 9.376 | 9.381 | | | | | 9.378 |
| | 2 | 9.374 | 9.378 | 9.387 | | | | | |
| Ext. Pitch (1) | 1 | 9.519 | | 9.526 | 9.526 | .231 | | .032 | 9.263 |
| | 2 | 9.525 | | 9.534 | | | | | |
| Ext. Minor (2) | 1 | 9.457 | | 9.464 | 9.462 | | .120 | .032 | 9.190 |
| | 2 | 9.459 | | 9.468 | | | | | |
| Int. Major | 1 | N/A | | N/A | | | | | |
| | 2 | N/A | | N/A | | | | | |
| Int. Minor | 1 | N/A | N/A | N/A | | | | | |
| | 2 | N/A | N/A | N/A | | | | | |

Int. Go Gauge ID: N/A Recal Date: N/A Result: N/A
 Pitch No-Go Gauge ID: N/A Recal Date: N/A Result: N/A

- Notes: (1) External Pitch Diameter = [Average] - [Wire Constant] - [Shim Size]
 (2) External Minor Diameter = [Average] - [2 X Wire Diameter] - [Shim Size]

DISPOSITION

| | Trial 1 | Trial 2 | Trial 3 | Trial 4 |
|--|---------|---------|---------|---------|
| Adaptor Mark | A-5 | | | |
| Min. Minor Diameter from Adaptor Table | 8.534 | | | |
| Acceptable? (Yes or No) | YES | | | |

QC Signoff: W. Lance Roberts Level: II Date: 8-13-09
 Reviewed: Tommy E. Dyer Level: I Date: 8-19-09



Project: TMI - 35th YEAR TENDON SURVEILLANCE

Tendon No.: D122 Tendon End/Buttress No.: Butt. 5 / Shear end

Anchorage ID.: 1074 Adaptor ID: A-5

| EQUIPMENT | MICROMETER | | WIRE | | SHIMS | | |
|------------|------------|---------|------------|--------|------------|--------|------------|
| | Thread | Mic ID | Recal Date | ID No. | Recal Date | ID No. | Recal Date |
| Ext. Major | QC 53 | 1-27-10 | | | | | |
| Ext. Pitch | QC 53 | 1-27-10 | Blue | 2-5-10 | Sur 1 | 2-5-10 | |
| Ext. Minor | QC 53 | 1-27-10 | Blue | 2-5-10 | Sur 4 | 2-5-10 | |
| Int. Major | N/A | N/A | | | | | |
| Int. Minor | N/A | N/A | | | | | |

| MEASUREMENTS | | THREAD | | | Average | Wire Constant | Wire Diameter | Shim Size | Average Diameter |
|----------------|------|-----------------|-----------------|-----------------|---------|---------------|---------------|-----------|------------------|
| Thread | Read | 3 rd | 6 th | 9 th | | | | | |
| Ext. Major | 1 | 9.375 | 9.380 | 9.380 | | | | | 9.379 |
| | 2 | 9.375 | 9.381 | 9.385 | | | | | |
| Ext. Pitch (1) | 1 | 9.518 | | 9.521 | 9.524 | .231 | | .032 | 9.258 |
| | 2 | 9.527 | | 9.528 | | | | | |
| Ext. Minor (2) | 1 | 9.455 | | 9.456 | 9.459 | | .120 | .032 | 9.187 |
| | 2 | 9.460 | | 9.465 | | | | | |
| Int. Major | 1 | N/A | | N/A | | | | | |
| | 2 | N/A | | N/A | | | | | |
| Int. Minor | 1 | N/A | N/A | N/A | | | | | |
| | 2 | N/A | N/A | N/A | | | | | |

Int. Go Gauge ID: N/A Recal Date: N/A Result: N/A
 Pitch No-Go Gauge ID: N/A Recal Date: N/A Result: N/A

- Notes: (1) External Pitch Diameter = [Average] - [Wire Constant] - [Shim Size]
 (2) External Minor Diameter = [Average] - [2 X Wire Diameter] - [Shim Size]

DISPOSITION

| | Trial 1 | Trial 2 | Trial 3 | Trial 4 |
|--|---------|---------|---------|---------|
| Adaptor Mark | A-5 | | | |
| Min. Minor Diameter from Adaptor Table | 8.598 | | | |
| Acceptable? (Yes or No) | XCS | | | |

QC Signoff: [Signature] Level: II Date: 8-17-09
 Reviewed: [Signature] Level: I Date: 8-17-09



Project: TMI - 35th YEAR TENDON SURVEILLANCE

Tendon No.: D-122 Tendon End/Buttress No.: Field/NE

Anchorage ID.: 754 Adaptor ID: A5

| EQUIPMENT | MICROMETER | | WIRE | | SHIMS | | |
|------------|-------------|----------------|------------|---------------|-------------|---------------|------------|
| | Thread | Mic ID | Recal Date | ID No. | Recal Date | ID No. | Recal Date |
| Ext. Major | <u>QC53</u> | <u>1-27-10</u> | | | | | |
| Ext. Pitch | <u>QC53</u> | <u>1-27-10</u> | <u>BV6</u> | <u>2-5-10</u> | <u>SVR1</u> | <u>2-5-10</u> | |
| Ext. Minor | <u>QC53</u> | <u>1-27-10</u> | <u>BV6</u> | <u>2-5-10</u> | <u>SVR</u> | <u>2-5-10</u> | |
| Int. Major | N/A | N/A | | | | | |
| Int. Minor | N/A | N/A | | | | | |

| MEASUREMENTS | Thread | Read | THREAD | | | Average | Wire Constant | Wire Diameter | Shim Size | Average Diameter |
|----------------|-----------------|--------------|-----------------|-----------------|-----------------|-------------|---------------|---------------|--------------|------------------|
| | | | 3 rd | 6 th | 9 th | | | | | |
| Ext. Major | 1 | <u>9.397</u> | <u>9.398</u> | <u>9.393</u> | | | | | | |
| | 2 | <u>9.395</u> | <u>9.397</u> | <u>9.396</u> | | | | | <u>9.396</u> | |
| Ext. Pitch (1) | 1 | <u>9.503</u> | | <u>9.507</u> | <u>9.506</u> | <u>.231</u> | | <u>.032</u> | <u>9.243</u> | |
| | 2 | <u>9.507</u> | | <u>9.508</u> | | | | | | |
| Ext. Minor (2) | 1 | <u>9.451</u> | | <u>9.452</u> | <u>9.451</u> | | <u>.120</u> | <u>.032</u> | <u>9.179</u> | |
| | 2 | <u>9.449</u> | | <u>9.453</u> | | | | | | |
| Int. Major | 1 | N/A | | N/A | | | | | | |
| | 2 | N/A | | N/A | | | | | | |
| Int. Minor | 1 | N/A | N/A | N/A | | | | | | |
| | 2 | N/A | N/A | N/A | | | | | | |
| Int. | Go Gauge ID: | <u>N/A</u> | | | Recal Date: | <u>N/A</u> | | Result: | <u>N/A</u> | |
| Pitch | No-Go Gauge ID: | <u>N/A</u> | | | Recal Date: | <u>N/A</u> | | Result: | <u>N/A</u> | |

Notes: (1) External Pitch Diameter = [Average] - [Wire Constant] - [Shim Size]
(2) External Minor Diameter = [Average] - [2 X Wire Diameter] - [Shim Size]

DISPOSITION

| | Trial 1 | Trial 2 | Trial 3 | Trial 4 |
|--|--------------|---------|---------|---------|
| Adaptor Mark | <u>A-5</u> | | | |
| Min. Minor Diameter from Adaptor Table | <u>8.576</u> | | | |
| Acceptable? (Yes or No) | <u>YES</u> | | | |

QC Signoff: [Signature] Level: II Date: 11-15-09
Reviewed: [Signature] Level: III Date: 2/2/10



Project: TMI - 35th YEAR TENDON SURVEILLANCE

Tendon No.: D-225 Tendon End/Buttress No.: Butt. 5

Anchorage ID.: 1137 Adaptor ID: X2

| EQUIPMENT | MICROMETER | | WIRE | | SHIMS | | |
|------------|------------|---------|------------|---------|------------|---------|------------|
| | Thread | Mic ID | Recal Date | ID No. | Recal Date | ID No. | Recal Date |
| Ext. Major | QC 75 | 1-27-10 | | | | | |
| Ext. Pitch | QC 75 | 1-27-10 | Black | 7-27-10 | Sur 5 | 1-27-10 | |
| Ext. Minor | QC 75 | 1-27-10 | Black | 7-27-10 | Sur 9 | 2-5-10 | |
| Int. Major | N/A | N/A | | | | | |
| Int. Minor | N/A | N/A | | | | | |

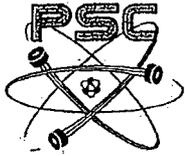
| MEASUREMENTS | | THREAD | | | Average | Wire Constant | Wire Diameter | Shim Size | Average Diameter |
|----------------|-----------------|-----------------|-----------------|-----------------|-------------|---------------|---------------|-----------|------------------|
| Thread | Read | 3 rd | 6 th | 9 th | | | | | |
| Ext. Major | 1 | 9.369 | 9.370 | 9.374 | | | | | 9.369 |
| | 2 | 9.364 | 9.368 | 9.370 | | | | | |
| Ext. Pitch (1) | 1 | 9.579 | | 9.523 | 9.517 | .231 | | .032 | 9.199 |
| | 2 | 9.512 | | 9.514 | | | | | |
| Ext. Minor (2) | 1 | 9.453 | | 9.462 | 9.465 | | .120 | .032 | 9.193 |
| | 2 | 9.472 | | 9.473 | | | | | |
| Int. Major | 1 | N/A | | N/A | | | | | |
| | 2 | N/A | | N/A | | | | | |
| Int. Minor | 1 | N/A | N/A | N/A | | | | | |
| | 2 | N/A | N/A | N/A | | | | | |
| Int. | Go Gauge ID: | N/A | | | Recal Date: | N/A | Result: | N/A | |
| Pitch | No-Go Gauge ID: | N/A | | | Recal Date: | N/A | Result: | N/A | |

- Notes: (1) External Pitch Diameter = [Average] - [Wire Constant] - [Shim Size]
(2) External Minor Diameter = [Average] - [2 X Wire Diameter] - [Shim Size]

DISPOSITION

| | Trial 1 | Trial 2 | Trial 3 | Trial 4 |
|--|---------|---------|---------|---------|
| Adaptor Mark | X2 | | | |
| Min. Minor Diameter from Adaptor Table | 8.950 | | | |
| Acceptable? (Yes or No) | Yes | | | |

QC Signoff: James C. Dotsy Level: I Date: 8-11-09
 Reviewed: W. Lance Roberts Level: II Date: 8-11-09



Project: TMI - 35th YEAR TENDON SURVEILLANCE

Tendon No.: 0225 Tendon End/Buttress No.: Butt. 2 / Field

Anchorage ID.: 684 Adaptor ID: X2

| EQUIPMENT | MICROMETER | | WIRE | | SHIMS | | |
|------------|------------|---------|------------|---------|------------|---------|------------|
| | Thread | Mic ID | Recal Date | ID No. | Recal Date | ID No. | Recal Date |
| Ext. Major | QC-75 | 1-27-10 | | | | | |
| Ext. Pitch | QC-75 | 1-27-10 | Black | 7-27-10 | Sur 5 | 1-27-10 | |
| Ext. Minor | QC-75 | 1-27-10 | Black | 7-27-10 | Sur 9 | 2-5-10 | |
| Int. Major | N/A | N/A | | | | | |
| Int. Minor | N/A | N/A | | | | | |

| MEASUREMENTS | | THREAD | | | Average | Wire Constant | Wire Diameter | Shim Size | Average Diameter | |
|----------------|-----------------|-----------------|-----------------|-----------------|-------------|---------------|---------------|-----------|------------------|--|
| Thread | Read | 3 rd | 6 th | 9 th | | | | | | |
| Ext. Major | 1 | 9.364 | 9.369 | 9.371 | | | | | 9.366 | |
| | 2 | 9.358 | 9.366 | 9.369 | | | | | | |
| Ext. Pitch (1) | 1 | 9.504 | | 9.510 | 9.507 | .231 | | .032 | 9.244 | |
| | 2 | 9.503 | | 9.512 | | | | | | |
| Ext. Minor (2) | 1 | 9.444 | | 9.449 | 9.447 | | .120 | .032 | 9.175 | |
| | 2 | 9.447 | | 9.450 | | | | | | |
| Int. Major | 1 | N/A | | N/A | | | | | | |
| | 2 | N/A | | N/A | | | | | | |
| Int. Minor | 1 | N/A | N/A | N/A | | | | | | |
| | 2 | N/A | N/A | N/A | | | | | | |
| Int. | Go Gauge ID: | N/A | | | Recal Date: | N/A | | Result: | N/A | |
| Pitch | No-Go Gauge ID: | N/A | | | Recal Date: | N/A | | Result: | N/A | |

Notes: (1) External Pitch Diameter = [Average] - [Wire Constant] - [Shim Size]
(2) External Minor Diameter = [Average] - [2 X Wire Diameter] - [Shim Size]

DISPOSITION

| | Trial 1 | Trial 2 | Trial 3 | Trial 4 |
|--|---------|---------|---------|---------|
| Adaptor Mark | X2 | | | |
| Min. Minor Diameter from Adaptor Table | 8.695 | | | |
| Acceptable? (Yes or No) | Yes | | | |

QC Signoff: [Signature] Level: I Date: 8-12-09
Reviewed: [Signature] Level: II Date: 8-18-09



Project: TMI - 35th YEAR TENDON SURVEILLANCE

Tendon No.: D-322 Tendon End/Buttress No.: SHOP/NORTH

Anchorage ID.: 668/1002 Adaptor ID: A-5

| EQUIPMENT | MICROMETER | | WIRE | | SHIMS | | |
|------------|------------|---------|------------|--------|------------|--------|------------|
| | Thread | Mic ID | Recal Date | ID No. | Recal Date | ID No. | Recal Date |
| Ext. Major | QC53 | 1-27-10 | | | | | |
| Ext. Pitch | QC53 | 1-27-10 | BLUE | 2-5-10 | SUR1 | 2-5-10 | |
| Ext. Minor | QC53 | 1-27-10 | BLUE | 2-5-10 | SUR4 | 2-5-10 | |
| Int. Major | N/A | N/A | | | | | |
| Int. Minor | N/A | N/A | | | | | |

| MEASUREMENTS | Thread | Read | THREAD | | | Average | Wire Constant | Wire Diameter | Shim Size | Average Diameter |
|----------------|-----------------|-------|-----------------|-----------------|-----------------|---------|---------------|---------------|--------------------|------------------|
| | | | 3 rd | 6 th | 9 th | | | | | |
| Ext. Major | 1 | 9.369 | 9.376 | 9.379 | | | | | 9.375 | |
| | 2 | 9.371 | 9.377 | 9.379 | | | | | | |
| Ext. Pitch (1) | 1 | 9.521 | | 9.530 | 9.524 | .231 | | .032 | 9.261 | |
| | 2 | 9.518 | | 9.528 | | | | | | |
| Ext. Minor (2) | 1 | 9.464 | | 9.464 | 9.459 | | .120 | .032 | 9.196 2/21/1009 | |
| | 2 | 9.451 | | 9.458 | | | | | | |
| Int. Major | 1 | N/A | | N/A | | | | | | |
| | 2 | N/A | | N/A | | | | | | |
| Int. Minor | 1 | N/A | N/A | N/A | | | | | | |
| | 2 | N/A | N/A | N/A | | | | | | |
| Int. | Go Gauge ID: | N/A | | | Recal Date: | N/A | | Result: | N/A | |
| Pitch | No-Go Gauge ID: | N/A | | | Recal Date: | N/A | | Result: | N/A | |

Notes: (1) External Pitch Diameter = [Average] - [Wire Constant] - [Shim Size]
(2) External Minor Diameter = [Average] - [2 X Wire Diameter] - [Shim Size]

DISPOSITION

| | Trial 1 | Trial 2 | Trial 3 | Trial 4 |
|--|---------|---------|---------|---------|
| Adaptor Mark | A-5 | | | |
| Min. Minor Diameter from Adaptor Table | 8.660 | | | |
| Acceptable? (Yes or No) | YES | | | |

QC Signoff: [Signature] Level: II Date: 11-16-09
Reviewed: [Signature] Level: III Date: 2/2/10



Project: TMI - 35th YEAR TENDON SURVEILLANCE

Tendon No.: D-322 Tendon End/Buttress No.: FIELD/SOUTH

Anchorage ID.: 1004 Adaptor ID: X2

| EQUIPMENT | MICROMETER | | WIRE | | SHIMS | | |
|------------|------------|---------|------------|--------|------------|--------|------------|
| | Thread | Mic ID | Recal Date | ID No. | Recal Date | ID No. | Recal Date |
| Ext. Major | QC53 | 1-27-10 | | | | | |
| Ext. Pitch | QC53 | 1-27-10 | BLUE | 2-5-10 | SUR1 | 2-5-10 | |
| Ext. Minor | QC53 | 1-27-10 | BLUE | 2-5-10 | SUR4 | 2-5-10 | |
| Int. Major | N/A | N/A | | | | | |
| Int. Minor | N/A | N/A | | | | | |

| MEASUREMENTS | Thread | Read | THREAD | | | Average | Wire Constant | Wire Diameter | Shim Size | Average Diameter |
|----------------|--------|-------|-----------------|-----------------|-----------------|---------|---------------|---------------|-----------|------------------|
| | | | 3 rd | 6 th | 9 th | | | | | |
| Ext. Major | 1 | 9.379 | 9.376 | 9.377 | | | | | 9.379 | |
| | 2 | 9.381 | 9.380 | 9.380 | | | | | | |
| Ext. Pitch (1) | 1 | 9.515 | | 9.517 | 9.519 | .231 | | .032 | 9.256 | |
| | 2 | 9.523 | | 9.520 | | | | | | |
| Ext. Minor (2) | 1 | 9.451 | | 9.451 | 9.455 | | .120 | .032 | 9.183 | |
| | 2 | 9.460 | | 9.460 | | | | | | |
| Int. Major | 1 | N/A | | N/A | | | | | | |
| | 2 | N/A | | N/A | | | | | | |
| Int. Minor | 1 | N/A | N/A | N/A | | | | | | |
| | 2 | N/A | N/A | N/A | | | | | | |

Int. Go Gauge ID: N/A Recal Date: N/A Result: N/A

Pitch No-Go Gauge ID: N/A Recal Date: N/A Result: N/A

- Notes: (1) External Pitch Diameter = [Average] - [Wire Constant] - [Shim Size]
(2) External Minor Diameter = [Average] - [2 X Wire Diameter] - [Shim Size]

DISPOSITION

| | Trial 1 | Trial 2 | Trial 3 | Trial 4 |
|--|---------|---------|---------|---------|
| Adaptor Mark | X2 | | | |
| Min. Minor Diameter from Adaptor Table | 8.733 | | | |
| Acceptable? (Yes or No) | YES | | | |

QC Signoff: [Signature] Level: II Date: 11-16-09
Reviewed: [Signature] Level: III Date: 2/2/10



Project: TMI - 35th YEAR TENDON SURVEILLANCE

Tendon No.: D-342 Tendon End/Buttress No.: Butt 6

Anchorage ID: 1183 Adaptor ID: X2

| EQUIPMENT | MICROMETER | | WIRE | | SHIMS | | |
|------------|------------|---------|------------|---------|------------|---------|------------|
| | Thread | Mic ID | Recal Date | ID No. | Recal Date | ID No. | Recal Date |
| Ext. Major | QC-75 | 1-27-10 | | | | | |
| Ext. Pitch | QC-75 | 1-27-10 | Black | 7-27-10 | Sur 5 | 1-27-09 | |
| Ext. Minor | QC-75 | 1-27-10 | Black | 7-27-10 | Sur 9 | 2-5-09 | |
| Int. Major | N/A | N/A | | | | | |
| Int. Minor | N/A | N/A | | | | | |

| MEASUREMENTS | | THREAD | | | Average | Wire Constant | Wire Diameter | Shim Size | Average Diameter |
|----------------|------|-----------------|-----------------|-----------------|---------|---------------|---------------|-----------|------------------|
| Thread | Read | 3 rd | 6 th | 9 th | | | | | |
| Ext. Major | 1 | 9.355 | 9.360 | 9.363 | | | | | 9.356 |
| | 2 | 9.354 | 9.355 | 9.354 | | | | | |
| Ext. Pitch (1) | 1 | 9.504 | | 9.506 | 9.508 | .231 | | .032 | 9.508 |
| | 2 | 9.515 | | 9.509 | | | | | |
| Ext. Minor (2) | 1 | 9.440 | | 9.447 | 9.442 | | .120 | .032 | 9.917 |
| | 2 | 9.441 | | 9.440 | | | | | |
| Int. Major | 1 | N/A | | N/A | | | | | |
| | 2 | N/A | | N/A | | | | | |
| Int. Minor | 1 | N/A | N/A | N/A | | | | | |
| | 2 | N/A | N/A | N/A | | | | | |

Int. Go Gauge ID: N/A Recal Date: N/A Result: N/A
 Pitch No-Go Gauge ID: N/A Recal Date: N/A Result: N/A

Notes: (1) External Pitch Diameter = [Average] - [Wire Constant] - [Shim Size]
 (2) External Minor Diameter = [Average] - [2 X Wire Diameter] - [Shim Size]

DISPOSITION

| | Trial 1 | Trial 2 | Trial 3 | Trial 4 |
|--|---------|---------|---------|---------|
| Adaptor Mark | X2 | | | |
| Min. Minor Diameter from Adaptor Table | 8.736 | | | |
| Acceptable? (Yes or No) | Yes | | | |

QC Signoff: [Signature] Level: I Date: 8-17-09
 Reviewed: [Signature] Level: II Date: 8-17-09



Project: TMI - 35th YEAR TENDON SURVEILLANCE

Tendon No.: D-342 Tendon End/Buttress No.: Butt. 4 / Shop

Field
Shop 8-17-09

Anchorage ID.: 841 Adaptor ID: A-5

| EQUIPMENT | MICROMETER | | WIRE | | SHIMS | | |
|------------|------------|---------|------------|--------|------------|--------|------------|
| | Thread | Mic ID | Recal Date | ID No. | Recal Date | ID No. | Recal Date |
| Ext. Major | QC 53 | 1-27-10 | | | | | |
| Ext. Pitch | QC 53 | 1-27-10 | Blue | 2-5-10 | Sur 1 | 2-5-10 | |
| Ext. Minor | QC 53 | 1-27-10 | Blue | 2-5-10 | Sur 4 | 2-5-10 | |
| Int. Major | N/A | N/A | | | | | |
| Int. Minor | N/A | N/A | | | | | |

| MEASUREMENTS | | THREAD | | | Average | Wire Constant | Wire Diameter | Shim Size | Average Diameter |
|----------------|-----------------|-----------------|-----------------|-----------------|-------------|---------------|---------------|-----------|------------------|
| Thread | Read | 3 rd | 6 th | 9 th | | | | | |
| Ext. Major | 1 | 9.370 | 9.370 | 9.374 | | | | | 9.372 |
| | 2 | 9.371 | 9.371 | 9.377 | | | | | |
| Ext. Pitch (1) | 1 | 9.515 | | 9.516 | 9.517 | .231 | | .032 | 9.254 |
| | 2 | 9.518 | | 9.518 | | | | | |
| Ext. Minor (2) | 1 | 9.440 | | 9.442 | 9.442 | | .120 | .032 | 9.17 |
| | 2 | 9.442 | | 9.444 | | | | | |
| Int. Major | 1 | N/A | | N/A | | | | | |
| | 2 | N/A | | N/A | | | | | |
| Int. Minor | 1 | N/A | N/A | N/A | | | | | |
| | 2 | N/A | N/A | N/A | | | | | |
| Int. | Go Gauge ID: | N/A | | | Recal Date: | N/A | Result: | N/A | |
| Pitch | No-Go Gauge ID: | N/A | | | Recal Date: | N/A | Result: | N/A | |

Notes: (1) External Pitch Diameter = [Average] - [Wire Constant] - [Shim Size]
(2) External Minor Diameter = [Average] - [2 X Wire Diameter] - [Shim Size]

DISPOSITION

| | Trial 1 | Trial 2 | Trial 3 | Trial 4 |
|--|---------|---------|---------|---------|
| Adaptor Mark | A-5 | | | |
| Min. Minor Diameter from Adaptor Table | 8.598 | | | |
| Acceptable? (Yes or No) | Yes | | | |

QC Signoff: W. Rance Kaylor
Reviewed: James J. G...

Level: II Date: 8-17-09
Level: I Date: 8-17-09

| | | |
|---|--|--------------|
| | | Number |
| TMI - Unit 1 Surveillance Procedure | | 1301-9.1 |
| Title | | Revision No. |
| RB Structural Integrity Tendon Surveillance | | 20 |

DATA SHEET 2
As-Found Lift-Off Force Summary Results

Page 1 of 1

| Group | Tendon ID | As-Found Lift Off Force, kip | | | Predicted Force, F_p kip | $F_{acc} = 0.95 F_p$ | $F > F_{acc}$ Circle Yes or No | $F_{lim} = 0.90 F_p$ | $F > F_{lim}$ Circle Yes or No |
|----------|-----------|------------------------------|-------------------------------|-------------------------------|----------------------------|----------------------|--------------------------------|----------------------|--------------------------------|
| | | Shop End | Field End | Average Force, F | | | | | |
| Hoop | H46-50 | 1204.31 | 1056.91 | 1130.62 | 1116 | 1060 | Yes/No | 1004 | Yes/No |
| | H24-33 | 1157.38 | 1089.47 | 1123.43 | 1068 | 1015 | Yes/No | 961 | Yes/No |
| | H51-49 | 1185.70 | 1124.50 1122.86 | 1124.50 1154.28 | 1132 | 1075 | Yes/No | 1019 | Yes/No |
| | H62-26 | 1130.98 | 1157.51 | 1141.25 | 1105 | 1050 | Yes/No | 995 | Yes/No |
| | H13-41 | 1172.50 | 1129.51 | 1151.01 | 1153 | 1095 | Yes/No | 1028 | Yes/No |
| | | | | | | | Yes/No | | Yes/No |
| | | | | | | | Yes/No | | Yes/No |
| | | | | | | | Yes/No | | Yes/No |
| | | | | | | | Yes/No | | Yes/No |
| Vertical | V-11 | 1205.97 | N/A | 1205.97 | 1148 | 1091 | Yes/No | 1033 | Yes/No |
| | V-32 | 1175.10 | N/A | 1175.10 | 1181 | 1122 | Yes/No | 1063 | Yes/No |
| | V-90 | 1199.92 | N/A | 1199.92 | 1204 | 1144 | Yes/No | 1084 | Yes/No |
| | V-132 | 1205.78 | N/A | 1205.78 | 1204 | 1144 | Yes/No | 1084 | Yes/No |
| | | | N/A | | | | Yes/No | | Yes/No |
| | | | N/A | | | | Yes/No | | Yes/No |
| | | | N/A | | | | Yes/No | | Yes/No |
| | | | N/A | | | | Yes/No | | Yes/No |
| Dome | D-225 | 1093.90 | 1082.59 | 1088.25 | 1067 | 1014 | Yes/No | 960 | Yes/No |
| | D-342 | 1118.12 | 1181.58 | 1149.85 | 1116 | 1060 | Yes/No | 1004 | Yes/No |
| | D-122 | 1110.44 | 1128.39 | 1119.42 | 1082 | 1028 | Yes/No | 974 | Yes/No |
| | D-322 | 1137.78 | 1132.80 | 1135.29 | 1128 | 1072 | Yes/No | 1015 | Yes/No |
| | | | | | | | Yes/No | | Yes/No |
| | | | | | | | Yes/No | | Yes/No |
| | | | | | | | Yes/No | | Yes/No |
| | | | | | | | Yes/No | | Yes/No |

Notes: (Initial & Date) DPD 11/19/09 2-3-10

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DATA SHEET 5
Average of the Normalized Lift Off Force

| Tendon ID | (1) Lift Off Force | (2) Normalizing Factor (NF) | (3) Normalized Lift Off (1) + (2) | (4) Acceptance Yes No |
|-------------------------|--------------------------|-----------------------------------|---|---|
| <u>Dome Tendons</u> | | | | |
| 1. <u>D-225</u> | <u>1088.25</u> | <u>+45</u> | <u>1133.25</u> | (Average Equal to or greater than 1084 kips) |
| 2. <u>D-342</u> | <u>1149.85</u> | <u>-2</u> | <u>1147.85</u> | |
| 3. <u>D-822</u> | <u>1135.29</u> | <u>-15</u> | <u>1120.29</u> | |
| 4. <u>D-122</u> | <u>1119.42</u> | <u>+31</u> | <u>1150.42</u> | |
| 5. _____ | _____ | _____ | _____ | |
| 6. _____ | _____ | _____ | _____ | |
| | | | Total <u>4550.81</u> | |
| | | | Average <u>1137.70</u> | <u>Yes</u> |
| <u>Vertical Tendons</u> | | | | |
| 1. <u>V-11</u> | <u>1205.97</u> | <u>+26</u> | <u>1231.97</u> | (Average Equal to or greater than 1033 kips) |
| 2. <u>V-32</u> | <u>1125.10</u> | <u>-7</u> | <u>1118.10</u> | |
| 3. <u>V-90</u> | <u>1149.92</u> | <u>-30</u> | <u>1119.92</u> | |
| 4. <u>V-132</u> | <u>1205.78</u> | <u>-30</u> | <u>1175.78</u> | |
| 5. _____ | _____ | _____ | _____ | |
| 6. _____ | _____ | _____ | _____ | |
| 7. _____ | _____ | _____ | _____ | |
| | | | Total <u>4745.77</u> | |
| | | | Average <u>1186.44</u> | <u>Yes</u> |
| <u>Hoop Tendons</u> | | | | |
| 1. <u>H-40-50</u> | <u>1130.62</u> | <u>-9</u> | <u>1121.62</u> | (Average Equal to or greater than 1108 kips) |
| 2. <u>H-24-33</u> | <u>1132.43</u> | <u>+38</u> | <u>1170.43</u> | |
| 3. <u>H-62-26</u> | <u>1141.25</u> | <u>+2</u> | <u>1143.25</u> | |
| 4. <u>H-13-41</u> | <u>1151.01</u> | <u>-47</u> | <u>1104.01</u> | |
| 5. <u>H-51-49</u> | <u>1134.28</u> | <u>-25</u> | <u>1109.28</u> | |
| 6. _____ | _____ | _____ | _____ | |
| 7. _____ | _____ | _____ | _____ | |
| 8. _____ | _____ | _____ | _____ | |
| 9. _____ | _____ | _____ | _____ | |
| 10. _____ | _____ | _____ | _____ | |
| | | | Total <u>5059.59</u> | |
| | | | Average <u>1132.78</u> | <u>Yes</u> |

Cognizant Mech/Struct Engineer
Reviewed By: _____

Total 5059.59
Average 1132.78
2-25-10 1131.92

Date: 19 MAR 10

Performed By: _____

Date: 2-9-10

DATA SHEET 1
Lift-Off Force Measurement

1301-9.1
Revision 20
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Surveillance No. 3574 Tendon ID H13-41 Predicted Force (F_p) 1153 kip Tendon End (Circle One): Shop / Field
 Phase (Circle One): As-found / Re-Tension Ram ID 9371 Ram Calibration Constants: $A = 220.599$ $k = -5.486$
 Date 11-12-09 Temp: RB Interior 68 °F / Concrete Surface 48 °F No. Effective Wires, N_w 169 Shim Stack Ht. 6.50 in.

CAUTION

DO NOT EXCEED A RAM PRESSURE OF $[(1,592 \times N_w / 169) - k] \times 1,000 / A = 7241.58$ psig

| Trial | Lift-Off Pressure, psig | Consecutive Three Trial Pressure Spread psi | Consecutive Three Trial Pressure Average $p^{1,2}$ psig | Stressing Washer Rotation | | For Re-tension Only, List Nominal Thickness of Each Shim Starting at Shim in Contact with Anchorhead |
|-------|-------------------------|---|---|---------------------------|---------------------------|--|
| | | | | At Feeler Gage Insertion | Rotation, Turns CW or CCW | |
| 1 | <u>5340</u> | <u>N/A</u> | <u>N/A</u> | At Trial 1 | <u>0</u> | <u>N/A</u> in. |
| 2 | <u>5340</u> | <u>N/A</u> | <u>N/A</u> | At Trial 2 | <u>0</u> | " |
| 3 | <u>5340</u> | <u>0</u> | <u>5340</u> | At Trial 3 | <u>0</u> | " |
| 4 | | | | At Trial 4 | | " |
| 5 | | | | At Trial 5 | | " |
| 6 | | | | At Trial 6 | | " |
| 7 | | | | At Trial 7 | | " |
| 8 | | | | Sum | <u>0</u> | " |
| 9 | | | | | | " |
| 10 | | | | | | " |

End Lift-Off Force = $(A \times P' / 1,000) = k = 1172.5$ kip

¹ N/A if 3 trial pressure spread > 25,000 / A = 113 psi

² Re-tension P range: $P'_{min} = (F_p - k) \times 1,000 / A = \underline{N/A}$ psig < $P' < P'_{max} = [(1,394 \times N_w / 169) - k] \times 1,000 / A = \underline{N/A}$ psig

For Re-Tension Only: $F_p < \text{End Lift-Off Force} < 1394 \times N_w / 169$; N/A < N/A < N/A Yes / No (Circle One)

Notes:

Recorded by: Signature David P. O'Neil Date 11-12-09 / Reviewed by: Signature J. Bussone Date 2/2/10
 QV

DATA SHEET 1
Lift-Off Force Measurement

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Revision 20
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Surveillance No. 35th YEAR Tendon ID H13-41 Predicted Force (F_p) 1153 kip Tendon End (Circle One): Shop Field
Phase (Circle One) As-found Re-Tension Ram ID 9371 Ram Calibration Constants: $A = 220.008$ $k = -3.524$
Date 8-26-09 Temp: RB Interior 123.6 °F / Concrete Surface 104 °F No. Effective Wires, N_w 169 Shim Stack Ht. 6.7 in.

CAUTION

DO NOT EXCEED A RAM PRESSURE OF $[(1,592 \times N_w / 169) - k] \times 1,000 / A = \frac{7220.08}{1136.56}$ psig WR

| Trial | Lift-Off Pressure, psig | Consecutive Three Trial Pressure Spread psi | Consecutive Three Trial Pressure Average p^1 psig ^{1,2} | Stressing Washer Rotation | | For Re-tension Only, List Nominal Thickness of Each Shim Starting at Shim in Contact with Anchorhead |
|-------|-------------------------|---|--|---------------------------|---------------------------|--|
| | | | | At Feeler Gage Insertion | Rotation, Turns CW or CCW | |
| 1 | <u>5150</u> | <u>N/A</u> | <u>N/A</u> | At Trial 1 | <u>0</u> | <u>N/A</u> in. |
| 2 | <u>5150</u> | <u>N/A</u> | <u>N/A</u> | At Trial 2 | <u>0</u> | " |
| 3 | <u>5150</u> | <u>0</u> | <u>5150</u> | At Trial 3 | <u>0</u> | " |
| 4 | | | | At Trial 4 | | " |
| 5 | | | | At Trial 5 | | " |
| 6 | | | | At Trial 6 | | " |
| 7 | | | | At Trial 7 | | " |
| 8 | | | | Sum | | " |
| 9 | | | | | | " |
| 10 | | | | | | " |

End Lift-Off Force = $(A \times P' / 1,000) = k = \frac{1139.51}{1136.56}$ kip WR

¹ N/A if 3 trial pressure spread > $25,000 / A = 113.63$ psi

² Re-tension P' range: $P'_{min} = (F_p - k) \times 1,000 / A = N/A$ psig < $P' < P'_{max} = [(1,394 \times N_w / 169) - k] \times 1,000 / A = N/A$ psig

For Re-Tension Only: $F_p < \text{End Lift-Off Force} < 1394 \times N_w / 169$; N/A < N/A < N/A Yes / No (Circle One)

Notes: NONE

Recorded by: Signature W. Ponce Pallo Date 8-26-09 / Reviewed by: Signature Tom C. D. Date 8-26-09
QV

DATA SHEET 1
Lift-Off Force Measurement

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Revision 20
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Surveillance No. 35th yr. Tendon ID H24-33 Predicted Force (F_p) 1068 kip Tendon End (Circle One): Shop / Field
 Phase (Circle One): As-found / Re-Tension Ram ID 9371 Ram Calibration Constants: $A = 220.008$ $k = -3.524$
 Date 8-11-09 Temp: RB Interior 123.5 °F / Concrete Surface 95 °F No. Effective Wires, N_w 169 Shim Stack Ht. 6.5 in.

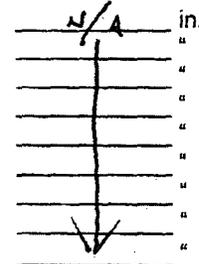
CAUTION

220.08 169.82009

DO NOT EXCEED A RAM PRESSURE OF $[(1,592 \times N_w / 169) - k] \times 1,000 / A = \underline{6315.57}$ psig

| Trial | Lift-Off Pressure, psig | Consecutive Three Trial Pressure Spread psi | Consecutive Three Trial Pressure Average $p^{1,2}$ psig | Stressing Washer Rotation | | For Re-tension Only, List Nominal Thickness of Each Shim Starting at Shim in Contact with Anchorhead |
|-------|-------------------------|---|---|---------------------------|---------------------------|--|
| | | | | At Feeler Gage Insertion | Rotation, Turns CW or CCW | |
| 1 | <u>5280</u> | <u>N/A</u> | <u>N/A</u> | At Trial 1 | <u>0</u> | <u>N/A</u> in. |
| 2 | <u>5270</u> | <u>N/A</u> | <u>N/A</u> | At Trial 2 | <u>0</u> | " |
| 3 | <u>5280</u> | <u>10</u> | <u>5276.66</u> | At Trial 3 | <u>0</u> | " |
| 4 | | | | At Trial 4 | | " |
| 5 | | | | At Trial 5 | | " |
| 6 | | | | At Trial 6 | | " |
| 7 | | | | At Trial 7 | | " |
| 8 | | | | Sum | | " |
| 9 | | | | | | " |
| 10 | | | | | | " |

End Lift-Off Force = $(A \times P' / 1,000) + k = \underline{1164.43}$ kip
 $\underline{1157.32}$
 $\underline{200 \times -29-10}$



¹ N/A if 3 trial pressure spread > 25,000 / A = 113.63 psi

² Re-tension P' range: $P'_{min} = (F_p - k) \times 1,000 / A = \underline{N/A}$ psig < $P' < P'_{max} = [(1,394 \times N_w / 169) - k] \times 1,000 / A = \underline{N/A}$ psig

For Re-Tension Only: $F_p < \text{End Lift-Off Force} < 1394 \times N_w / 169$; N/A < N/A < N/A Yes / No (Circle One)

Notes: NONE

Recorded by: Signature W. Ponce Raber Date 8-11-09 / Reviewed by: Signature James C. Soto Date 8-20-09
 QV

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Surveillance No. 35th yr. Tendon ID H24-33 Predicted Force (F_p) 1068 kip Tendon End (Circle One): Shop / Field
Phase (Circle One): As-found / Re-Tension Ram ID 9371 Ram Calibration Constants: $A = 220.008$ $k = 3.524$
Date 8-24-09 Temp: RB Interior 125 °F / Concrete Surface 98 °F No. Effective Wires, N_w 169 Shim Stack Ht. 7.6 in.

CAUTION

DO NOT EXCEED A RAM PRESSURE OF $[(1,592 \times N_w / 169) - k] \times 1,000 / A = 7220.08$ psig

| Trial | Lift-Off Pressure, psig | Consecutive Three Trial Pressure Spread psi | Consecutive Three Trial Pressure Average $p^{1,2}$ psig | Stressing Washer Rotation | | For Re-tension Only, List Nominal Thickness of Each Shim Starting at Shim in Contact with Anchorhead |
|-------|-------------------------|---|---|---------------------------|---------------------------|--|
| | | | | At Feeler Gage Insertion | Rotation, Turns CW or CCW | |
| 1 | <u>4972</u> | N/A | N/A | At Trial 1 | <u>0</u> | <u>N/A</u> in. |
| 2 | <u>4969</u> | N/A | N/A | At Trial 2 | <u>0</u> | " |
| 3 | <u>4963</u> | <u>9</u> | <u>4968</u> | At Trial 3 | <u>0</u> | " |
| 4 | | | | At Trial 4 | | " |
| 5 | | | | At Trial 5 | | " |
| 6 | | | | At Trial 6 | | " |
| 7 | | | | At Trial 7 | | " |
| 8 | | | | Sum | | " |
| 9 | | | | | | " |
| 10 | | | | | | " |

End Lift-Off Force = $(A \times P' / 1,000) = k = \frac{1096.5}{1089.47}$ kip
9/20/1-29-10

¹ N/A if 3 trial pressure spread > $25,000 / A = 113.63$ psi

² Re-tension P' range: $P'_{min} = (F_p - k) \times 1,000 / A = N/A$ psig < $P' < P'_{max} = [(1,394 \times N_w / 169) - k] \times 1,000 / A = N/A$ psig

For Re-Tension Only: $F_p < \text{End Lift-Off Force} < 1394 \times N_w / 169$; N/A < N/A < N/A Yes / No (Circle One)

Notes: NONE

Recorded by: Signature Timothy C. Ditt Date 8-24-09 / Reviewed by: Signature W. Prince Polite Date 8-24-09
QV

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Surveillance No. 35th yr Tendon ID H46-50 Predicted Force (F_p) 1116 ~~5056.92~~ kip WPR ~~8-12-09~~ Tendon End (Circle One): Shop / Field
Phase (Circle One): As-found / Re-Tension Ram ID 9371 Ram Calibration Constants: $A = 220.008$ $k = -3.524$
Date 8-12-09 Temp: RB Interior 124 °F / Concrete Surface 83 °F No. Effective Wires, N_w 169 Shim Stack Ht. 6.4 in.

CAUTION

9220.08 ~~WPR~~ 8-20-09

DO NOT EXCEED A RAM PRESSURE OF $[(1,592 \times N_w / 169) - k] \times 1,000 / A = 6315.57$ psig

| Trial | Lift-Off Pressure, psig | Consecutive Three Trial Pressure Spread psi | Consecutive Three Trial Pressure Average $p^{1,2}$ psig | Stressing Washer Rotation | | For Re-tension Only, List Nominal Thickness of Each Shim Starting at Shim in Contact with Anchorhead |
|-------|-------------------------|---|---|---------------------------|---------------------------|--|
| | | | | At Feeler Gage Insertion | Rotation, Turns CW or CCW | |
| 1 | <u>5490</u> | <u>N/A</u> | <u>N/A</u> | At Trial 1 | <u>0</u> | <u>N/A</u> in. |
| 2 | <u>5490</u> | <u>N/A</u> | <u>N/A</u> | At Trial 2 | <u>0</u> | " |
| 3 | <u>5490</u> | <u>0</u> | <u>5490</u> | At Trial 3 | <u>0</u> | " |
| 4 | | | | At Trial 4 | | " |
| 5 | | | | At Trial 5 | | " |
| 6 | | | | At Trial 6 | | " |
| 7 | | | | At Trial 7 | | " |
| 8 | | | | Sum | | " |
| 9 | | | | | | " |
| 10 | | | | | | " |

End Lift-Off Force = $(A \times P' / 1,000) + k = 124.36$ kip
1204.31
WPR 1-29-10

¹ N/A if 3 trial pressure spread > $25,000 / A = 113.63$ psi

² Re-tension P' range: $P'_{min} = (F_p - k) \times 1,000 / A = N/A$ psig < $P' < P'_{max} = [(1,394 \times N_w / 169) - k] \times 1,000 / A = N/A$ psig

For Re-Tension Only: $F_p < \text{End Lift-Off Force} < 1394 \times N_w / 169$; N/A < N/A < N/A Yes / No (Circle One)

Notes: None

Recorded by: Signature W. Lance Kelly Date 8-12-09 / Reviewed by: Signature [Signature] Date 8-20-09
QV

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Lift-Off Force Measurement

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Surveillance No. 35th yr. Tendon ID H46-50 Predicted Force (F_p) 1116 kip Tendon End (Circle One): Shop / Field
 Phase (Circle One): As-found / Re-Tension Ram ID 9371 Ram Calibration Constants: $A = 220.008$ $k = -3.524$
 Date 8-11-09 Temp: RB Interior 123.5 °F / Concrete Surface 85 °F No. Effective Wires, N_w 169 Shim Stack Ht. 7 in.

CAUTION

220.08 208-20-09

DO NOT EXCEED A RAM PRESSURE OF $[(1,592 \times N_w / 169) - k] \times 1,000 / A = \underline{6315.57}$ psig

| Trial | Lift-Off Pressure, psig | Consecutive Three Trial Pressure Spread psi | Consecutive Three Trial Pressure Average $p^{1,2}$ psig | Stressing Washer Rotation | | For Re-tension Only, List Nominal Thickness of Each Shim Starting at Shim in Contact with Anchorhead |
|-------|-------------------------|---|---|---------------------------|---------------------------|--|
| | | | | At Feeler Gage Insertion | Rotation, Turns CW or CCW | |
| 1 | <u>4820</u> | <u>N/A</u> | <u>N/A</u> | At Trial 1 | <u>0</u> | <u>N/A</u> in. |
| 2 | <u>4820</u> | <u>N/A</u> | <u>N/A</u> | At Trial 2 | <u>0</u> | " |
| 3 | <u>4820</u> | <u>0</u> | <u>4820</u> | At Trial 3 | <u>0</u> | " |
| 4 | | | | At Trial 4 | | " |
| 5 | | | | At Trial 5 | | " |
| 6 | | | | At Trial 6 | | " |
| 7 | | | | At Trial 7 | | " |
| 8 | | | | Sum | | " |
| 9 | | | | | | " |
| 10 | | | | | | " |

End Lift-Off Force = $(A \times P' / 1,000) = k = \underline{1163.96}$ kip
 $\underline{1056.91}$
 $\underline{2001-24-10}$

¹ N/A if 3 trial pressure spread > 25,000 / A = 113.63 psi

² Re-tension P' range: $P'_{min} = (F_p - k) \times 1,000 / A = \underline{N/A}$ psig < $P' < P'_{max} = [(1,394 \times N_w / 169) - k] \times 1,000 / A = \underline{N/A}$ psig

For Re-Tension Only: $F_p < \text{End Lift-Off Force} < 1394 \times N_w / 169$; N/A < N/A < N/A Yes / No (Circle One)

Notes: NONE

Recorded by: Signature W. Lance Pollock Date 8-11-09 / Reviewed by: Signature [Signature] Date 8-20-09

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Surveillance No. 35TH YR Tendon ID H51-49 Predicted Force (F_p) 1132 kip Tendon End (Circle One): Shop / Field
 Phase (Circle One): As-found / Re-Tension Ram ID 9371 Ram Calibration Constants: $A = 220.599$ $k = -5.486$
 Date 11-11-09 Temp: RB Interior 74 °F / Concrete Surface 56 °F No. Effective Wires, N_w 169 Shim Stack Ht. 7.1 in.

CAUTION

DO NOT EXCEED A RAM PRESSURE OF $[(1.592 \times N_w / 169) - k] \times 1,000 / A = 724.58$ psig

| Trial | Lift-Off Pressure, psig | Consecutive Three Trial Pressure Spread psi | Consecutive Three Trial Pressure Average $p^{1,2}$ psig | Stressing Washer Rotation | | For Re-tension Only, List Nominal Thickness of Each Shim Starting at Shim in Contact with Anchorhead |
|-------|-------------------------|---|---|---|---------------------------|--|
| | | | | At Feeler Gage Insertion | Rotation, Turns CW or CCW | |
| 1 | <u>5400</u> | <u>N/A</u> | <u>N/A</u> | At Trial 1 | <u>0</u> | <u>N/A</u> in. |
| 2 | <u>5400</u> | <u>N/A</u> | <u>N/A</u> | At Trial 2 | <u>0</u> | _____ |
| 3 | <u>5400</u> | <u>0</u> | <u>5400</u> | At Trial 3 | <u>0</u> | _____ |
| 4 | _____ | _____ | _____ | At Trial 4 | _____ | _____ |
| 5 | _____ | _____ | _____ | At Trial 5 | _____ | _____ |
| 6 | _____ | _____ | _____ | At Trial 6 | _____ | _____ |
| 7 | _____ | _____ | _____ | At Trial 7 | _____ | _____ |
| 8 | _____ | _____ | _____ | Sum | <u>0</u> | _____ |
| 9 | _____ | _____ | _____ | End Lift-Off Force = $(A \times P' / 1,000) = k = 1185.7$ kip | | |
| 10 | _____ | _____ | _____ | | | _____ |

¹ N/A if 3 trial pressure spread > $25,000 / A = 113$ psi

² Re-tension P' range: $P'_{min} = (F_p - k) \times 1,000 / A = N/A$ psig < $P' < P'_{max} = [(1.394 \times N_w / 169) - k] \times 1,000 / A = N/A$ psig

For Re-Tension Only: $F_p < \text{End Lift-Off Force} < 1394 \times N_w / 169$; N/A < N/A < N/A Yes / No (Circle One)

Notes: None

Recorded by: Signature [Signature] Date 11-11-09 / Reviewed by: Signature [Signature] Date 2/2/10
QV

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Surveillance No. 35th year Tendon ID H51-49 Predicted Force (F_p) 1132 kip Tendon End (Circle One): Shop Field
 Phase (Circle One): As-found / Re-Tension Ram ID 9370 Ram Calibration Constants: $A =$ 218.894 $k =$ -2.248
 Date 8-26-09 Temp: RB Interior 123.6 °F / Concrete Surface 86 °F No. Effective Wires, N_w 169 Shim Stack Ht. 6.6 in.

CAUTION

DO NOT EXCEED A RAM PRESSURE OF $[(1,592 \times N_w / 169) - k] \times 1,000 / A =$ 722.65 psig

| Trial | Lift-Off Pressure, psig | Consecutive Three Trial Pressure Spread psi | Consecutive Three Trial Pressure Average P' psig ^{1,2} | Stressing Washer Rotation | | For Re-tension Only, List Nominal Thickness of Each Shim Starting at Shim in Contact with Anchorhead |
|-------|-------------------------|---|---|---------------------------|---------------------------|--|
| | | | | At Feeler Gage Insertion | Rotation, Turns CW or CCW | |
| 1 | <u>5140</u> | <u>N/A</u> | <u>N/A</u> | At Trial 1 | <u>0</u> | <u>N/A</u> in. |
| 2 | <u>5140</u> | <u>N/A</u> | <u>N/A</u> | At Trial 2 | <u>0</u> | " |
| 3 | <u>5140</u> | <u>0</u> | <u>5140</u> | At Trial 3 | <u>0</u> | " |
| 4 | | | | At Trial 4 | | " |
| 5 | | | | At Trial 5 | | " |
| 6 | | | | At Trial 6 | | " |
| 7 | | | | At Trial 7 | | " |
| 8 | | | | Sum | | " |
| 9 | | | | | | " |
| 10 | | | | | | " |

End Lift-Off Force = $(A \times P' / 1,000) = k =$ 1127.36 kip
1182.86
2001-29-10

¹ N/A if 3 trial pressure spread > 25,000 / A = 114.21 psi
² Re-tension P' range: $P'_{min} = (F_p - k) \times 1,000 / A =$ N/A psig < $P' < P'_{max} = [(1,394 \times N_w / 169) - k] \times 1,000 / A =$ N/A psig
 For Re-Tension Only: $F_p < \text{End Lift-Off Force} < 1394 \times N_w / 169;$ N/A < N/A < N/A Yes / No (Circle One)

Notes: NONE

Recorded by: Signature [Signature] Date 8-26-09 / Reviewed by: Signature [Signature] Date 8-26-09
 QV

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Surveillance No. 35TH YR Tendon ID H51-49 Predicted Force (F_p) 113.2 kip Tendon End (Circle One): Shop / (Field)
Phase (Circle One): (As-found) / Re-Tension Ram ID 9370 Ram Calibration Constants: $A = 220.472$ $k = -4.255$
Date 11-11-09 Temp: RB Interior 74 °F / Concrete Surface 54 °F No. Effective Wires, N_w 169 Shim Stack Ht. 6.6 in.

CAUTION
DO NOT EXCEED A RAM PRESSURE OF $[(1,592 \times N_w / 169) - k] \times 1,000 / A = 7240.17$ psig

| Trial | Lift-Off Pressure, psig | Consecutive Three Trial Pressure Spread psi | Consecutive Three Trial Pressure Average $p^{1,2}$ psig | Stressing Washer Rotation | | For Re-tension Only; List Nominal Thickness of Each Shim Starting at Shim in Contact with Anchorhead |
|-------|-------------------------|---|---|---------------------------|---------------------------|--|
| | | | | At Feeler Gage Insertion | Rotation, Turns CW or CCW | |
| 1 | <u>5100</u> | <u>N/A</u> | <u>N/A</u> | At Trial 1 | <u>0</u> | <u>n/a</u> in. |
| 2 | <u>5100</u> | <u>N/A</u> | <u>N/A</u> | At Trial 2 | <u>0</u> | " |
| 3 | <u>5100</u> | <u>0</u> | <u>5140</u> | At Trial 3 | <u>0</u> | " |
| 4 | | | | At Trial 4 | | " |
| 5 | | | | At Trial 5 | | " |
| 6 | | | | At Trial 6 | | " |
| 7 | | | | At Trial 7 | | " |
| 8 | | | | Sum | <u>0</u> | " |
| 9 | | | | | | " |
| 10 | | | | | | " |

End Lift-Off Force = $(A \times P' / 1,000) = k = 1184.5$ kip

LIFTOFF PERFORMED AT REQUEST OF HOWARD HILL.
FOR INFORMATION ONLY [Signature]
2-24-10

¹ N/A if 3 trial pressure spread > 25,000 / A = 113 psi

² Re-tension P' range: $P'_{min} = (F_p - k) \times 1,000 / A =$ n/a psig < $P' < P'_{max} = [(1,394 \times N_w / 169) - k] \times 1,000 / A =$ n/a psig

For Re-Tension Only: $F_p < \text{End Lift-Off Force} < 1394 \times N_w / 169$; n/a < n/a < n/a Yes / No (Circle One)

Notes: _____

Recorded by: Signature [Signature] Date 11-12-09 / Reviewed by: Signature [Signature] Date 2/2/10
QV

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Surveillance No. 35th yr. Tendon ID H162-26 Predicted Force (F_p) 1105 kip Tendon End (Circle One) Shop / Field
Phase (Circle One): As-found / Re-Tension Ram ID 9371 Ram Calibration Constants: $A = 220.008$ $k = -3.524$
Date 8-12-09 Temp: RB Interior 124 °F / Concrete Surface 90 °F No. Effective Wires, N_w 169 Shim Stack Ht. 6.8 in.

CAUTION

DO NOT EXCEED A RAM PRESSURE OF $[(1,592 \times N_w / 169) - k] \times 1,000 / A = 6315.57$ psig

*7220-08 761
8-20-09*

| Trial | Lift-Off Pressure, psig | Consecutive Three Trial Pressure Spread psi | Consecutive Three Trial Pressure Average p^1 psig ^{1,2} | Stressing Washer Rotation | | For Re-tension Only, List Nominal Thickness of Each Shim Starting at Shim in Contact with Anchorhead |
|-------|-------------------------|---|--|---------------------------|---------------------------|--|
| | | | | At Feeler Gage Insertion | Rotation, Turns CW or CCW | |
| 1 | <u>5160</u> | <u>N/A</u> | <u>N/A</u> | At Trial 1 | <u>0</u> | <u>N/A</u> in. |
| 2 | <u>5160</u> | <u>N/A</u> | <u>N/A</u> | At Trial 2 | <u>0</u> | " |
| 3 | <u>5150</u> | <u>10</u> | <u>5156.66</u> | At Trial 3 | <u>0</u> | " |
| 4 | | | | At Trial 4 | | " |
| 5 | | | | At Trial 5 | | " |
| 6 | | | | At Trial 6 | | " |
| 7 | | | | At Trial 7 | | " |
| 8 | | | | Sum | | " |
| 9 | | | | | | " |
| 10 | | | | | | " |

End Lift-Off Force = $(A \times P' / 1,000) + k = 1138.03$ kip
*1130.98
1301-29-80*

¹ N/A if 3 trial pressure spread > 25,000 / A = 113.63 psi

² Re-tension P' range: $P'_{min} = (F_p - k) \times 1,000 / A =$ N/A psig < $P' < P'_{max} = [(1,394 \times N_w / 169) - k] \times 1,000 / A =$ N/A psig

For Re-Tension Only: $F_p < \text{End Lift-Off Force} < 1394 \times N_w / 169$; N/A < N/A < N/A Yes / No (Circle One)

Notes: NONE

Recorded by: Signature W. Bruce Robb Date 8-12-09 / Reviewed by: Signature [Signature] Date 8-13-09

DATA SHEET 1
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Surveillance No. 35th year Tendon ID H62-26 Predicted Force (F_p) 1105 kip Tendon End (Circle One): Shop **Field**

Phase (Circle One) **As-found** Re-Tension Ram ID 9371 Ram Calibration Constants: $A =$ 220.008 $k =$ -3.524

Date 8-28-09 Temp: RB Interior 123 °F / Concrete Surface 97 °F No. Effective Wires, N_w 169 Shim Stack Ht. 7.3 in.

CAUTION

DO NOT EXCEED A RAM PRESSURE OF $[(1,592 \times N_w / 169) - k] \times 1,000 / A =$ 7220.08 psig

| Trial | Lift-Off Pressure, psig | Consecutive Three Trial Pressure Spread, psi | Consecutive Three Trial Pressure Average p' , psig ^{1,2} | Stressing Washer Rotation | | For Re-tension Only, List Nominal Thickness of Each Shim Starting at Shim in Contact with Anchorhead |
|-------|-------------------------|--|---|---------------------------|---------------------------|--|
| | | | | At Feeler Gage Insertion | Rotation, Turns CW or CCW | |
| 1 | <u>5250</u> | <u>N/A</u> | <u>N/A</u> | At Trial 1 | <u>0</u> | <u>N/A</u> in. |
| 2 | <u>5250</u> | <u>N/A</u> | <u>N/A</u> | At Trial 2 | <u>0</u> | " |
| 3 | <u>5250</u> | <u>0</u> | <u>5250</u> | At Trial 3 | <u>0</u> | " |
| 4 | | | | At Trial 4 | | " |
| 5 | | | | At Trial 5 | | " |
| 6 | | | | At Trial 6 | | " |
| 7 | | | | At Trial 7 | | " |
| 8 | | | | Sum | | " |
| 9 | | | | | | " |
| 10 | | | | | | " |

End Lift-Off Force = $(A \times P' / 1,000) = k =$ 115856 kip
1151.51
8201-28-10

¹ N/A if 3 trial pressure spread > 25,000 / A = 113.63 psi

² Re-tension P' range: $P'_{min} = (F_p - k) \times 1,000 / A =$ N/A psig < $P' < P'_{max} = [(1,394 \times N_w / 169) - k] \times 1,000 / A =$ N/A psig

For Re-Tension Only: $F_p < \text{End Lift-Off Force} < 1394 \times N_w / 169$; N/A < N/A < N/A Yes / No. (Circle One)

Notes: None

Recorded by: Signature W. Bruce Pollock Date 8-28-09 / Reviewed by: Signature Tom C. [Signature] Date 8-28-09
QV

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Surveillance No. 35th year Tendon ID V-11 Predicted Force (F_p) 1148 kip Tendon End (Circle One) Shop / Field
 Phase (Circle One): As-found / Re-Tension Ram ID 9370 Ram Calibration Constants: $A = 218.894$ $k = -2.248$
 Date 8-18-09 Temp: RB Interior 125 °F / Concrete Surface 93 °F No. Effective Wires, N_w 169 Shim Stack Ht. 14.3 in.

CAUTION

7262.65 ¹⁶⁹ p. 20-09

DO NOT EXCEED A RAM PRESSURE OF $[(1,592 \times N_w / 169) - k] \times 1,000 / A = 6358.20$ psig

| Trial | Lift-Off Pressure, psig | Consecutive Three Trial Pressure Spread psi | Consecutive Three Trial Pressure Average p^1 psig ^{1,2} | Stressing Washer Rotation | | For Re-tension Only, List Nominal Thickness of Each Shim Starting at Shim in Contact with Anchorhead |
|-------|-------------------------|---|--|---------------------------|---------------------------|--|
| | | | | At Feeler Gage Insertion | Rotation, Turns CW or CCW | |
| 1 | <u>5526</u> | <u>N/A</u> | <u>N/A</u> | At Trial 1 | <u>0</u> | <u>N/A</u> in. |
| 2 | <u>5519</u> | <u>N/A</u> | <u>N/A</u> | At Trial 2 | <u>0</u> | " |
| 3 | <u>5516</u> | <u>10</u> | <u>5519.66</u> | At Trial 3 | <u>0</u> | " |
| 4 | | | | At Trial 4 | | " |
| 5 | | | | At Trial 5 | | " |
| 6 | | | | At Trial 6 | | " |
| 7 | | | | At Trial 7 | | " |
| 8 | | | | Sum | | " |
| 9 | | | | | | " |
| 10 | | | | | | " |

End Lift-Off Force = $(A \times P' / 1,000) = k = 1210.46$ kip
~~1205.97~~
 9001-29-10

¹ N/A if 3 trial pressure spread > $25,000 / A = 114$ psi

² Re-tension P' range: $P'_{min} = (F_p - k) \times 1,000 / A = N/A$ psig < $P' < P'_{max} = [(1,394 \times N_w / 169) - k] \times 1,000 / A = N/A$ psig

For Re-Tension Only: $F_p < \text{End Lift-Off Force} < 1394 \times N_w / 169$; N/A < N/A < N/A Yes / No (Circle One)

Notes: None

Recorded by: Signature [Signature] Date 8-18-09 / Reviewed by: Signature [Signature] Date 8-20-09
 QV

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Surveillance No. 35th year Tendon ID V-32 Predicted Force (F_p) 1181 ~~116~~ ^{kip} Tendon End (Circle One): Shop / Field
Phase (Circle One): As-found / Re-Tension Ram ID 9370 Ram Calibration Constants: $A = 218.894$ $k = 2.248$
Date 8-18-09 Temp: RB Interior 125 °F / Concrete Surface 98 °F No. Effective Wires, N_w 169 Shim Stack Ht. 14.15 in.

CAUTION

DO NOT EXCEED A RAM PRESSURE OF $[(1,592 \times N_w / 169) - k] \times 1,000 / A = 7262.65$ ~~6352.20~~ ^{WRR 8-20-09} psig

| Trial | Lift-Off Pressure, psig | Consecutive Three Trial Pressure Spread psi | Consecutive Three Trial Pressure Average p' psig ^{1,2} | Stressing Washer Rotation | | For Re-tension Only, List Nominal Thickness of Each Shim Starting at Shim in Contact with Anchorhead |
|-------|-------------------------|---|---|---------------------------|---------------------------|--|
| | | | | At Feeler Gage Insertion | Rotation, Turns CW or CCW | |
| 1 | <u>5380</u> | <u>N/A</u> | <u>N/A</u> | At Trial 1 | <u>0</u> | <u>N/A</u> in. |
| 2 | <u>5376</u> | <u>N/A</u> | <u>N/A</u> | At Trial 2 | <u>0</u> | " |
| 3 | <u>5380</u> | <u>4</u> | <u>5378.66</u> | At Trial 3 | <u>0</u> | " |
| 4 | | | | At Trial 4 | | " |
| 5 | | | | At Trial 5 | | " |
| 6 | | | | At Trial 6 | | " |
| 7 | | | | At Trial 7 | | " |
| 8 | | | | Sum | | " |
| 9 | | | | | | " |
| 10 | | | | | | " |

End Lift-Off Force = $(A \times P' / 1,000) = k = 1179.60$ ~~1175.10~~ ^{kip}
~~2601-28-10~~

¹ N/A if 3 trial pressure spread > $25,000 / A = 114.2$ psi
² Re-tension P' range: $P'_{min} = (F_p - k) \times 1,000 / A = N/A$ psig < $P' < P'_{max} = [(1,394 \times N_w / 169) - k] \times 1,000 / A = N/A$ psig
For Re-Tension Only: $F_p < \text{End Lift-Off Force} < 1394 \times N_w / 169$; N/A < N/A < N/A Yes / No (Circle One)
Notes: None

Recorded by: Signature Thomas C. Dots Date 8-18-09 / Reviewed by: Signature W. Bruce Patten Date 8-20-09
QV

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Surveillance No. 35th YEAR Tendon ID V-90 Predicted Force (F_p) 1204 kip Tendon End (Circle One): Shop / Field
 Phase (Circle One): As-found / Re-Tension Ram ID 9371 Ram Calibration Constants: $A = 220.068$ $k = -3.524$
 Date 8-18-09 Temp: RB Interior 125 °F / Concrete Surface 89 °F No. Effective Wires, N_w 169 Shim Stack Ht. 15 in.
 WRR 8-19-09

CAUTION

DO NOT EXCEED A RAM PRESSURE OF $[(1,592 \times N_w / 169) - k] \times 1,000 / A = 7220.0820 \times 8-20-09$
 $= 6315.57$ psig

| Trial | Lift-Off Pressure, psig | Consecutive Three Trial Pressure Spread psi | Consecutive Three Trial Pressure Average p^1 psig ^{1,2} | Stressing Washer Rotation | | For Re-tension Only, List Nominal Thickness of Each Shim Starting at Shim in Contact with Anchorhead |
|-------|-------------------------|---|--|---------------------------|---------------------------|--|
| | | | | At Feeler Gage Insertion | Rotation, Turns CW or CCW | |
| 1 | <u>5470</u> | <u>N/A</u> | <u>N/A</u> | At Trial 1 | <u>0</u> | <u>N/A</u> in. |
| 2 | <u>6470</u> | <u>N/A</u> | <u>N/A</u> | At Trial 2 | <u>0</u> | " |
| 3 | <u>5470</u> | <u>0</u> | <u>5470</u> | At Trial 3 | <u>0</u> | " |
| 4 | | | | At Trial 4 | | " |
| 5 | | | | At Trial 5 | | " |
| 6 | | | | At Trial 6 | | " |
| 7 | | | | At Trial 7 | | " |
| 8 | | | | Sum | | " |
| 9 | | | | | | " |
| 10 | | | | | | " |

End Lift-Off Force = $(A \times P' / 1,000) = k = 1206.96$ kip
 1199.91
 8-20-4-10

¹ N/A if 3 trial pressure spread > 25,000 / A = 113.63 psi

² Re-tension P' range: $P'_{min} = (F_p - k) \times 1,000 / A =$ N/A psig < $P' < P'_{max} = [(1,394 \times N_w / 169) - k] \times 1,000 / A =$ N/A psig

For Re-Tension Only: $F_p < \text{End Lift-Off Force} < 1394 \times N_w / 169$; N/A < N/A < N/A Yes / No (Circle One)

Notes: NONE

Recorded by: Signature W. Rana Patel Date 8-19-09 / Reviewed by: Signature Tommy C. [Signature] Date 8-20-09
 QV

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Surveillance No. 35th y.r. Tendon ID V-132 Predicted Force (F_p) 1204 kip Tendon End (Circle One): (Shop) / Field
Phase (Circle One): (As-found) / Re-Tension Ram ID 9371 Ram Calibration Constants: $A = 220.008$ $k = -3.524$
Date 8-13-09 Temp: RB Interior 124 °F / Concrete Surface 79 °F No. Effective Wires, N_w 169 Shim Stack Ht. 15.5 in.

CAUTION

DO NOT EXCEED A RAM PRESSURE OF $[(1,592 \times N_w / 169) - k] \times 1,000 / A = 7220.08$ ~~6315.57~~ ^{10/8/20-09} psig

| Trial | Lift-Off Pressure, psig | Consecutive Three Trial Pressure Spread psi | Consecutive Three Trial Pressure Average $p^{1,2}$ psig | Stressing Washer Rotation | | For Re-tension Only, List Nominal Thickness of Each Shim Starting at Shim in Contact with Anchorhead in. |
|-------|-------------------------|---|---|---------------------------|---------------------------|--|
| | | | | At Feeler Gage Insertion | Rotation, Turns CW or CCW | |
| 1 | <u>5490</u> | <u>N/A</u> | <u>N/A</u> | At Trial 1 | <u>0</u> | <u>N/A</u> |
| 2 | <u>5500</u> | <u>N/A</u> | <u>N/A</u> | At Trial 2 | <u>0</u> | " |
| 3 | <u>5500</u> | <u>10</u> | <u>5496.66</u> | At Trial 3 | <u>0</u> | " |
| 4 | | | | At Trial 4 | | " |
| 5 | | | | At Trial 5 | | " |
| 6 | | | | At Trial 6 | | " |
| 7 | | | | At Trial 7 | | " |
| 8 | | | | Sum | | " |
| 9 | | | | | | " |
| 10 | | | | | | " |

End Lift-Off Force = $(A \times P' / 1,000) = k = 1212.83$ ~~1205.78~~ ^{8/20-09} kip

¹ N/A if 3 trial pressure spread > 25,000 / A = 113.63 psi

² Re-tension P' range: $P'_{min} = (F_p - k) \times 1,000 / A =$ N/A psig < $P' < P'_{max} = [(1,394 \times N_w / 169) - k] \times 1,000 / A =$ N/A psig

For Re-Tension Only: $F_p < \text{End Lift-Off Force} < 1394 \times N_w / 169$; N/A < N/A < N/A Yes / No (Circle One)

Notes: None

Recorded by: Signature W. Lance Polter Date 8-13-09 / Reviewed by: Signature [Signature] Date 8-20-09

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Surveillance No. 35th yr. Tendon ID D-122 Predicted Force (F_p) 1082 kip Tendon End (Circle One) Shop / Field
Phase (Circle One): As-found / Re-Tension Ram ID 9371 Ram Calibration Constants: $A = 220.008$ $k = -3.524$
Date 8-17-09 Temp: RB Interior 126 °F / Concrete Surface 85 °F No. Effective Wires, N_w 169 Shim Stack Ht. 5.65 in.

CAUTION

DO NOT EXCEED A RAM PRESSURE OF $[(1,592 \times N_w / 169) - k] \times 1,000 / A = \frac{2220.08 \cdot 169 \cdot 8-20-09}{6315.57}$ psig

| Trial | Lift-Off Pressure, psig | Consecutive Three Trial Pressure Spread psi | Consecutive Three Trial Pressure Average $p^{1,2}$ psig | Stressing Washer Rotation | | For Re-tension Only, List Nominal Thickness of Each Shim Starting at Shim in Contact with Anchorhead |
|-------|-------------------------|---|---|---------------------------|---------------------------|--|
| | | | | At Feeler Gage Insertion | Rotation, Turns CW or CCW | |
| 1 | <u>5070</u> | <u>N/A</u> | <u>N/A</u> | At Trial 1 | <u>0</u> | <u>N/A</u> in. |
| 2 | <u>5060</u> | <u>N/A</u> | <u>N/A</u> | At Trial 2 | <u>0</u> | " |
| 3 | <u>5060</u> | <u>10</u> | <u>5063.33</u> | At Trial 3 | <u>0</u> | " |
| 4 | | | | At Trial 4 | | " |
| 5 | | | | At Trial 5 | | " |
| 6 | | | | At Trial 6 | | " |
| 7 | | | | At Trial 7 | | " |
| 8 | | | | Sum | | " |
| 9 | | | | | | " |
| 10 | | | | | | " |

End Lift-Off Force = $(A \times P' / 1,000) = k = \frac{1117.19}{1110.97}$ kip
280 1-29-10

¹ N/A if 3 trial pressure spread > 25,000 / A = 113.63 psi

² Re-tension P' range: $P'_{min} = (F_p - k) \times 1,000 / A = \frac{N/A}{}$ psig < $P' < P'_{max} = [(1,394 \times N_w / 169) - k] \times 1,000 / A = \frac{N/A}{}$ psig

For Re-Tension Only: $F_p < \text{End Lift-Off Force} < 1394 \times N_w / 169$; N/A < N/A < N/A Yes / No (Circle One)

Notes: None

Recorded by: Signature W. Renee Foll Date 8-17-09 / Reviewed by: Signature [Signature] Date 8-20-09

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Surveillance No. 35TH yr. Tendon ID D-122 Predicted Force (F_p) 1082 kip Tendon End (Circle One): Shop / Field
 Phase (Circle One): As-found / Re-Tension Ram ID 9371 Ram Calibration Constants: $A = \underline{220.599}$ $k = \underline{-5.486}$
 Date 11-13-09 Temp: RB Interior 72 °F / Concrete Surface 46 °F No. Effective Wires, N_w 169 Shim Stack Ht. 7.00 in.

CAUTION
DO NOT EXCEED A RAM PRESSURE OF $[(1,592 \times N_w / 169) - k] \times 1,000 / A = \underline{7241.58}$ psig

| Trial | Lift-Off Pressure, psig | Consecutive Three Trial Pressure Spread psi | Consecutive Three Trial Pressure Average $p^{1,2}$ psig | Stressing Washer Rotation | | For Re-tension Only, List Nominal Thickness of Each Shim Starting at Shim in Contact with Anchorhead |
|-------|-------------------------|---|---|--|---------------------------|--|
| | | | | At Feeler Gage Insertion | Rotation, Turns CW or CCW | |
| 1 | <u>5140</u> | <u>N/A</u> | <u>N/A</u> | At Trial 1 | <u>0</u> | <u>n/a</u> in. |
| 2 | <u>5140</u> | <u>N/A</u> | <u>N/A</u> | At Trial 2 | <u>0</u> | _____ |
| 3 | <u>5140</u> | <u>0</u> | <u>5140</u> | At Trial 3 | <u>0</u> | _____ |
| 4 | _____ | _____ | _____ | At Trial 4 | _____ | _____ |
| 5 | _____ | _____ | _____ | At Trial 5 | _____ | _____ |
| 6 | _____ | _____ | _____ | At Trial 6 | _____ | _____ |
| 7 | _____ | _____ | _____ | At Trial 7 | _____ | _____ |
| 8 | _____ | _____ | _____ | Sum | <u>0</u> | _____ |
| 9 | _____ | _____ | _____ | End Lift-Off Force = $(A \times P' / 1,000) = k = \underline{1122.39}$ kip | | |
| 10 | _____ | _____ | _____ | _____ | _____ | _____ |

¹ N/A if 3 trial pressure spread > $25,000 / A = \underline{113}$ psi

² Re-tension P' range: $P'_{min} = (F_p - k) \times 1,000 / A = \underline{n/a}$ psig < $P' < P'_{max} = [(1,394 \times N_w / 169) - k] \times 1,000 / A = \underline{n/a}$ psig

For Re-Tension Only: $F_p < \text{End Lift-Off Force} < 1394 \times N_w / 169$; n/a < n/a < n/a Yes / No (Circle One)

Notes: none

Recorded by: Signature [Signature] Date 11-13-09 / Reviewed by: Signature [Signature] Date 11/13
QV

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Surveillance No. 35th yr. Tendon ID D-225 Predicted Force (F_p) 1067 kip Tendon End (Circle One): Shop / Field
 Phase (Circle One): As-found / Re-Tension Ram ID 9370 Ram Calibration Constants: $A = 218.894$ $k = -2.248$
 Date 8-11-09 Temp: RB Interior 123.5 °F / Concrete Surface 80 °F No. Effective Wires, N_w 169 Shim Stack Ht. 7.9 in.

CAUTION

DO NOT EXCEED A RAM PRESSURE OF $[(1,592 \times N_w / 169) - k] \times 1,000 / A = \frac{7262.65}{6352.20} \text{ psig}$ WR 828-09

| Trial | Lift-Off Pressure, psig | Consecutive Three Trial Pressure Spread psi | Consecutive Three Trial Pressure Average $p^{1,2}$ psig | Stressing Washer Rotation | | For Re-tension Only, List Nominal Thickness of Each Shim Starting at Shim in Contact with Anchorhead |
|-------|-------------------------|---|---|---------------------------|---------------------------|--|
| | | | | At Feeler Gage Insertion | Rotation, Turns CW or CCW | |
| 1 | <u>5008</u> | <u>N/A</u> | <u>N/A</u> | At Trial 1 | <u>0</u> | <u>N/A</u> in. |
| 2 | <u>5009</u> | <u>N/A</u> | <u>N/A</u> | At Trial 2 | <u>0</u> | " |
| 3 | <u>5006</u> | <u>3</u> | <u>5007.66</u> | At Trial 3 | <u>0</u> | " |
| 4 | | | | At Trial 4 | | " |
| 5 | | | | At Trial 5 | | " |
| 6 | | | | At Trial 6 | | " |
| 7 | | | | At Trial 7 | | " |
| 8 | | | | Sum | | " |
| 9 | | | | | | " |
| 10 | | | | | | " |

End Lift-Off Force = $(A \times P' / 1,000) = k = \frac{109870}{1093.90} \text{ kip}$
~~2001-28-10~~

¹ N/A if 3 trial pressure spread > 25,000 / A = 114.21 psi

² Re-tension P' range: $P'_{min} = (F_p - k) \times 1,000 / A = \text{N/A}$ psig < $P' < P'_{max} = [(1,394 \times N_w / 169) - k] \times 1,000 / A = \text{N/A}$ psig

For Re-Tension Only: $F_p < \text{End Lift-Off Force} < 1394 \times N_w / 169$; N/A < N/A < N/A Yes / No (Circle One)

Notes: None

Recorded by: Signature [Signature] Date 8-18-09 / Reviewed by: Signature [Signature] Date 8-20-09
8-11-09 7.63.8-11-09 QV

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Surveillance No. 35th yr. Tendon ID D 225 Predicted Force (F_p) 1067 kip Tendon End (Circle One): Shop Field
 Phase (Circle One) As-found / Re-Tension Ram ID 9370 Ram Calibration Constants: $A = 218,894$ $k = -2,248$
 Date 8-12-09 Temp: RB Interior 124 °F / Concrete Surface 89 °F No. Effective Wires, N_w 169 Shim Stack Ht. 4.7 in.

CAUTION

DO NOT EXCEED A RAM PRESSURE OF $[(1,592 \times N_w / 169) - k] \times 1,000 / A = \frac{7262.65}{6352.20}$ ^{WR 8-20-09} _{psig}

| Trial | Lift-Off Pressure, psig | Consecutive Three Trial Pressure Spread psi | Consecutive Three Trial Pressure Average $p^{1,2}$ psig | Stressing Washer Rotation | | For Re-tension Only, List Nominal Thickness of Each Shim Starting at Shim in Contact with Anchorhead |
|-------|-------------------------|---|---|---------------------------|---------------------------|--|
| | | | | At Feeler Gage Insertion | Rotation, Turns CW or CCW | |
| 1 | <u>4965</u> | <u>N/A</u> | <u>N/A</u> | At Trial 1 | <u>0</u> | <u>N/A</u> in. |
| 2 | <u>4950</u> | <u>N/A</u> | <u>N/A</u> | At Trial 2 | <u>0</u> | " |
| 3 | <u>4953</u> | <u>15</u> | <u>4956</u> | At Trial 3 | <u>0</u> | " |
| 4 | | | | At Trial 4 | | " |
| 5 | | | | At Trial 5 | | " |
| 6 | | | | At Trial 6 | | " |
| 7 | | | | At Trial 7 | | " |
| 8 | | | | Sum | | " |
| 9 | | | | | | " |
| 10 | | | | | | " |

End Lift-Off Force = $(A \times P' / 1,000) = k = \frac{1087.08}{1082.59}$ kip
_{8810 1-39-10}

¹ N/A if 3 trial pressure spread > 25,000 / A = 114.21 psi

² Re-tension P' range: $P'_{min} = (F_p - k) \times 1,000 / A = \frac{N/A}{N/A}$ psig < $P' < P'_{max} = [(1,394 \times N_w / 169) - k] \times 1,000 / A = \frac{N/A}{N/A}$ psig

For Re-Tension Only: $F_p < \text{End Lift-Off Force} < 1394 \times N_w / 169$; N/A < N/A < N/A Yes / No. (Circle One)

Notes: None

Recorded by: Signature [Signature] Date 8-18-09 / Reviewed by: Signature W. Ramo Poldo Date 8-20-09
QV

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Surveillance No. 35TH 1R Tendon ID D-322 Predicted Force (F_p) 1128 kip Tendon End (Circle One): Shop / Field
Phase (Circle One): As-found / Re-Tension; Ram ID 9.370 Ram Calibration Constants: $A = 320.472$ $k = -4.255$
Date 11-16-09 Temp: RB Interior 71 °F / Concrete Surface 48 °F No. Effective Wires, N_w 169 Shim Stack Ht. 6.65 in.

CAUTION

DO NOT EXCEED A RAM PRESSURE OF $[(1.592 \times N_w / 169) - k] \times 1,000 / A = 7240.17$ psig

| Trial | Lift-Off Pressure, psig | Consecutive Three Trial Pressure Spread, psi | Consecutive Three Trial Pressure Average $p^{1,2}$, psig | Stressing Washer Rotation | | For Re-tension Only, List Nominal Thickness of Each Shim Starting at Shim in Contact with Anchorhead |
|-------|-------------------------|--|---|---------------------------|---------------------------|--|
| | | | | At Feeler Gage Insertion | Rotation, Turns CW or CCW | |
| 1 | <u>5180</u> | <u>N/A</u> | <u>N/A</u> | At Trial 1 | <u>0</u> | <u>n/a</u> in. |
| 2 | <u>5180</u> | <u>N/A</u> | <u>N/A</u> | At Trial 2 | <u>0</u> | " |
| 3 | <u>5180</u> | <u>0</u> | <u>5180</u> | At Trial 3 | <u>0</u> | " |
| 4 | | | | At Trial 4 | | " |
| 5 | | | | At Trial 5 | | " |
| 6 | | | | At Trial 6 | | " |
| 7 | | | | At Trial 7 | | " |
| 8 | | | | Sum | <u>0</u> | " |
| 9 | | | | | | " |
| 10 | | | | | | " |

End Lift-Off Force = $(A \times P' / 1,000) = k = 1137.78$ kip

¹ N/A if 3 trial pressure spread > $25,000 / A = 113$ psi

² Re-tension P range: $P'_{min} = (F_p - k) \times 1,000 / A = N/A$ psig < $P' < P'_{max} = [(1,394 \times N_w / 169) - k] \times 1,000 / A = N/A$ psig

For Re-Tension Only: $F_p < \text{End Lift-Off Force} < 1394 \times N_w / 169$; N/A < N/A < N/A Yes / No (Circle One)

Notes: NONE

Recorded by: Signature [Signature] Date 11-16-09 / Reviewed by: Signature [Signature] Date 2/2/10
QV

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Lift-Off Force Measurement

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Surveillance No. 35TH yr. Tendon ID D-322 Predicted Force (F_p) 1128 kip Tendon End (Circle One): Shop / **Field**
 Phase (Circle One): **As-found** / Re-Tension | Ram ID 9371 Ram Calibration Constants: $A = 220.599$ $k = -5.486$
 Date 11-16-09 Temp: RB Interior 71 °F / Concrete Surface 50 °F No. Effective Wires, N_w 169 Shim Stack Ht. 6.40 in.

CAUTION

DO NOT EXCEED A RAM PRESSURE OF $[(1.592 \times N_w / 169) - k] \times 1,000 / A = 7241.58$ psig

| Trial | Lift-Off Pressure, psig | Consecutive Three Trial Pressure Spread psi | Consecutive Three Trial Pressure Average $p^{1,2}$ psig | Stressing Washer Rotation | | For Re-tension Only, List Nominal Thickness of Each Shim Starting at Shim in Contact with Anchorhead in. |
|-------|-------------------------|---|---|---------------------------|---------------------------|--|
| | | | | At Feeler Gage Insertion | Rotation, Turns CW or CCW | |
| 1 | <u>5160</u> | <u>N/A</u> | <u>N/A</u> | At Trial 1 | <u>0</u> | <u>N/A</u> |
| 2 | <u>5160</u> | <u>N/A</u> | <u>N/A</u> | At Trial 2 | <u>0</u> | |
| 3 | <u>5160</u> | <u>0</u> | <u>5160</u> | At Trial 3 | <u>0</u> | |
| 4 | | | | At Trial 4 | | |
| 5 | | | | At Trial 5 | | |
| 6 | | | | At Trial 6 | | |
| 7 | | | | At Trial 7 | | |
| 8 | | | | Sum | <u>0</u> | |
| 9 | | | | | | |
| 10 | | | | | | |

End Lift-Off Force = $(A \times P' / 1,000) = k = 1122.8$ kip

¹ N/A if 3 trial pressure spread $> 25,000 / A = 113$ psi

² Re-tension P range: $P'_{min} = (F_p - k) \times 1,000 / A = N/A$ psig $< P' < P'_{max} = [(1,394 \times N_w / 169) - k] \times 1,000 / A = N/A$ psig

For Re-Tension Only: $F_p < \text{End Lift-Off Force} < 1394 \times N_w / 169$; N/A $<$ N/A $<$ N/A Yes / No (Circle One)

Notes: NONE

Recorded by: Signature [Signature] Date 11-16-09 / Reviewed by: Signature [Signature] Date 2/2/10
QV

DATA SHEET 1
Lift-Off Force Measurement

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Surveillance No. 35th yr. Tendon ID D-342 Predicted Force (F_p) 1116 kip Tendon End (Circle One): Shop / Field
 Phase (Circle One): As-found / Re-Tension Ram ID 9370 Ram Calibration Constants: $A = 218.894$ $k = -2.248$
 Date 8-17-09 Temp: RB Interior 126 °F / Concrete Surface 81 °F No. Effective Wires, N_w 169 Shim Stack Ht. 5.4 in.

CAUTION

7262.65 ~~762~~ 8-20-09

DO NOT EXCEED A RAM PRESSURE OF $[(1,592 \times N_w / 169) - k] \times 1,000 / A = 6352.20$ psig

| Trial | Lift-Off Pressure, psig | Consecutive Three Trial Pressure Spread psi | Consecutive Three Trial Pressure Average p^1 psig ^{1,2} | Stressing Washer Rotation | | For Re-tension Only, List Nominal Thickness of Each Shim Starting at Shim in Contact with Anchorhead |
|-------|-------------------------|---|--|---------------------------|---------------------------|--|
| | | | | At Feeler Gage Insertion | Rotation, Turns CW or CCW | |
| 1 | <u>5121</u> | <u>N/A</u> | <u>N/A</u> | At Trial 1 | <u>0</u> | <u>N/A</u> in. |
| 2 | <u>5118</u> | <u>N/A</u> | <u>N/A</u> | At Trial 2 | <u>0</u> | " |
| 3 | <u>5116</u> | <u>5</u> | <u>5118.33</u> | At Trial 3 | <u>0</u> | " |
| 4 | | | | At Trial 4 | | " |
| 5 | | | | At Trial 5 | | " |
| 6 | | | | At Trial 6 | | " |
| 7 | | | | At Trial 7 | | " |
| 8 | | | | Sum | | " |
| 9 | | | | | | " |
| 10 | | | | | | " |

End Lift-Off Force = $(A \times P' / 1,000) + k = 1118.12$ kip
~~1122.61~~
 8-21-09

¹ N/A if 3 trial pressure spread > 25,000 / A = 114.21 psi

² Re-tension P' range: $P'_{min} = (F_p - k) \times 1,000 / A =$ N/A psig < $P' < P'_{max} = [(1,394 \times N_w / 169) - k] \times 1,000 / A =$ N/A psig

For Re-Tension Only: $F_p < \text{End Lift-Off Force} < 1394 \times N_w / 169$; N/A < N/A < N/A Yes / No (Circle One)

Notes: None

Recorded by: Signature [Signature] Date 8-17-09 / Reviewed by: Signature [Signature] Date 8-21-09
 QV

DATA SHEET 1
Lift-Off Force Measurement

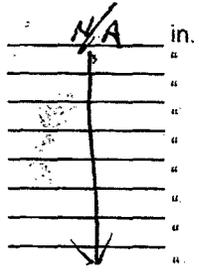
1301-9.1
Revision 20
Page 1 of 1

Surveillance No. 35th year Tendon ID D 342 Predicted Force (F_p) 1116 kip Tendon End (Circle One): Shop / Field
Phase (Circle One) As-found / Re-Tension Ram ID 9371 Ram Calibration Constants: $A = 220.608$ k = -3.524
Date 8-17-09 Temp: RB Interior 126 °F / Concrete Surface 110 °F No. Effective Wires, N_w 169 Shim Stack Ht. 5.1 in.

CAUTION 7220.08 7.68 8-20-09
DO NOT EXCEED A RAM PRESSURE OF $[(1,592 \times N_w / 169) - k] \times 1,000 / A = 6315.57$ psig

| Trial | Lift-Off Pressure, psig | Consecutive Three Trial Pressure Spread psi | Consecutive Three Trial Pressure Average p^1 psig ^{1,2} | Stressing Washer Rotation | | For Re-tension Only, List Nominal Thickness of Each Shim Starting at Shim in Contact with Anchorhead |
|-------|-------------------------|---|--|---------------------------|---------------------------|--|
| | | | | At Feeler Gage Insertion | Rotation, Turns CW or CCW | |
| 1 | <u>5390</u> | <u>N/A</u> | <u>N/A</u> | At Trial 1 | <u>0</u> | <u>N/A</u> in. |
| 2 | <u>5390</u> | <u>N/A</u> | <u>N/A</u> | At Trial 2 | <u>0</u> | " |
| 3 | <u>5380</u> | <u>10</u> | <u>5386.66</u> | At Trial 3 | <u>0</u> | " |
| 4 | | | | At Trial 4 | | " |
| 5 | | | | At Trial 5 | | " |
| 6 | | | | At Trial 6 | | " |
| 7 | | | | At Trial 7 | | " |
| 8 | | | | Sum | | " |
| 9 | | | | | | " |
| 10 | | | | | | " |

End Lift-Off Force = $(A \times P' / 1,000) = k = \frac{1181.58}{1160.57}$ kip
999.1-29-10



¹ N/A if 3 trial pressure spread > $25,000 / A = 113.63$ psi

² Re-tension P' range: $P'_{min} = (F_p - k) \times 1,000 / A = N/A$ psig < $P' < P'_{max} = [(1,394 \times N_w / 169) - k] \times 1,000 / A = N/A$ psig

For Re-Tension Only: $F_p < \text{End Lift-Off Force} < 1394 \times N_w / 169$; N/A < N/A < N/A Yes / No (Circle One)

Notes: NONE

Recorded by: Signature W. Lance Roberts Date 8-17-09 / Reviewed by: Signature Kenny C. Soto Date 8-20-09
QV

TM-N1043: APPENDIX A
Revision 0, Page 227 of 350



Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1

Tendon No.: H51-49 Tendon End: Butt 5 Shop Field

Removal Date: 11-11-09 Inspection Date: 11-11-09

WIRE REMOVAL INSPECTION

CORROSION INSPECTION @ LENGTH INTERVALS

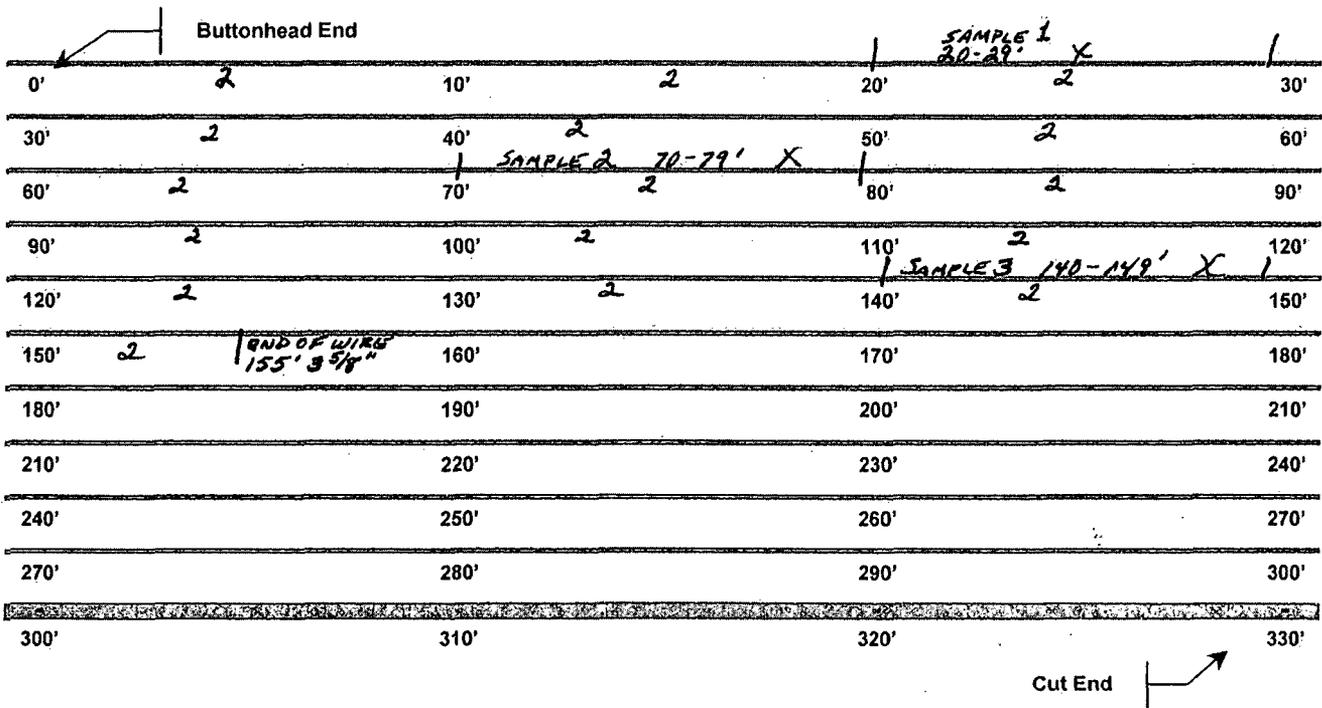
(8.5.4.1.1) Document the Corrosion Category for each 10' of wire in the increments below. Use Categories described in PSC SQ 8.0.

For Corrosion Level E document condition on an NCR.

NCR Req'd: NO YES NCR# N/A

(8.5.4.3.1) Document the total length of the wire on the diagram below.

Completed: NO YES



(8.5.4.6.2) Was the wire cut for samples: NO YES document the area of removal above using symbol X.

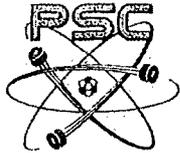
(8.7) Document the location of wire removed on Data Sheet 8.0, ANCHORAGE INSPECTION: Completed

(8.8) Measuring Device: 24" STEEL RANGER ID Number: R-22 Recal Date: 4-6-10

(8.8) Wire Pull Ram ID Number: N/A

Q.C Inspector: [Signature] Level: II Date: 11-11-09

QC Reviewed: [Signature] Level: III Date: 2/2/10



Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1
Tendon No.: M51-49

WIRE TEST DOCUMENTATION

(8.5.2) Sample No.: 1

Wire ID and Location of removal: SAMPLE 7 20-29 feet Length: 108 in.

(8.6.1) Wire Diameters: Tag End .250 in. Middle .250 in. Ram End .250 in. Avg. .250 in.

Measuring Device ID: QC 79 Recal Date: 6-29-10

(8.9.1) Buttonhead Inspection: Tag End OK Ram End OK

(8.10.1) Gauge Length of Wire: 100 in. Measuring Device ID: R-88 Recal Date: 12-29-10

(8.12.1) Preload force: 2.45 kips

Preload pressure: 1390 psi Pressure Gauge ID: A-005 Recal Date: DAILY ON USE

Ram ID: 7702 Ram Area: 1.696 in² K = 0.091 kips Recal Date: JOB END

(8.13.1) Force reduced to zero (0): OK

(8.14.1) Initial load of wire force: 1.42 kips (0.1% elongation)

Initial load of pressure: 780 psi Elongation: 13.90 in.

(8.15.1) Preset Dial Indicator: OK (0.9% elongation) Indicator ID: ECC24 Recal Date: 12-29-10

(8.16.1) Force at 1% elongation: 10.91 kips Pressure: 6380 psi

(8.17.1) "Rule" reading measurement at 1% elongation: 14.80 in.

(8.18.1) Maximum elongation at failure, from "Rule" reading: 19.20 in.

(8.18.2) Maximum force at failure: 13.86 kips Pressure: 9120 psi

(8.20) Type of break: DUCTILE Location of break: 1" OPPOSITE RAM END in.

CALCULATIONS:

(8.21.1) Ultimate Stress: 282.389 ksi Stress (ksi) = Force (kips) ÷ [π (dia²) ÷ 4] (in²)

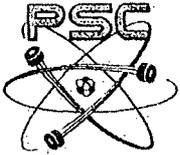
(8.21.2) Yield Stress @ 1% elongation: 222.275 ksi Stress (ksi) = Force (kips) @ 1% ÷ [π (dia²) ÷ 4] (in²)

(8.21.3) % elongation @ failure: 5.40 % [1 in. + ("Rule" Dimension @ Failure - "Rule" Dimension @ 1%)]

(8.21.4) Results: Acceptable Unacceptable Customer Notified NCR No.: N/A

QC Inspector: [Signature] Level: II Date: 12-29-09

QC Reviewed: [Signature] Level: III Date: 12/29/09



Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1
Tendon No.: H51-49

WIRE TEST DOCUMENTATION

(8.5.2) Sample No.: 2

Wire ID and Location of removal: SAMPLE 2 feet Length: 108 in.

(8.6.1) Wire Diameters: Tag End .250 in. Middle .250 in. Ram End .250 in. Avg. .250 in.

Measuring Device ID: GC 79 Recal Date: 6-29-10

(8.9.1) Buttonhead Inspection: Tag End OK Ram End OK

(8.10.1) Gauge Length of Wire: 100 in. Measuring Device ID: R-88 Recal Date: 12-29-10

(8.12.1) Preload force: 2.45 kips

Preload pressure: 1390 psi Pressure Gauge ID: A-005 Recal Date: 12-29-10

Ram ID: 7702 Ram Area: 1.696 in² K = 0.091 kips Recal Date: JOB END

(8.13.1) Force reduced to zero (0): OK

(8.14.1) Initial load of wire force: 1.42 kips (0.1% elongation)

Initial load of pressure: 780 psi Elongation: 13.90 in.

(8.15.1) Preset Dial Indicator: OK (0.9% elongation) Indicator ID: ECC24 Recal Date: 12-29-10

(8.16.1) Force at 1% elongation: 10.84 kips Pressure: 6340 psi

(8.17.1) "Rule" reading measurement at 1% elongation: 14.80 in.

(8.18.1) Maximum elongation at failure, from "Rule" reading: 19.00 in.

(8.18.2) Maximum force at failure: 13.72 kips Pressure: 8040 psi

(8.20) Type of break: DUCTILE Location of break: 1" RAM END in.

CALCULATIONS:

(8.21.1) Ultimate Stress: 279.625 ksi Stress (ksi) = Force (kips) ÷ [π (dia²) ÷ 4] (in²)

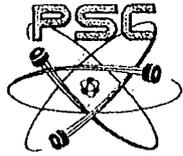
(8.21.2) Yield Stress @ 1% elongation: 220.893 ksi Stress (ksi) = Force (kips) @ 1% ÷ [π (dia²) ÷ 4] (in²)

(8.21.3) % elongation @ failure: 5.20 % [1 in. + ("Rule" Dimension @ Failure - "Rule" Dimension @ 1%)]

(8.21.4) Results: Acceptable Unacceptable Customer Notified NCR No.: N/A

QC Inspector: [Signature] Level: II Date: 12-29-09

QC Reviewed: [Signature] Level: III Date: 12/29/09



Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1
Tendon No.: H51-49

WIRE TEST DOCUMENTATION

(8.5.2) Sample No.: 3

Wire ID and Location of removal: SAMPLE 3 140-149 feet Length: 108 in.

(8.6.1) Wire Diameters: Tag End .250 in. Middle .250 in. Ram End .250 in. Avg. .250 in.

Measuring Device ID: QC 79 Recal Date: 6-29-10

(8.9.1) Buttonhead Inspection: Tag End OK Ram End OK

(8.10.1) Gauge Length of Wire: 100 in. Measuring Device ID: R-88 Recal Date: 12-29-10

(8.12.1) Preload force: 2.45 kips

Preload pressure: 1390 psi Pressure Gauge ID: A-005 Recal Date: ONLY ON REC

Ram ID: 7702 Ram Area: 1.696 in² K = 0.091 kips Recal Date: JOB END

(8.13.1) Force reduced to zero (0): OK

(8.14.1) Initial load of wire force: 1.42 kips (0.1% elongation)

Initial load of pressure: 780 psi Elongation: 13.90 in.

(8.15.1) Preset Dial Indicator: OK (0.9% elongation) Indicator ID: FCC24 Recal Date: 12-29-10

(8.16.1) Force at 1% elongation: 11.14 kips Pressure: 6520 psi

(8.17.1) "Rule" reading measurement at 1% elongation: 14.80 in.

(8.18.1) Maximum elongation at failure, from "Rule" reading: 18.90 in.

(8.18.2) Maximum force at failure: 13.65 kips Pressure: 8000 psi

(8.20) Type of break: DUCTILE Location of break: 1" FROM END in.

CALCULATIONS:

(8.21.1) Ultimate Stress: 278.244 ksi Stress (ksi) = Force (kips) ÷ [π (dia²) ÷ 4] (in²)

(8.21.2) Yield Stress @ 1% elongation: 227.111 ksi Stress (ksi) = Force (kips) @ 1% ÷ [π (dia²) ÷ 4] (in²)

(8.21.3) % elongation @ failure: 5.10 % [1 in. + ("Rule" Dimension @ Failure - "Rule" Dimension @ 1%)]

(8.21.4) Results: Acceptable Unacceptable Customer Notified NCR No.: N/A

QC Inspector: [Signature] Level: II Date: 12-29-09

QC Reviewed: [Signature] Level: III Date: 12/29/09



Project: TMI 35TH YEAR TENDON SURVEILLANCE

UNIT 1

Tendon No.: V-90

Tendon End: TOP

Shop

Field

Removal Date: 8-19-09

Inspection Date: 8-19-09

WIRE REMOVAL INSPECTION

CORROSION INSPECTION @ LENGTH INTERVALS

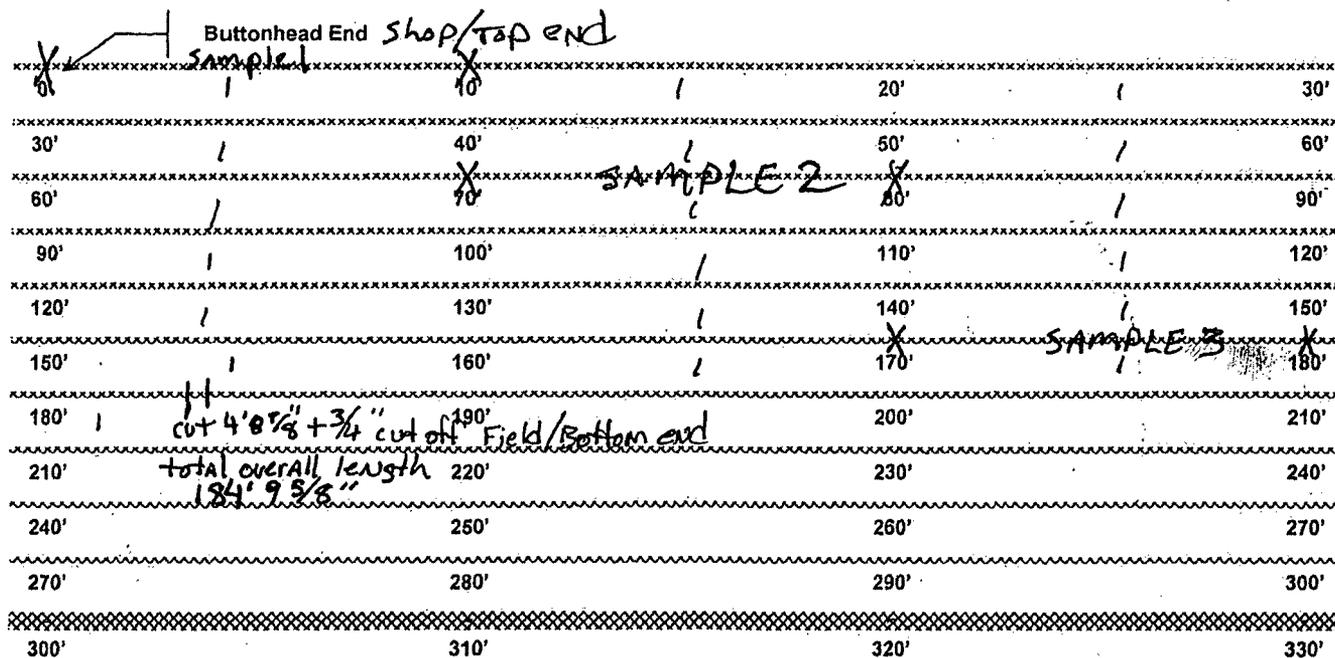
(8.5.4.1.1) Document the Corrosion Category for each 10' of wire in the increments below. Use Categories described in PSC SQ 8.0.

For Corrosion Level E document condition on an NCR.

NCR Req'd: NO YES NCR# N/A

(8.5.4.3.1) Document the total length of the wire on the diagram below.

Completed: NO YES



(8.5.4.6.2) Was the wire cut for samples: NO YES document the area of removal above using symbol **x**.

(8.7) Document the location of wire removed on Data Sheet 8.0, ANCHORAGE INSPECTION: N/A Completed

(8.8) Measuring Device: R-21 Steel scale ID Number: R-21 Recal Date: 4-6-10

(8.8) Wire Pull Ram ID Number: N/A

Q.C Inspector: W. Lance Robb

Level: II

Date: 8-19-09

QC viewed: James C. [Signature]

Level: I

Date: 8-20-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1
Tendon No.: V90

WIRE TEST DOCUMENTATION

(8.5.2) Sample No.: 1

Wire ID and Location of removal: Sample 1 0-10' feet Length: 120 in.

(8.6.1) Wire Diameters: Tag End .250 in. Middle .250 in. Ram End .250 in. Avg. .250 in.

Measuring Device ID: QC 79 Recal Date: 6-29-10

(8.9.1) Buttonhead Inspection: Tag End OK Ram End OK

(8.10.1) Gauge Length of Wire: 100 in. Measuring Device ID: R-88 Recal Date: 12-29-10

(8.12.1) Preload force: 2.45 kips

Preload pressure: 1390 psi Pressure Gauge ID: A-005 Recal Date: DAVID ON GEC

Ram ID: 7702 Ram Area: 1.696 in² K = 0.091 kips Recal Date: JOB END

(8.13.1) Force reduced to zero (0): OK

(8.14.1) Initial load of wire force: 14.2 kips (0.1% elongation)

Initial load of pressure: 780 psi Elongation: 13.90 in.

(8.15.1) Preset Dial Indicator: OK (0.9% elongation) Indicator ID: ECC24 Recal Date: 12-29-10

(8.16.1) Force at 1% elongation: 14.62 kips Pressure: 6800 psi

(8.17.1) "Rule" reading measurement at 1% elongation: 14.80 in.

(8.18.1) Maximum elongation at failure, from "Rule" reading: 19.10 in.

(8.18.2) Maximum force at failure: 14.09 kips Pressure: 8260 psi

(8.20) Type of break: DUCTILE Location of break: 1" RAM END in.

CALCULATIONS:

(8.21.1) Ultimate Stress: 287.226 ksi Stress (ksi) = Force (kips) ÷ [π (dia²) ÷ 4] (in²)

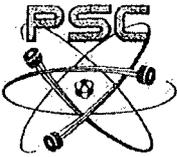
(8.21.2) Yield Stress @ 1% elongation: 236.785 ksi Stress (ksi) = Force (kips) @ 1% ÷ [π (dia²) ÷ 4] (in²)

(8.21.3) % elongation @ failure: 5.30 % [1 in. + ("Rule" Dimension @ Failure - "Rule" Dimension @ 1%)]

(8.21.4) Results: Acceptable Unacceptable Customer Notified NCR No.: n/a

QC Inspector: [Signature] Level: II Date: 12-29-09

QC Reviewed: [Signature] Level: III Date: 12/29/09



Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1
Tendon No.: V90

WIRE TEST DOCUMENTATION

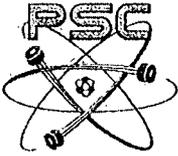
(8.5.2) Sample No.: SAMPLE 2
Wire ID and Location of removal: SAMPLE 2 70-80 feet Length: 100 in.
(8.6.1) Wire Diameters: Tag End .250 in. Middle .250 in. Ram End .250 in. Avg. .250 in.
Measuring Device ID: QC 79 Recal Date: 6-29-10
(8.9.1) Buttonhead Inspection: Tag End OK Ram End OK
(8.10.1) Gauge Length of Wire: 100 in. Measuring Device ID: R-88 Recal Date: 12-29-10
(8.12.1) Preload force: 2.45 kips
Preload pressure: 1390 psi Pressure Gauge ID: A-005 Recal Date: DAVID ON BEE
Ram ID: 7702 Ram Area: 1.696 in² K = 0.091 kips Recal Date: JOB END
(8.13.1) Force reduced to zero (0): OK
(8.14.1) Initial load of wire force: 1.42 kips (0.1% elongation)
Initial load of pressure: 780 psi Elongation: 13.90 in.
(8.15.1) Preset Dial Indicator: OK (0.9% elongation) Indicator ID: ECC24 Recal Date: 12-29-10
(8.16.1) Force at 1% elongation: 11.25 kips Pressure: 6580 psi
(8.17.1) "Rule" reading measurement at 1% elongation: 14.80 in.
(8.18.1) Maximum elongation at failure, from "Rule" reading: 19.10 in.
(8.18.2) Maximum force at failure: 14.09 kips Pressure: 8260 psi
(8.20) Type of break: DUCTILE Location of break: 42 1/4" RAMOND in.

CALCULATIONS:

(8.21.1) Ultimate Stress: 287.224 ksi Stress (ksi) = Force (kips) ÷ [π (dia²) ÷ 4] (in²)
(8.21.2) Yield Stress @ 1% elongation: 229.184 ksi Stress (ksi) = Force (kips) @ 1% ÷ [π (dia²) ÷ 4] (in²)
(8.21.3) % elongation @ failure: 5.30 % [1 in. + ("Rule" Dimension @ Failure - "Rule" Dimension @ 1%)]
(8.21.4) Results: Acceptable Unacceptable Customer Notified NCR No.: n/a

QC Inspector: David P. O'Hara Level: II Date: 12-29-09

QC Reviewed: A. Bussone Level: III Date: 12/29/09



Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1
Tendon No.: V90

WIRE TEST DOCUMENTATION

(8.5.2) Sample No.: 3
Wire ID and Location of removal: SAMPLE 3 170-180' feet Length: 120 in.
(8.6.1) Wire Diameters: Tag End .250 in. Middle .250 in. Ram End .250 in. Avg. .250 in.
Measuring Device ID: QC 79 Recal Date: 6-29-10
(8.9.1) Buttonhead Inspection: Tag End OK Ram End OK
(8.10.1) Gauge Length of Wire: 100 in. Measuring Device ID: R-88 Recal Date: 12-29-10
(8.12.1) Preload force: 2.45 kips
Preload pressure: 1390 psi Pressure Gauge ID: A-005 Recal Date: DAILY ON GGA
Ram ID: 7702 Ram Area: 1.696 in² K = 0.091 kips Recal Date: JOB END
(8.13.1) Force reduced to zero (0): OK
(8.14.1) Initial load of wire force: 1.42 kips (0.1% elongation)
Initial load of pressure: 780 psi Elongation: 13.90 in.
(8.15.1) Preset Dial Indicator: OK (0.9% elongation) Indicator ID: FCC24 Recal Date: 12-29-10
(8.16.1) Force at 1% elongation: 11.35 kips Pressure: 6640 psi
(8.17.1) "Rule" reading measurement at 1% elongation: 14.80 in.
(8.18.1) Maximum elongation at failure, from "Rule" reading: 19.10 in.
(8.18.2) Maximum force at failure: 14.06 kips Pressure: 9240 psi
(8.20) Type of break: DUCTILE Location of break: 1" RAMEND in.

CALCULATIONS:
(8.21.1) Ultimate Stress: 286.535 ksi Stress (ksi) = Force (kips) ÷ [π (dia²) ÷ 4] (in²)
(8.21.2) Yield Stress @ 1% elongation: 231.257 ksi Stress (ksi) = Force (kips) @ 1% ÷ [π (dia²) ÷ 4] (in²)
(8.21.3) % elongation @ failure: 57.30 % [1 in. + ("Rule" Dimension @ Failure - "Rule" Dimension @ 1%)]
(8.21.4) Results: Acceptable Unacceptable Customer Notified NCR No.: N/A

QC Inspector: [Signature] Level: II Date: 12-29-09
QC Reviewed: [Signature] Level: III Date: 12/29/09



Project: TMI 35TH YEAR TENDON SURVEILLANCE

UNIT 1

Tendon No.: D-322

Tendon End: N/E

Shop

Field

Removal Date: 11-16-09

Inspection Date: 11-16-09

WIRE REMOVAL INSPECTION

CORROSION INSPECTION @ LENGTH INTERVALS

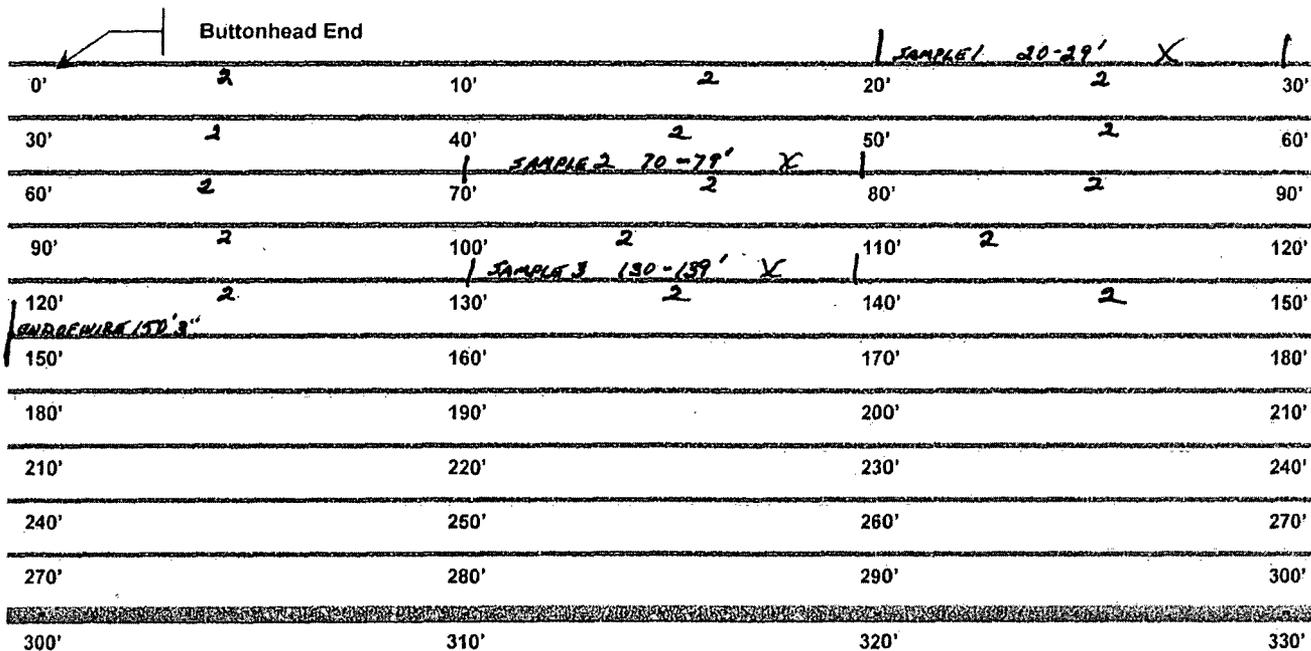
(8.5.4.1.1) Document the Corrosion Category for each 10' of wire in the increments below. Use Categories described in PSC SQ 8.0.

For Corrosion Level E document condition on an NCR.

NCR Req'd: NO YES NCR# N/A

(8.5.4.3.1) Document the total length of the wire on the diagram below.

Completed: NO YES



(8.5.4.6.2) Was the wire cut for samples: NO YES document the area of removal above using symbol X.

(8.7) Document the location of wire removed on Data Sheet 8.0, ANCHORAGE INSPECTION: Completed

(8.8) Measuring Device: 24" STEEL RULER ID Number: R-22 Recal Date: 4-6-10

(8.8) Wire Pull Ram ID Number: N/A

Q.C Inspector: [Signature] Level: II Date: 11-16-09

QC Reviewed: [Signature] Level: III Date: 2/2/10



Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1
Tendon No.: D-322

WIRE TEST DOCUMENTATION

(8.5.2) Sample No.: 1

Wire ID and Location of removal: SAMPLE 1 20-29 feet Length: 108 in.

(8.6.1) Wire Diameters: Tag End .250 in. Middle .250 in. Ram End .250 in. Avg. .250 in.
Measuring Device ID: QC 79 Recal Date: 6-29-10

(8.9.1) Buttonhead Inspection: Tag End OK Ram End OK

(8.10.1) Gauge Length of Wire: 100 in. Measuring Device ID: R-88 Recal Date: 12-29-10

(8.12.1) Preload force: 2.45 kips
Preload pressure: 1390 psi Pressure Gauge ID: A-005 Recal Date: DAILY ON BE
Ram ID: 7702 Ram Area: 1.696 in² K = 0.091 kips Recal Date: JOB END

(8.13.1) Force reduced to zero (0): OK

(8.14.1) Initial load of wire force: 1.42 kips (0.1% elongation)
Initial load of pressure: 780 psi Elongation: 14.00 in.

(8.15.1) Preset Dial Indicator: OK (0.9% elongation) Indicator ID: ECC24 Recal Date: 12-29-10

(8.16.1) Force at 1% elongation: 11.55 kips Pressure: 6760 psi

(8.17.1) "Rule" reading measurement at 1% elongation: 14.90 in.

(8.18.1) Maximum elongation at failure, from "Rule" reading: 19.20 in.

(8.18.2) Maximum force at failure: 13.86 kips Pressure: 8120 psi

(8.20) Type of break: DUCTILE Location of break: 46 3/4 OPPOSITE in.
RAM END

CALCULATIONS:

(8.21.1) Ultimate Stress: 282.389 ksi Stress (ksi) = Force (kips) ÷ [π (dia²) ÷ 4] (in²)

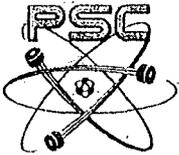
(8.21.2) Yield Stress @ 1% elongation: 235.403 ksi Stress (ksi) = Force (kips) @ 1% ÷ [π (dia²) ÷ 4] (in²)

(8.21.3) % elongation @ failure: 5.30 % [1 in. + ("Rule" Dimension @ Failure - "Rule" Dimension @ 1%)]

(8.21.4) Results: Acceptable Unacceptable Customer Notified NCR No.: N/A

QC Inspector: [Signature] Level: II Date: 12-29-09

QC Reviewed: [Signature] Level: III Date: 12/29/09



Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1
Tendon No.: D-322

WIRE TEST DOCUMENTATION

(8.5.2) Sample No.: 2
Wire ID and Location of removal: SAMPLE 2 70-79 feet Length: 108 in.
(8.6.1) Wire Diameters: Tag End .250 in. Middle .250 in. Ram End .250 in. Avg. .250 in.
Measuring Device ID: QC 79 Recal Date: 6-29-10
(8.9.1) Buttonhead Inspection: Tag End OK Ram End OK
(8.10.1) Gauge Length of Wire: 100 in. Measuring Device ID: R-88 Recal Date: 12-29-10
(8.12.1) Preload force: 2.45 kips
Preload pressure: 1390 psi Pressure Gauge ID: A-005 Recal Date: DAILY ON USE
Ram ID: 7702 Ram Area: 1.696 in² K = 0.091 kips Recal Date: TOP END
(8.13.1) Force reduced to zero (0): OK
(8.14.1) Initial load of wire force: 1.42 kips (0.1% elongation)
Initial load of pressure: 780 psi Elongation: 14.00 in.
(8.15.1) Preset Dial Indicator: OK (0.9% elongation) Indicator ID: FCC24 Recal Date: 12-29-10
(8.16.1) Force at 1% elongation: 11.35 kips Pressure: 6640 psi
(8.17.1) "Rule" reading measurement at 1% elongation: 14.90 in.
(8.18.1) Maximum elongation at failure, from "Rule" reading: 19.20 in.
(8.18.2) Maximum force at failure: 13.76 kips Pressure: 8060 psi
(8.20) Type of break: DUCTILE Location of break: 27 1/2 RAN END in.

CALCULATIONS:

(8.21.1) Ultimate Stress: 280.310 ksi Stress (ksi) = Force (kips) ÷ [π (dia²) ÷ 4] (in²)
(8.21.2) Yield Stress @ 1% elongation: 231.257 ksi Stress (ksi) = Force (kips) @ 1% ÷ [π (dia²) ÷ 4] (in²)
(8.21.3) % elongation @ failure: 5.30 % [1 in. + ("Rule" Dimension @ Failure - "Rule" Dimension @ 1%)]
(8.21.4) Results: Acceptable Unacceptable Customer Notified NCR No.: N/A

QC Inspector: [Signature] Level: II Date: 12-29-09

QC Reviewed: [Signature] Level: III Date: 12/29/09



Project: TMI 35TH YEAR TENDON SURVEILLANCE UNIT 1
Tendon No.: D-322

WIRE TEST DOCUMENTATION

(8.5.2) Sample No.: 3
Wire ID and Location of removal: SAMPLE 3 130-139 feet Length: 108 in.
(8.6.1) Wire Diameters: Tag End .250 in. Middle .250 in. Ram End .250 in. Avg. .250 in.
Measuring Device ID: QC 79 Recal Date: 6-29-10
(8.9.1) Buttonhead Inspection: Tag End OK Ram End OK
(8.10.1) Gauge Length of Wire: 100 in. Measuring Device ID: R-88 Recal Date: 12-29-10
(8.12.1) Preload force: 2.45 kips
Preload pressure: 1390 psi Pressure Gauge ID: A-005 Recal Date: DAVID ON BOA
Ram ID: 7702 Ram Area: 1.696 in² K = 0.091 kips Recal Date: JOB END
(8.13.1) Force reduced to zero (0): OK
(8.14.1) Initial load of wire force: 1.42 kips (0.1% elongation)
Initial load of pressure: 780 psi Elongation: 14.00 in.
(8.15.1) Preset Dial Indicator: OK (0.9% elongation) Indicator ID: ECC24 Recal Date: 12-29-10
(8.16.1) Force at 1% elongation: 11.42 kips Pressure: 6680 psi
(8.17.1) "Rule" reading measurement at 1% elongation: 14.90 in.
(8.18.1) Maximum elongation at failure, from "Rule" reading: 19.50 in.
(8.18.2) Maximum force at failure: 13.79 kips Pressure: 8080 psi
(8.20) Type of break: DUCTILE Location of break: 33" OPPOSITE R14 END

CALCULATIONS:

(8.21.1) Ultimate Stress: 281.007 ksi Stress (ksi) = Force (kips) ÷ [π (dia²) ÷ 4] (in²)
(8.21.2) Yield Stress @ 1% elongation: 232.639 ksi Stress (ksi) = Force (kips) @ 1% ÷ [π (dia²) ÷ 4] (in²)
(8.21.3) % elongation @ failure: 5.60 % [1 in. + ("Rule" Dimension @ Failure - "Rule" Dimension @ 1%)]
(8.21.4) Results: Acceptable Unacceptable Customer Notified NCR No.: N/A

QC Inspector: [Signature] Level: II Date: 12-29-09

QC Reviewed: [Signature] Level: III Date: 12/29/09

| | | |
|--|--|---------------------------|
| | TMI - Unit 1 Surveillance Procedure | Number 1301-9.1 |
| Title: | | Revision No. 20 |
| RB Structural Integrity Tendon Surveillance | | |

**ENCLOSURE 4
Data Sheet 1
Tendon Wire Inspection Data**

Page 4 of 5

INSPECTION PERIOD: 31ST MAR

Tendon Identification: D.322

| | | | |
|------|------------------|--------------------------------------|------|
| 0 | <u>2</u> | <u>1</u> SAMPLE | 25' |
| 25' | <u>2</u> | | 50' |
| 50' | <u>2</u> | <u>2</u> SAMPLE | 75' |
| 75' | <u>2</u> | | 100' |
| 100' | <u>2</u> | | 125' |
| 125' | <u>2</u> | <u>2</u> SAMPLE 3 <u>130-139'</u> | 150' |
| 150' | <u>corrosion</u> | | 175' |
| 175' | | | 180' |
| 180' | | | 185' |
| 185' | | | 190' |

Wire Sample Diameters

| Sample for Tensile Test ⁽²⁾ | At 1/4-Points | At Breaking Points |
|--|-----------------------|--------------------|
| Sample 1: <u>20</u> ft to <u>29</u> ft | <u>.250 .250 .250</u> | <u>.242</u> |
| Sample 2: <u>70</u> ft to <u>79</u> ft | <u>.250 .250 .250</u> | <u>.242</u> |
| Sample 3: <u>130</u> ft to <u>139</u> ft | <u>.250 .250 .250</u> | <u>.243</u> |

NOTE

1. Corrosion or any signs of deterioration shall be indicated full length as shown on the above chart.
2. Sample shall include areas representative of significant corrosion or pitting if they exist on removed tendon wire.
3. Diameter at Breaking Point is to be interpolated from 1/4-point diameters on either side of breaking points.

Laboratory Technician prepared by: [Signature] Date 12-29-09

Laboratory Supervisor Verified by: [Signature] Date 2/25/10

Cognizant Mech/Struct Engineer Approved by: [Signature] Date 19 MAR 10

| | | |
|--|--|---------------------------|
| | TMI - Unit 1 Surveillance Procedure | Number 1301-9.1 |
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ENCLOSURE 4
Data Sheet 1
Tendon Wire Inspection Data

Page 4 of 5

INSPECTION PERIOD 35th YEAR

Tendon Identification: V-90

| | |
|--|-----------------------------------|
| 0' X <u>0' to 10'</u> X <u>2</u> | 25' |
| 25' <u>2</u> | 50' |
| 50' <u>2</u> | X 75' |
| 75' <u>sample 2</u> X <u>2</u> | 100' |
| <u>70' to 80'</u> X | 125' |
| 100' <u>2</u> | 150' |
| 125' <u>2</u> | 150' |
| 150' <u>2</u> | X <u>sample 3</u> 175' |
| 175' <u>2</u> <u>170' to 180'</u> | X 180' |
| 180' <u>2</u> | 185' |
| 185' _____ | 190' |

Total length 184' 9 5/8"

Wire Sample Diameters

| <u>Sample for Tensile Test⁽²⁾</u> | <u>At 1/4-Points</u> | <u>At Breaking Points</u> |
|--|-----------------------|---------------------------|
| Sample 1: <u>0</u> ft to <u>10</u> ft | <u>.250 .250 .250</u> | <u>.245</u> |
| Sample 2: <u>70</u> ft to <u>80</u> ft | <u>.250 .250 .250</u> | <u>.243</u> |
| Sample 3: <u>170</u> ft to <u>180</u> ft | <u>.250 .250 .250</u> | <u>.245</u> |

NOTE

1. Corrosion or any signs of deterioration shall be indicated full length as shown on the above chart.
2. Sample shall include areas representative of significant corrosion or pitting if they exist on removed tendon wire.
3. Diameter at Breaking Point is to be interpolated from 1/4-point diameters on either side of breaking points.

Laboratory Technician prepared by: [Signature] Date 12-28-09

Laboratory Supervisor Verified by: [Signature] Date 2/25/10

Cognizant Mech/Struct Engineer Approved by: [Signature] Date 19 MAR 10

| | |
|---|---------------------------|
| | Number 1301-9.1 |
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ENCLOSURE 4
Data Sheet 1
Tendon Wire Inspection Data

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INSPECTION PERIOD: 3.5TH YEARS

Tendon Identification: H51-49

| | | |
|------|----------------------------|------------------------|
| 0 | 2 | SAMPLE 1 30-38' 25" |
| 25' | 2 | |
| 50' | 2 | SAMPLE 2 2 75' |
| 75' | 2 | |
| 100' | 2 | |
| 125' | 2 | SAMPLE 3 140-149' |
| 150' | 1/4" TENDON WIRE 165' ± 9" | |
| 180' | | |
| 185' | | |
| 190' | | |

Wire Sample Diameters

| Sample for Tensile Test ⁽²⁾ | At 1/4-Points | | | At Breaking Points |
|--|---------------|-------------|-------------|--------------------|
| Sample 1: <u>20</u> ft to <u>29</u> ft | <u>.250</u> | <u>.250</u> | <u>.250</u> | <u>.244</u> |
| Sample 2: <u>70</u> ft to <u>79</u> ft | <u>.250</u> | <u>.250</u> | <u>.250</u> | <u>.245</u> |
| Sample 3: <u>140</u> ft to <u>149</u> ft | <u>.250</u> | <u>.250</u> | <u>.250</u> | <u>.240</u> |

NOTE

1. Corrosion or any signs of deterioration shall be indicated full length as shown on the above chart.
2. Sample shall include areas representative of significant corrosion or pitting if they exist on removed tendon wire.
3. Diameter at Breaking Point is to be interpolated from 1/4-point diameters on either side of breaking points.

Laboratory Technician prepared by: [Signature] Date 12-29-09

Laboratory Supervisor Verified by: [Signature] Date 2/25/10

Cognizant Mech/Struct Engineer Approved by: [Signature] Date 19 MAR 10

ENCLOSURE 4
Data Sheet 2
Tendon Wire Test Results

INSPECTION PERIOD 3rd YR

| TENDON WIRE (1) SAMPLE NO. | LOCATION (2) FROM END OF WIRE | YIELD (3) STRESS (ksi) | ULTIMATE STRESS (ksi) | PERCENT (4) ELONGATION | COMMENTS (IDENTIFY MOST CORRODED SECTION) |
|-------------------------------|-------------------------------------|---------------------------|--------------------------|---------------------------|---|
| DOME | | | | | |
| 1. <u>D-222 #1</u> | <u>46 3/4"</u> | <u>235.403</u> | <u>282.389</u> | <u>5.3</u> | <u>None</u> |
| 2. <u>D-222 #2</u> | <u>27 1/2"</u> | <u>231.257</u> | <u>280.316</u> | <u>5.3</u> | <u>None</u> |
| 3. <u>D-222 #3</u> | <u>33"</u> | <u>232.639</u> | <u>281.007</u> | <u>5.6</u> | <u>None</u> |
| VERTICAL | | | | | |
| 1. <u>V-90 #1</u> | <u>1"</u> | <u>236.795</u> | <u>287.226</u> | <u>5.3</u> | <u>None</u> |
| 2. <u>V-90 #2</u> | <u>42 1/4"</u> | <u>229.184</u> | <u>277.226</u> | <u>5.3</u> | <u>None</u> |
| 3. <u>V-90 #3</u> | <u>1"</u> | <u>231.257</u> | <u>276.535</u> | <u>5.3</u> | <u>None</u> |
| HOOP | | | | | |
| 1. <u>H-51-49 #1</u> | <u>1"</u> | <u>222.225</u> | <u>282.389</u> | <u>5.8</u> | <u>None</u> |
| 2. <u>H-51-49 #2</u> | <u>1"</u> | <u>230.993</u> | <u>279.625</u> | <u>5.2</u> | <u>None</u> |
| 3. <u>H-51-49 #3</u> | <u>1"</u> | <u>227.111</u> | <u>278.214</u> | <u>5.1</u> | <u>None</u> |

NOTES:

- (1) See Section 7 of this enclosure.
- (2) End starts from end of zero length as indicated on Data Sheet 1 of this enclosure.
- (3) Yield stress is defined per ASTM A421.
- (4) At Ultimate Tensile Strength.

Laboratory Technician
Prepared By: [Signature] Date 2-25-10

Laboratory Supervisor
Verified By: [Signature] Date 2/25/10

Cognizant Mech/Struct Engineer
Approved By: [Signature] Date 19 MAR 10

| | |
|--|--------------|
| | Number |
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DATA SHEET 4

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**Elongation / Tendon Force Record
Re-Tensioning Data for De-Tensioned Tendons**

Tendon ID 151-49

Surveillance No. 35TH 12

**Part 1
Original Stressing Data**

NOTE

PTF force is that equivalent to a ram pressure of 1,000 psi. PTF removes tendon slack and is the starting point for elongation measurements. OSF force is 80% (may be less) of tendon ultimate strength. The tendon is loaded to OSF in order to provide the required force distribution. It is also the force at which final elongation is measured. PTF force / elongation, OSF force / elongation and number of effective wires are documented in construction records.

| Table 1 | | |
|---------|--|------------|
| Row, R | Parameter | Value |
| 1 | Shop End PTF Force | 208.3 kip |
| 2 | Field end PTF force | 208.3 kip |
| 3 | Mean PTF Force = (R1 + R2) / 2 | 208.3 kip |
| 4 | Shop End PTF Reference Distance | 6.10 in. |
| 5 | Field End PTF Reference Distance | 1.35 in. |
| 6 | Net PTF Reference Distance = R4 + R5 | 7.45 in. |
| 7 | Shop End OSF Force | 1564 kip |
| 8 | Field end OSF force | 1564 kip |
| 9 | Mean OSF Force = (R7 + R8) / 2 | 1564 kip |
| 10 | Shop End OSF Reference Distance | 11.50 in. |
| 11 | Field End OSF Reference Distance | 6.50 in. |
| 12 | Net OSF Reference Distance = R10 + R11 | 18.00 in. |
| 13 | Differential Force = R9 - R3 | 1355.7 kip |
| 14 | Differential Elongation = R12 - R6 | 10.55 in. |
| 15 | Number of Effective Wires | 169 |
| 16 | Elongation Rate = R14 x R15 / R13 | 1.31 |

~~1.31~~
2011-13-09

| | |
|--|--------------|
| | Number |
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DATA SHEET 4
Elongation / Tendon Force Record
Re-Tensioning Data for De-Tensioned Tendons

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Tendon ID 451-49

Surveillance No. 35THR

Part 2

Shop End Re-Tensioning Data

Ram ID 9371

Ram Area, A 220.599 in²

Ram k -5.486 kip

NOTE

The number of effective wires entered in R1 must be the same as the number entered for the field end in Table 3. Also, the calculations identified in Rows 4, 16, 18 & 19 (shaded) may be done after stressing work at both ends of the tendon is complete.

Table 2

| Row, R | Parameter | Value | Signature | Date |
|--------|--|------------|------------------|----------|
| 1 | Number of Effective Wires | 168 | <i>L. Busone</i> | 11/17/09 |
| 2 | PTF Target Pressure | 960 psi | <i>L. Busone</i> | 11/17/09 |
| 3 | PTF Actual Pressure | 960 psi | <i>L. Busone</i> | 11/17/09 |
| 4 | PTF Actual Force = $R3 \times A/1000 = k$ | 206.2 kip | <i>L. Busone</i> | 11/17/09 |
| 5 | PTF Reference Distance | 3.5 in. | <i>L. Busone</i> | 11/17/09 |
| 6 | OSF Maximum Force = $R1 \times 9.4$ | 1579.2 kip | <i>L. Busone</i> | 11/17/09 |
| 7 | OSF Max. Pressure = $1000 (R6 + k) / A$ | 7183.5 psi | <i>L. Busone</i> | 11/17/09 |
| 8 | 1/3 Pressure Interval = $R7 / 3 - 330$ | 2064 psi | <i>L. Busone</i> | 11/17/09 |
| 9 | Target 1/3 Pressure = $1,000 + R8$ | 3064 psi | <i>L. Busone</i> | 11/17/09 |
| 10 | Actual 1/3 Pressure | 3060 psi | <i>L. Busone</i> | 11/17/09 |
| 11 | 1/3 Reference Distance | 4.5 in. | <i>L. Busone</i> | 11/17/09 |
| 12 | Target 2/3 Pressure = $R9 + R8$ | 5128 psi | <i>L. Busone</i> | 11/17/09 |
| 13 | Actual 2/3 Pressure | 5130 psi | <i>L. Busone</i> | 11/17/09 |
| 14 | 2/3 Reference Distance | 6.6 in. | <i>L. Busone</i> | 11/17/09 |
| 15 | OSF Actual Pressure | 7070 psi | <i>L. Busone</i> | 11/17/09 |
| 16 | OSF Actual Force = $R15 \times A/1000 = k$ | 206.2 kip | <i>L. Busone</i> | 11/17/09 |
| 17 | OSF Reference Distance | 8.8 in. | <i>L. Busone</i> | 11/17/09 |
| 18 | Differential Force = $R16 - R4$ | 13.0 kip | <i>L. Busone</i> | 11/17/09 |
| 19 | Differential Elongation = $R17 - R5$ | 5.3 in. | <i>L. Busone</i> | 11/17/09 |

| | |
|--|--------------|
| | Number |
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DATA SHEET 4
Elongation / Tendon Force Record
Re-Tensioning Data for De-Tensioned Tendons

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Tendon ID H51-49

Surveillance No. 35TH YR.

Part 3
Field End Re-Tensioning Data

Ram ID 9370

Ram Area, A 220.472 in²

Ram k -4.255 kip

NOTE

The number of effective wires entered in R1 must be the same as the number entered for the shop end in Table 2. Also, the calculations identified in Rows 4, 16, 18 & 19 (shaded) may be done after stressing work at both ends of the tendon is complete.

| Table 3 | | | | |
|---------|--|------------|-------------------------|----------|
| Row, R | Parameter | Value | Signature | Date |
| 1 | Number of Effective Wires | 168 | <i>David P. O'Brien</i> | 11-12-09 |
| 2 | PTF Target Pressure | 1,000 psi | <i>David P. O'Brien</i> | 11-12-09 |
| 3 | PTF Actual Pressure | 960 psi | <i>David P. O'Brien</i> | 11-12-09 |
| 4 | PTF Actual Force = $R3 \times A/1000 = k$ | 2073 kip | <i>David P. O'Brien</i> | 11-12-09 |
| 5 | PTF Reference Distance | 3.1 in. | <i>David P. O'Brien</i> | 11-12-09 |
| 6 | OSF Maximum Force = $R1 \times 9.4$ | 1579.2 kip | <i>David P. O'Brien</i> | 11-12-09 |
| 7 | OSF Max. Pressure = $1000 (R6 + k) / A$ | 718.2 psi | <i>David P. O'Brien</i> | 11-12-09 |
| 8 | 1/3 Pressure Interval = $R7 / 3 - 330$ | 2064 psi | <i>David P. O'Brien</i> | 11-12-09 |
| 9 | Target 1/3 Pressure = $1,000 + R8$ | 3064 psi | <i>David P. O'Brien</i> | 11-12-09 |
| 10 | Actual 1/3 Pressure | 3060 psi | <i>David P. O'Brien</i> | 11-12-09 |
| 11 | 1/3 Reference Distance | 4.6 in. | <i>David P. O'Brien</i> | 11-12-09 |
| 12 | Target 2/3 Pressure = $R9 + R8$ | 5128 psi | <i>David P. O'Brien</i> | 11-12-09 |
| 13 | Actual 2/3 Pressure | 5130 psi | <i>David P. O'Brien</i> | 11-12-09 |
| 14 | 2/3 Reference Distance | 6.7 in. | <i>David P. O'Brien</i> | 11-12-09 |
| 15 | OSF Actual Pressure | 7070 psi | <i>David P. O'Brien</i> | 11-12-09 |
| 16 | OSF Actual Force = $R15 \times A/1000 = k$ | 1579.2 kip | <i>David P. O'Brien</i> | 11-12-09 |
| 17 | OSF Reference Distance | 8.7 in. | <i>David P. O'Brien</i> | 11-12-09 |
| 18 | Differential Force = $R16 - R4$ | 3716 kip | <i>David P. O'Brien</i> | 11-12-09 |
| 19 | Differential Elongation = $R17 - R5$ | 5.6 in. | <i>David P. O'Brien</i> | 11-12-09 |

| | | |
|-------|--|---------------------------|
| | TMI - Unit 1 Surveillance Procedure | Number 1301-9.1 |
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DATA SHEET 4
Elongation / Tendon Force Record
Re-Tensioning Data for De-Tensioned Tendons

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Tendon ID H51-49

Surveillance No. 35TH YR.

Part 4
Elongation Comparison

| Table 4 | | |
|---------|---|------------|
| Row, R | Parameter | Value |
| 1 | Shop End Differential Force from Table 2, R18 | 1347.7 kip |
| 2 | Field End Differential Force from Table 3, R18 | 1348.8 kip |
| 3 | Average Differential Force = $(R1 + R2) / 2^*$ | 1348.2 kip |
| 4 | Shop End Differential Elongation from Table 2, R19 | 5.6 in. |
| 5 | Field End Differential Elongation from Table 3, R19 | 5.3 in. |
| 6 | Total Elongation = $R4 + R5^{**}$ | 10.9 in. |
| 7 | Number of Effective Wires from Table 2, R1 | 168 |
| 8 | Re-Tensioning Elongation Rate = $R6 \times R7 / R3$ | 1.35 |
| 9 | Original Elongation Rate from Table 1, R16 | 1.2536 |
| 10 | Fractional Difference in Rates = $(R8 - R9) / R9$ | 0.03 |

Absolute value of the above Fractional Difference in Rates ≤ 0.1

Yes X
No _____

* For vertical tendon = R1
** For vertical tendon = R4

Signature: *Paul P. O'Hara*

Date: 11-19-09

| | |
|--|--------------|
| | Number |
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DATA SHEET 4

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**Elongation / Tendon Force Record
Re-Tensioning Data for De-Tensioned Tendons**

Tendon ID V-90

Surveillance No. 35th year

**Part 1
Original Stressing Data**

NOTE

PTF force is that equivalent to a ram pressure of 1,000 psi. PTF removes tendon slack and is the starting point for elongation measurements. OSF force is 80% (may be less) of tendon ultimate strength. The tendon is loaded to OSF in order to provide the required force distribution. It is also the force at which final elongation is measured. PTF force / elongation, OSF force / elongation and number of effective wires are documented in construction records.

| Table 1 | | |
|---------|--|--|
| Row, R | Parameter | Value |
| 1 | Shop End PTF Force | 208.3 kip |
| 2 | Field end PTF force | N/A kip |
| 3 | Mean PTF Force = (R1 + R2) / 2 | 208.3 kip |
| 4 | Shop End PTF Reference Distance | 1.2 in. |
| 5 | Field End PTF Reference Distance | N/A in. |
| 6 | Net PTF Reference Distance = R4 + R5 | 1.2 in. |
| 7 | Shop End OSF Force | 1478 kip |
| 8 | Field end OSF force | N/A kip |
| 9 | Mean OSF Force = (R7 + R8) / 2 | 1478 kip |
| 10 | Shop End OSF Reference Distance | 7.3 in. |
| 11 | Field End OSF Reference Distance | N/A in. |
| 12 | Net OSF Reference Distance = R10 + R11 | 7.3 in. |
| 13 | Differential Force = R9 - R3 | 1269.7 kip |
| 14 | Differential Elongation = R12 - R6 | 12.35% in. NRR 8-20-09 |
| 15 | Number of Effective Wires | 169 |
| 16 | Elongation Rate = R14 x R15 / R13 | .81% NRR 8-20-09 |

| | |
|--|--------------|
| | Number |
| TMI - Unit 1 Surveillance Procedure | 1301-9.1 |
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DATA SHEET 4
Elongation / Tendon Force Record
Re-Tensioning Data for De-Tensioned Tendons

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Tendon ID V-90

Surveillance No. 35th yr

Part 2

Shop End Re-Tensioning Data

Ram ID 9371

Ram Area, A 220.008 in²

Ram k -3.524 kip

NOTE

The number of effective wires entered in R1 must be the same as the number entered for the field end in Table 3. Also, the calculations identified in Rows 4, 16, 18 & 19 (shaded) may be done after stressing work at both ends of the tendon is complete.

| Table 2 | | | | |
|---------|--|------------------------------|-----------------|---------|
| Row, R | Parameter | Value | Signature | Date |
| 1 | Number of Effective Wires | 168 | W. Lance Peltin | 8-19-09 |
| 2 | PTF Target Pressure | 925 ^{WIP 1,000} psi | W. Lance Peltin | 8-19-09 |
| 3 | PTF Actual Pressure | 925 psi | W. Lance Peltin | 8-19-09 |
| 4 | PTF Actual Force = $R3 \times A / 1000$ = k | 2087 kip | W. Lance Peltin | 8-19-09 |
| 5 | PTF Reference Distance | 5.9 in. | W. Lance Peltin | 8-19-09 |
| 6 | OSF Maximum Force = $R1 \times 9.4$ | 1579.2 kip | W. Lance Peltin | 8-19-09 |
| 7 | OSF Max. Pressure = $1000 (R6 + k) / A$ | 7161.9 psi | W. Lance Peltin | 8-19-09 |
| 8 | 1/3 Pressure Interval = $R7 / 3 - 330$ | 2057.3 psi | W. Lance Peltin | 8-19-09 |
| 9 | Target 1/3 Pressure = $1,000 + R8$ | 2982.3 psi | W. Lance Peltin | 8-19-09 |
| 10 | Actual 1/3 Pressure | 2980 psi | W. Lance Peltin | 8-19-09 |
| 11 | 1/3 Reference Distance | 10.3 in. | W. Lance Peltin | 8-19-09 |
| 12 | Target 2/3 Pressure = $R9 + R8$ | 5039.6 psi | W. Lance Peltin | 8-19-09 |
| 13 | Actual 2/3 Pressure | 5040 psi | W. Lance Peltin | 8-19-09 |
| 14 | 2/3 Reference Distance | 14.5 in. | W. Lance Peltin | 8-19-09 |
| 15 | OSF Actual Pressure | 7160 psi | W. Lance Peltin | 8-19-09 |
| 16 | OSF Actual Force = $R15 \times A / 1000$ = k | 1579.2 kip | W. Lance Peltin | 8-19-09 |
| 17 | OSF Reference Distance | 17.8 in. | W. Lance Peltin | 8-19-09 |
| 18 | Differential Force = $R16 - R4$ | 1579.2 kip | W. Lance Peltin | 8-19-09 |
| 19 | Differential Elongation = $R17 - R5$ | 11.9 in. | W. Lance Peltin | 8-19-09 |

| | | |
|--|--|---------------------------|
| | TMI - Unit 1 Surveillance Procedure | Number 1301-9.1 |
| Title | | Revision No. 20 |
| RB Structural Integrity Tendon Surveillance | | |

DATA SHEET 4
Elongation / Tendon Force Record
Re-Tensioning Data for De-Tensioned Tendons

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Tendon ID V-90

Surveillance No. 35th year

Part 4
Elongation Comparison

| Table 4 | | |
|---------|---|-------------|
| Row, R | Parameter | Value |
| 1 | Shop End Differential Force from Table 2, R18 | 1371.78 kip |
| 2 | Field End Differential Force from Table 3, R18 | N/A kip |
| 3 | Average Differential Force = (R1 + R2) / 2* | 1371.78 kip |
| 4 | Shop End Differential Elongation from Table 2, R19 | 11.9 in. |
| 5 | Field End Differential Elongation from Table 3, R19 | N/A in. |
| 6 | Total Elongation = R4 + R5** | 11.9 in. |
| 7 | Number of Effective Wires from Table 2, R1 | 168 |
| 8 | Re-Tensioning Elongation Rate = R6 x R7 / R3 | 1.45 |
| 9 | Original Elongation Rate from Table 1, R16 | .81 |
| 10 | Fractional Difference in Rates = (R8 - R9) / R9 | .79 |

Absolute value of the above Fractional Difference in Rates ≤ 0.1

Yes _____

No X

* For vertical tendon = R1
** For vertical tendon = R4

Signature: W. Vance Roberts

Date: 8-20-09

| | |
|--|--------------|
| | Number |
| TMI - Unit 1 Surveillance Procedure | 1301-9.1 |
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**Elongation / Tendon Force Record
Re-Tensioning Data for De-Tensioned Tendons**

Tendon ID D-322

Surveillance No. 35TH yr

**Part 1
Original Stressing Data**

NOTE

PTF force is that equivalent to a ram pressure of 1,000 psi. PTF removes tendon slack and is the starting point for elongation measurements. OSF force is 80% (may be less) of tendon ultimate strength. The tendon is loaded to OSF in order to provide the required force distribution. It is also the force at which final elongation is measured. PTF force / elongation, OSF force / elongation and number of effective wires are documented in construction records.

| Table 1 | | |
|---------|--|------------|
| Row, R | Parameter | Value |
| 1 | Shop End PTF Force | 208.3 kip |
| 2 | Field end PTF force | 208.3 kip |
| 3 | Mean PTF Force = (R1 + R2) / 2 | 208.3 kip |
| 4 | Shop End PTF Reference Distance | 1.70 in. |
| 5 | Field End PTF Reference Distance | 1.80 in. |
| 6 | Net PTF Reference Distance = R4 + R5 | 3.50 in. |
| 7 | Shop End OSF Force | 1564 kip |
| 8 | Field end OSF force | 1564 kip |
| 9 | Mean OSF Force = (R7 + R8) / 2 | 1564 kip |
| 10 | Shop End OSF Reference Distance | 6.80 in. |
| 11 | Field End OSF Reference Distance | 7.40 in. |
| 12 | Net OSF Reference Distance = R10 + R11 | 14.20 in. |
| 13 | Differential Force = R9 - R3 | 1355.7 kip |
| 14 | Differential Elongation = R12 - R6 | 10.7 in. |
| 15 | Number of Effective Wires | 169 |
| 16 | Elongation Rate = R14 x R15 / R13 | 1.33 |

| | | |
|--|--|---------------------------|
| | TMI - Unit 1 Surveillance Procedure | Number 1301-9.1 |
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DATA SHEET 4
Elongation / Tendon Force Record
Re-Tensioning Data for De-Tensioned Tendons

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Tendon ID D-322

Surveillance No. 35TH YR

Part 2

Shop End Re-Tensioning Data

Ram ID 9370

Ram Area, A 220.472 in²

Ram k -4.255 kip

NOTE

The number of effective wires entered in R1 must be the same as the number entered for the field end in Table 3. Also, the calculations identified in Rows 4, 16, 18 & 19 (shaded) may be done after stressing work at both ends of the tendon is complete.

Table 2

| Row, R | Parameter | Value | Signature | Date |
|--------|--|-------------|------------------|----------|
| 1 | Number of Effective Wires | 168 | <i>L. Busone</i> | 11/17/09 |
| 2 | PTF Target Pressure | 958,000 psi | <i>L. Busone</i> | 11/17/09 |
| 3 | PTF Actual Pressure | 960 psi | <i>L. Busone</i> | 11/17/09 |
| 4 | PTF Actual Force = $R3 \times A / 1000 = k$ | 207.3 kip | <i>L. Busone</i> | 11/17/09 |
| 5 | PTF Reference Distance | 4.0 in. | <i>L. Busone</i> | 11/17/09 |
| 6 | OSF Maximum Force = $R1 \times 9.4$ | 1579.2 kip | <i>L. Busone</i> | 11/17/09 |
| 7 | OSF Max. Pressure = $1000 (R6 + k) / A$ | 7182 psi | <i>L. Busone</i> | 11/17/09 |
| 8 | 1/3 Pressure Interval = $R7 / 3 - 330$ | 2064 psi | <i>L. Busone</i> | 11/17/09 |
| 9 | Target 1/3 Pressure = $1,000 + R8$ | 3064 psi | <i>L. Busone</i> | 11/17/09 |
| 10 | Actual 1/3 Pressure | 3060 psi | <i>L. Busone</i> | 11/17/09 |
| 11 | 1/3 Reference Distance | 5.3 in. | <i>L. Busone</i> | 11/17/09 |
| 12 | Target 2/3 Pressure = $R9 + R8$ | 5128 psi | <i>L. Busone</i> | 11/17/09 |
| 13 | Actual 2/3 Pressure | 5130 psi | <i>L. Busone</i> | 11/17/09 |
| 14 | 2/3 Reference Distance | 6.6 in. | <i>L. Busone</i> | 11/17/09 |
| 15 | OSF Actual Pressure | 6950 psi | <i>L. Busone</i> | 11/17/09 |
| 16 | OSF Actual Force = $R15 \times A / 1000 = k$ | 597 kip | <i>L. Busone</i> | 11/17/09 |
| 17 | OSF Reference Distance | 8.6 in. | <i>L. Busone</i> | 11/17/09 |
| 18 | Differential Force = $R16 - R4$ | 1060.7 kip | <i>L. Busone</i> | 11/17/09 |
| 19 | Differential Elongation = $R17 - R5$ | 1.0 in. | <i>L. Busone</i> | 11/17/09 |

| | |
|--|--------------|
| | Number |
| TMI - Unit 1 Surveillance Procedure | 1301-9.1 |
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Elongation / Tendon Force Record
Re-Tensioning Data for De-Tensioned Tendons

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Tendon ID D-322

Surveillance No. 35TH X

Part 3
Field End Re-Tensioning Data

Ram ID 9371

Ram Area, A 220.599 in²

Ram k -5.486 kip

NOTE

The number of effective wires entered in R1 must be the same as the number entered for the shop end in Table 2. Also, the calculations identified in Rows 4, 16, 18 & 19 (shaded) may be done after stressing work at both ends of the tendon is complete.

| Table 3 | | | | |
|---------|---------------------------------------|-------------|------------------------|----------|
| Row, R | Parameter | Value | Signature | Date |
| 1 | Number of Effective Wires | 168 | <i>David P. O'Neil</i> | 11-17-09 |
| 2 | PTF Target Pressure | 965,000 psi | <i>David P. O'Neil</i> | 11-17-09 |
| 3 | PTF Actual Pressure | 960 psi | <i>David P. O'Neil</i> | 11-17-09 |
| 4 | PTF Actual Force = R3 x A/1000 = k | 201.3 kip | <i>David P. O'Neil</i> | 11-17-09 |
| 5 | PTF Reference Distance | 3.0 in. | <i>David P. O'Neil</i> | 11-17-09 |
| 6 | OSF Maximum Force = R1 x 9.4 | 1579.2 kip | <i>David P. O'Neil</i> | 11-17-09 |
| 7 | OSF Max. Pressure = 1000 (R6 + k) / A | 7183.5 psi | <i>David P. O'Neil</i> | 11-17-09 |
| 8 | 1/3 Pressure Interval = R7 / 3 - 330 | 2064 psi | <i>David P. O'Neil</i> | 11-17-09 |
| 9 | Target 1/3 Pressure = 1,000 + R8 | 3064 psi | <i>David P. O'Neil</i> | 11-17-09 |
| 10 | Actual 1/3 Pressure | 3060 psi | <i>David P. O'Neil</i> | 11-17-09 |
| 11 | 1/3 Reference Distance | 4.9 in. | <i>David P. O'Neil</i> | 11-17-09 |
| 12 | Target 2/3 Pressure = R9 + R8 | 5128 psi | <i>David P. O'Neil</i> | 11-17-09 |
| 13 | Actual 2/3 Pressure | 5130 psi | <i>David P. O'Neil</i> | 11-17-09 |
| 14 | 2/3 Reference Distance | 6.8 in. | <i>David P. O'Neil</i> | 11-17-09 |
| 15 | OSF Actual Pressure | 6950 psi | <i>David P. O'Neil</i> | 11-17-09 |
| 16 | OSF Actual Force = R15 x A/1000 = k | 1579.2 kip | <i>David P. O'Neil</i> | 11-17-09 |
| 17 | OSF Reference Distance | 8.4 in. | <i>David P. O'Neil</i> | 11-17-09 |
| 18 | Differential Force = R16 - R4 | 387.9 kip | <i>David P. O'Neil</i> | 11-17-09 |
| 19 | Differential Elongation = R17 - R5 | 5.4 in. | <i>David P. O'Neil</i> | 11-17-09 |

| | | |
|--|--|---------------------------|
| | TMI - Unit 1 Surveillance Procedure | Number 1301-9.1 |
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DATA SHEET 4
Elongation / Tendon Force Record
Re-Tensioning Data for De-Tensioned Tendons

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Tendon ID D-322

Surveillance No. 35TH YR.

Part 4
Elongation Comparison

| Table 4 | | |
|---------|---|--------------------|
| Row, R | Parameter | Value |
| 1 | Shop End Differential Force from Table 2, R18 | <u>1320.7</u> kip |
| 2 | Field End Differential Force from Table 3, R18 | <u>1321.4</u> kip |
| 3 | Average Differential Force = $(R1 + R2) / 2^*$ | <u>1321.05</u> kip |
| 4 | Shop End Differential Elongation from Table 2, R19 | <u>4.6</u> in. |
| 5 | Field End Differential Elongation from Table 3, R19 | <u>5.4</u> in. |
| 6 | Total Elongation = $R4 + R5^{**}$ | <u>10</u> in. |
| 7 | Number of Effective Wires from Table 2, R1 | <u>168</u> |
| 8 | Re-Tensioning Elongation Rate = $R6 \times R7 / R3$ | <u>1.27</u> |
| 9 | Original Elongation Rate from Table 1, R16 | <u>1.33</u> |
| 10 | Fractional Difference in Rates = $(R8 - R9) / R9$ | <u>-0.045</u> |

Absolute value of the above Fractional Difference in Rates ≤ 0.1

Yes X

No _____

* For vertical tendon = R1

** For vertical tendon = R4

Signature: *Paul P. O'Hara*

Date: 11-17-09

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DATA SHEET 6
Retensioning Criteria Confirmation

| (1) TENDON ID | (2) NUMBER OF EFFECTIVE WIRES | (3) 70 % OF ULTIMATE STRENGTH [8.24 X (2)] | (4) PREDICTED BASE FORCE ¹ | (5) AVERAGE [(3)+(4)]+2 | (6) LOCK-OFF FORCE | (7) (4)<(6)<(3) Yes / No |
|------------------------|--|--|--|-------------------------------|--------------------------|--------------------------------|
| DOME | | | | | | |
| <u>D-322</u> SHOP END | <u>108</u> | <u>1284.32</u> | <u>1128</u> | <u>1256.16</u> | <u>1168.6</u> | <u>Yes</u> |
| <u>D-322</u> FIELD END | <u>108</u> | <u>1284.32</u> | <u>1128</u> | <u>1256.16</u> | <u>1172.5</u> | <u>Yes</u> |
| SHOP END | _____ | _____ | _____ | _____ | _____ | _____ |
| FIELD END | _____ | _____ | _____ | _____ | _____ | _____ |
| VERTICAL | | | | | | |
| <u>V-90</u> SHOP END | <u>168</u> | <u>1384.32</u> | <u>1204</u> | <u>1294.16</u> | <u>1238.14</u> | <u>Yes</u> |
| SHOP END | _____ | _____ | _____ | _____ | _____ | _____ |
| SHOP END | _____ | _____ | _____ | _____ | _____ | _____ |
| HOOP TENDONS | | | | | | |
| <u>H-1-49</u> SHOP END | <u>168</u> | <u>1384.32</u> | <u>1192</u> | <u>1258.16</u> | <u>1225.4</u> | <u>Yes</u> |
| FIELD END | <u>168</u> | <u>1384.32</u> | <u>1192</u> | <u>1258.16</u> | <u>1203.9</u> | <u>Yes</u> |
| SHOP END | _____ | _____ | _____ | _____ | _____ | _____ |
| FIELD END | _____ | _____ | _____ | _____ | _____ | _____ |
| SHOP END | _____ | _____ | _____ | _____ | _____ | _____ |
| FIELD END | _____ | _____ | _____ | _____ | _____ | _____ |

Cognizant Mech/Struct Engineer
Reviewed By: [Signature] Date: 1-9 MMS 10

Performed By: [Signature] Date: 2-3-10

¹ Predicted Base Force from DC-5390-225.01-SE or separate calculation.

DATA SHEET 1
Lift-Off Force Measurement

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Surveillance No. 35TH YR Tendon ID H51-49 Predicted Force (F_p) 11.32 kip Tendon End (Circle One): Shop / Field
Phase (Circle One): As-found / Re-Tension Ram ID 9371 Ram Calibration Constants: $A =$ 220.599 $k =$ -5.486
Date 11-12-07 Temp: RB Interior 68 °F / Concrete Surface 48 °F No. Effective Wires, N_w 168 Shim Stack Ht. 8.5 in.

CAUTION
DO NOT EXCEED A RAM PRESSURE OF $[(1,592 \times N_w / 169) - k] \times 1,000 / A =$ 7198.88 psig

| Trial | Lift-Off Pressure, psig | Consecutive Three Trial Pressure Spread psi | Consecutive Three Trial Pressure Average p^1 psig ^{1,2} | Stressing Washer Rotation | | For Re-tension Only, List Nominal Thickness of Each Shim Starting at Shim in Contact with Anchorhead |
|-------|-------------------------|---|--|--|---------------------------|--|
| | | | | At Feeler Gage Insertion | Rotation, Turns CW or CCW | |
| 1 | <u>5580</u> | <u>N/A</u> | <u>N/A</u> | At Trial 1 | <u>0</u> | <u>1</u> in. |
| 2 | <u>5580</u> | <u>N/A</u> | <u>N/A</u> | At Trial 2 | <u>0</u> | <u>1</u> " |
| 3 | <u>5580</u> | <u>0</u> | <u>5580</u> | At Trial 3 | <u>0</u> | <u>4</u> " |
| 4 | | | | At Trial 4 | | <u>4</u> " |
| 5 | | | | At Trial 5 | | <u>2</u> " |
| 6 | | | | At Trial 6 | | <u>4</u> " |
| 7 | | | | At Trial 7 | | |
| 8 | | | | Sum | <u>0</u> | |
| 9 | | | | End Lift-Off Force = $(A \times P' / 1,000) = k =$ <u>1225.4</u> kip | | |
| 10 | | | | | | |

¹ N/A if 3 trial pressure spread > 25,000 / A = 113 psi

² Re-tension P range: $P'_{min} = (F_p - k) \times 1,000 / A =$ 5156 psig < $P' < P'_{max} = [(1,394 \times N_w / 169) - k] \times 1,000 / A =$ 16306 psig

For Re-Tension Only: $F_p < \text{End Lift-Off Force} < 1394 \times N_w / 169$; 11.32 < 1225 < 1325 (Yes) / No (Circle One)

Notes:

Recorded by: Signature [Signature] Date 11-12-07 / Reviewed by: Signature [Signature] Date 2/2/10
QV

DATA SHEET 1
Lift-Off Force Measurement

1301-9.1
Revision 20
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Surveillance No. 35TH VR Tendon ID H51-49 Predicted Force (F_p) 1132 kip Tendon End (Circle One): Shop / Field
Phase (Circle One): As-found / Re-Tension Ram ID 9370 Ram Calibration Constants: $A = 220.472$ $k = -4.255$
Date 11-12-09 Temp: RB Interior 68 °F / Concrete Surface 46 °F No. Effective Wires, N_w 168 Shim Stack Ht. 7.6 in.

CAUTION

DO NOT EXCEED A RAM PRESSURE OF $[(1,592 \times N_w / 169) - k] \times 1,000 / A = 7197.4$ psig

| Trial | Lift-Off Pressure, psig | Consecutive Three Trial Pressure Spread psi | Consecutive Three Trial Pressure Average p^1 psig ^{1,2} | Stressing Washer Rotation | | For Re-tension Only, List Nominal Thickness of Each Shim Starting at Shim in Contact with Anchorhead |
|-------|-------------------------|---|--|---|---------------------------|--|
| | | | | At Feeler Gage Insertion | Rotation, Turns CW or CCW | |
| 1 | <u>5480</u> | <u>N/A</u> | <u>N/A</u> | At Trial 1 | <u>0</u> | <u>1</u> in. |
| 2 | <u>5480</u> | <u>N/A</u> | <u>N/A</u> | At Trial 2 | <u>0</u> | <u>1/2</u> " |
| 3 | <u>5480</u> | <u>0</u> | <u>5480</u> | At Trial 3 | <u>0</u> | <u>2</u> " |
| 4 | | | | At Trial 4 | | <u>4</u> " |
| 5 | | | | At Trial 5 | | " |
| 6 | | | | At Trial 6 | | " |
| 7 | | | | At Trial 7 | | " |
| 8 | | | | Sum | <u>0</u> | " |
| 9 | | | | End Lift-Off Force = $(A \times P' / 1,000) = k = 1203.2$ kip | | |
| 10 | | | | | | " |

¹ N/A if 3 trial pressure spread > $25,000 / A = 113$ psi

² Re-tension P' range: $P'_{min} = (F_p - k) \times 1,000 / A = 5153$ psig < $P' < P'_{max} = [(1,394 \times N_w / 169) - k] \times 1,000 / A = 6304.6$ psig

For Re-Tension Only: $F_p < \text{End Lift-Off Force} < 1394 \times N_w / 169$; 1132 < 1203 < 1395 Yes / No (Circle One)

Notes:

Recorded by: Signature [Signature] Date 11-12-09 / Reviewed by: Signature [Signature] Date 2/2/10
QV

DATA SHEET 1
Lift-Off Force Measurement

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Surveillance No. 35th year Tendon ID V90 Predicted Force (F_p) 1204 kip Tendon End (Circle One): Shop / Field
 Phase (Circle One): As-found / Re-Tension Ram ID 9370 Ram Calibration Constants: $A = 218.894$ $k = -2.248$
 Date 8-20-09 Temp: RB Interior 125.5 °F / Concrete Surface 98 °F No. Effective Wires, N_w 168 Shim Stack Ht. 15.8 in.

CAUTION

DO NOT EXCEED A RAM PRESSURE OF $[(1,592 \times N_w / 169) - k] \times 1,000 / A = 2262.65$ ~~6353.54~~ ^{WRR 8-20-09} psig

| Trial | Lift-Off Pressure, psig | Consecutive Three Trial Pressure Spread psi | Consecutive Three Trial Pressure Average P' psig ^{1,2} | Stressing Washer Rotation | | For Re-tension Only, List Nominal Thickness of Each Shim Starting at Shim in Contact with Anchorhead |
|-------|-------------------------|---|---|---------------------------|---------------------------|--|
| | | | | At Feeler Gage Insertion | Rotation, Turns CW or CCW | |
| 1 | <u>5660</u> | <u>N/A</u> | <u>N/A</u> | At Trial 1 | <u>0</u> | <u>3/4</u> in. |
| 2 | <u>5670</u> | <u>N/A</u> | <u>N/A</u> | At Trial 2 | <u>0</u> | <u>1/2</u> " |
| 3 | <u>5670</u> | <u>10</u> | <u>5666.66</u> | At Trial 3 | <u>0</u> | <u>1/4</u> " |
| 4 | | | | At Trial 4 | | <u>2</u> " |
| 5 | | | | At Trial 5 | | <u>4</u> " |
| 6 | | | | At Trial 6 | | <u>4</u> " |
| 7 | | | | At Trial 7 | | <u>4</u> " |
| 8 | | | | Sum | | |
| 9 | | | | | | |
| 10 | | | | | | |

End Lift-Off Force = $(A \times P' / 1,000) = k = 212.6$ kip
~~1258.14~~
~~2001-29-10~~

¹ N/A if 3 trial pressure spread > 25,000 / A = 114.21 psi

² Re-tension P' range: $P'_{min} = (F_p - k) \times 1,000 / A = 5490.10$ psig < $P' < P'_{max} = [(1,394 \times N_w / 169) - k] \times 1,000 / A = 6340.96$ psig

For Re-Tension Only: $F_p < \text{End Lift-Off Force} < 1394 \times N_w / 169$; 1204 < 1591.99 < 1385.75 Yes / No (Circle One)

Notes: None

Recorded by: Signature W. Lance Rolfe Date 8-20-09 / Reviewed by: Signature [Signature] Date 8-21-09
 QV

DATA SHEET 1
Lift-Off Force Measurement

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Revision 20
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Surveillance No. 95TH YR Tendon ID D-322 Predicted Force (F_p) 1128 kip Tendon End (Circle One): Shop / Field
 Phase (Circle One): As-found / Re-Tension Ram ID 9370 Ram Calibration Constants: $A =$ 220.472 $k =$ -4.255
 Date 11-17-09 Temp: RB Interior 67 °F / Concrete Surface 52 °F No. Effective Wires, N_w 168 Shim Stack Ht. 6.85 in.

CAUTION

DO NOT EXCEED A RAM PRESSURE OF $[(1,592 \times N_w / 169) - k] \times 1,000 / A =$ 7197.44 psig

| Trial | Lift-Off Pressure, psig | Consecutive Three Trial Pressure Spread psi | Consecutive Three Trial Pressure Average $p^{1,2}$ psig | Stressing Washer Rotation | | For Re-tension Only, List Nominal Thickness of Each Shim Starting at Shim in Contact with Anchorhead |
|-------|-------------------------|---|---|---------------------------|---------------------------|--|
| | | | | At Feeler Gage Insertion | Rotation, Turns CW or CCW | |
| 1 | <u>5320</u> | <u>N/A</u> | <u>N/A</u> | At Trial 1 | <u>0</u> | <u>4</u> in. |
| 2 | <u>5320</u> | <u>N/A</u> | <u>N/A</u> | At Trial 2 | <u>0</u> | <u>4/2</u> |
| 3 | <u>5320</u> | <u>0</u> | <u>5320</u> | At Trial 3 | <u>0</u> | <u>4/8</u> |
| 4 | | | | At Trial 4 | | <u>2</u> |
| 5 | | | | At Trial 5 | | |
| 6 | | | | At Trial 6 | | |
| 7 | | | | At Trial 7 | | |
| 8 | | | | Sum | <u>0</u> | |
| 9 | | | | | | |
| 10 | | | | | | |

End Lift-Off Force = $(A \times P' / 1,000) = k =$ 1168.6 kip

¹ N/A if 3 trial pressure spread $> 25,000 / A =$ 113 psi

² Re-tension P range: $P'_{min} = (F_p - k) \times 1,000 / A =$ 5135 psig $< P' < P'_{max} = [(1,394 \times N_w / 169) - k] \times 1,000 / A =$ 6342 psig

For Re-Tension Only: $F_p < \text{End Lift-Off Force} < 1394 \times N_w / 169;$ 1128 $<$ 1168.6 $<$ 1385 Yes / No (Circle One)

Notes: _____

Recorded by: Signature Gerald F. Bussone Date 11/17/09 / Reviewed by: Signature G. Bussone Date 2/2/10
QV

DATA SHEET 1
Lift-Off Force Measurement

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Revision 20
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Surveillance No. 35TH YR Tendon ID D-322 Predicted Force (F_p) 1128 kip Tendon End (Circle One): Shop / Field
Phase (Circle One): As-found / Re-Tension Ram ID 9371 Ram Calibration Constants: $A = 220.599$ $k = -5.486$
Date 11-17-09 Temp: RB Interior 67 °F / Concrete Surface 54 °F No. Effective Wires, N_w 168 Shim Stack Ht. 7.30 in.

CAUTION

DO NOT EXCEED A RAM PRESSURE OF $[(1,592 \times N_w / 169) - k] \times 1,000 / A = 7198.88$ psig

| Trial | Lift-Off Pressure, psig | Consecutive Three Trial Pressure Spread psi | Consecutive Three Trial Pressure Average $p^{1,2}$ psig | Stressing Washer Rotation | | For Re-tension Only, List Nominal Thickness of Each Shim Starting at Shim in Contact with Anchorhead |
|-------|-------------------------|---|---|--|---------------------------|--|
| | | | | At Feeler Gage Insertion | Rotation, Turns CW or CCW | |
| 1 | <u>5340</u> | <u>N/A</u> | <u>N/A</u> | At Trial 1 | <u>0</u> | <u>2</u> in. |
| 2 | <u>5340</u> | <u>N/A</u> | <u>N/A</u> | At Trial 2 | <u>0</u> | <u>1/8</u> |
| 3 | <u>5340</u> | <u>0</u> | <u>5340</u> | At Trial 3 | <u>0</u> | <u>1</u> |
| 4 | | | | At Trial 4 | | <u>4</u> |
| 5 | | | | At Trial 5 | | |
| 6 | | | | At Trial 6 | | |
| 7 | | | | At Trial 7 | | |
| 8 | | | | Sum | <u>0</u> | |
| 9 | | | | End Lift-Off Force = $(A \times P' / 1,000) = k = 1172.51$ kip | | |
| 10 | | | | | | |

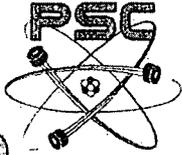
¹ N/A if 3 trial pressure spread $> 25,000 / A = 113$ psi

² Re-tension P' range: $P'_{min} = (F_p - k) \times 1,000 / A = 5159.2$ psig $< P' < P'_{max} = [(1,394 \times N_w / 169) - k] \times 1,000 / A = 6306.6$ psig

For Re-Tension Only: $F_p < \text{End Lift-Off Force} < 1394 \times N_w / 169$; 1128 < 1172.51 < 1385 Yes / No (Circle One)

Notes: _____

Recorded by: Signature [Signature] Date 11-17-09 / Reviewed by: Signature [Signature] Date 2/2/10
QV



Project: TMI 35TH YEAR TENDON SURVEILLANCE

Tendon No.: H13-41 Tendon End: SNOP / BUTT 1 Shop Field

ANCHORAGE INSPECTION CRITERIA

| | | |
|--|---|-----------------------------|
| BEARING PLATE SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GREASE CAP SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GASKET MATING SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| STUD/BOLT HOLES PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| FOREIGN MATERIAL EXCLUSION CONTROLLED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |

COMMENTS

WORK

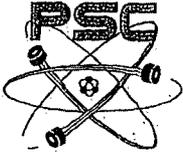
CREW FOREMAN SIGNOFF [Signature]

Date: 11-12-09

QC Reviewed: [Signature]

Level: II

Date: 11-12-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE

Tendon No.: H13-41 Tendon End: Butt. 3 Shop Field

ANCHORAGE INSPECTION CRITERIA

| | | |
|--|---|-----------------------------|
| BEARING PLATE SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GREASE CAP SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GASKET MATING SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| STUD/BOLT HOLES PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| FOREIGN MATERIAL EXCLUSION CONTROLLED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |

COMMENTS

NONE

CREW FOREMAN SIGNOFF

[Signature]

Date: 8-26-09

QC Reviewed:

[Signature]

Level: I

Date: 8-22-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE

Tendon No.: H-24-33 Tendon End: Butt. 4 Shop Field

ANCHORAGE INSPECTION CRITERIA

- | | | |
|--|---|-----------------------------|
| BEARING PLATE SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GREASE CAP SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GASKET MATING SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| STUD/BOLT HOLES PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| FOREIGN MATERIAL EXCLUSION CONTROLLED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |

COMMENTS

NONE

CREW FOREMAN SIGNOFF

[Signature]

Date: 8-13-09

QC Reviewed:

[Signature]

Level:

I

Date: 8-11-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE

Tendon No.: H24-33 Tendon End: Butt. 2 Shop Field

ANCHORAGE INSPECTION CRITERIA

- | | | |
|--|---|-----------------------------|
| BEARING PLATE SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GREASE CAP SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GASKET MATING SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| STUD/BOLT HOLES PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| FOREIGN MATERIAL EXCLUSION CONTROLLED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |

COMMENTS

None

CREW FOREMAN SIGNOFF

[Signature]

Date: 8-24-09

QC Reviewed:

[Signature]

Level: I

Date: 8-24-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE

Tendon No.: H46-50 Tendon End: Butt. 6 Shop Field

ANCHORAGE INSPECTION CRITERIA

| | | |
|--|---|-----------------------------|
| BEARING PLATE SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GREASE CAP SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GASKET MATING SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| STUD/BOLT HOLES PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| FOREIGN MATERIAL EXCLUSION CONTROLLED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |

COMMENTS

None

CREW FOREMAN SIGNOFF

[Signature]

Date: 8-13-09

QC Reviewed:

[Signature]

Level:

I

Date: 8-13-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE

Tendon No.: H46-50 Tendon End: Butt. 4 Shop Field

ANCHORAGE INSPECTION CRITERIA

| | | |
|--|---|-----------------------------|
| BEARING PLATE SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GREASE CAP SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GASKET MATING SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| STUD/BOLT HOLES PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| FOREIGN MATERIAL EXCLUSION CONTROLLED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |

COMMENTS

NONE

CREW FOREMAN SIGNOFF

[Signature]

Date: 8-13-09

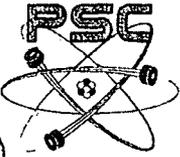
QC Reviewed:

[Signature]

Level:

I

Date: 8-11-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE

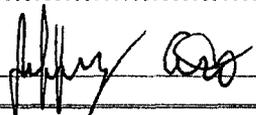
Tendon No.: H51-49 Tendon End: SHOP / BUT 1 Shop Field

ANCHORAGE INSPECTION CRITERIA

| | | |
|--|---|-----------------------------|
| BEARING PLATE SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GREASE CAP SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GASKET MATING SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| STUD/BOLT HOLES PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| FOREIGN MATERIAL EXCLUSION CONTROLLED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |

COMMENTS

NONE

CREW FOREMAN SIGNOFF 

Date: 11-13-09

QC Reviewed: 

Level: II

Date: 11-13-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE

Tendon No.: H51-49 Tendon End: FIELD/BUTT. 5 Shop Field

ANCHORAGE INSPECTION CRITERIA

- | | | |
|--|---|-----------------------------|
| BEARING PLATE SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GREASE CAP SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GASKET MATING SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| STUD/BOLT HOLES PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| FOREIGN MATERIAL EXCLUSION CONTROLLED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |

COMMENTS

NONE

CREW FOREMAN SIGNOFF [Signature] Date: 11-13-09

QC Reviewed: [Signature] Level: II Date: 11-13-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE

Tendon No.: H62-26 Tendon End: Butt. 6 Shop Field

ANCHORAGE INSPECTION CRITERIA

| | | |
|--|---|-----------------------------|
| BEARING PLATE SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GREASE CAP SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GASKET MATING SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| STUD/BOLT HOLES PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| FOREIGN MATERIAL EXCLUSION CONTROLLED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |

COMMENTS

None

CREW FOREMAN SIGNOFF

[Signature]

Date: 8-13-09

QC Reviewed:

[Signature]

Level:

I

Date: 8-13-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE

Tendon No.: H62-26 Tendon End: Buttress 2 Shop Field

ANCHORAGE INSPECTION CRITERIA

| | | |
|--|---|-----------------------------|
| BEARING PLATE SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GREASE CAP SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GASKET MATING SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| STUD/BOLT HOLES PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| FOREIGN MATERIAL EXCLUSION CONTROLLED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |

COMMENTS

None

CREW FOREMAN SIGNOFF

[Signature]

Date: 8-28-09

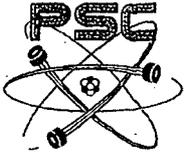
QC Reviewed:

[Signature]

Level:

I

Date: 8-28-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE

Tendon No.: V-11 Tendon End: Top Shop Field

ANCHORAGE INSPECTION CRITERIA

| | | |
|--|---|-----------------------------|
| BEARING PLATE SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GREASE CAP SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GASKET MATING SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| STUD/BOLT HOLES PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| FOREIGN MATERIAL EXCLUSION CONTROLLED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |

COMMENTS

None

CREW FOREMAN SIGNOFF

[Signature]

Date: 8-18-09

QC Reviewed:

W. Rance Cobb

Level:

II

Date: 8-18-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE

Tendon No.: V-11 Tendon End: Gallery Shop Field

ANCHORAGE INSPECTION CRITERIA

- | | | |
|--|---|-----------------------------|
| BEARING PLATE SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GREASE CAP SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GASKET MATING SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| STUD/BOLT HOLES PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| FOREIGN MATERIAL EXCLUSION CONTROLLED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |

COMMENTS

None

CREW FOREMAN SIGNOFF

[Signature]

Date: 8-13-09

QC Reviewed:

[Signature]

Level:

II

Date: 8-18-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE

Tendon No.: V-32 Tendon End: Top Shop Field

ANCHORAGE INSPECTION CRITERIA

| | | |
|--|---|-----------------------------|
| BEARING PLATE SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GREASE CAP SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GASKET MATING SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| STUD/BOLT HOLES PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| FOREIGN MATERIAL EXCLUSION CONTROLLED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |

COMMENTS

None

CREW FOREMAN SIGNOFF

[Signature]

Date:

8-18-09

QC Reviewed:

[Signature]

Level:

J

Date:

8-18-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE

Tendon No.: V-32 Tendon End: Gallery Shop Field

ANCHORAGE INSPECTION CRITERIA

- | | | |
|--|---|-----------------------------|
| BEARING PLATE SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GREASE CAP SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GASKET MATING SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| STUD/BOLT HOLES PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| FOREIGN MATERIAL EXCLUSION CONTROLLED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |

COMMENTS

None

CREW FOREMAN SIGNOFF

[Signature]

Date: 8-13-09

QC Reviewed:

[Signature]

Level: I

Date: 8-13-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE

Tendon No.: V-90 Tendon End: Top Shop Field

ANCHORAGE INSPECTION CRITERIA

| | | |
|--|---|-----------------------------|
| BEARING PLATE SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GREASE CAP SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GASKET MATING SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| STUD/BOLT HOLES PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| FOREIGN MATERIAL EXCLUSION CONTROLLED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |

COMMENTS

None

CREW FOREMAN SIGNOFF *[Signature]*

Date: 8-20-09

QC Reviewed: *W. Lance Robb*

Level: II

Date: 8-20-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE

Tendon No.: V-90 Tendon End: Gallery Shop Field

ANCHORAGE INSPECTION CRITERIA

| | | |
|--|---|-----------------------------|
| BEARING PLATE SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GREASE CAP SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GASKET MATING SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| STUD/BOLT HOLES PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| FOREIGN MATERIAL EXCLUSION CONTROLLED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |

COMMENTS

None

CREW FOREMAN SIGNOFF

[Signature]

Date: 8-20-09

QC Reviewed:

[Signature]

Level:

I

Date: 8-21-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE

Tendon No.: V-132 Tendon End: Shop/Top Shop Field

ANCHORAGE INSPECTION CRITERIA

| | | |
|--|---|-----------------------------|
| BEARING PLATE SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GREASE CAP SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GASKET MATING SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| STUD/BOLT HOLES PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| FOREIGN MATERIAL EXCLUSION CONTROLLED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |

COMMENTS

None

CREW FOREMAN SIGNOFF

[Signature]

Date: 8-19-09

QC Reviewed:

[Signature]

Level:

I

Date: 8-19-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE

Tendon No.: V-132 Tendon End: Gallery Shop Field

ANCHORAGE INSPECTION CRITERIA

| | | |
|--|---|-----------------------------|
| BEARING PLATE SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GREASE CAP SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GASKET MATING SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| STUD/BOLT HOLES PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| FOREIGN MATERIAL EXCLUSION CONTROLLED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |

COMMENTS

None

CREW FOREMAN SIGNOFF

[Signature]

Date: 8-13-09

QC Reviewed:

[Signature]

Level:

II

Date: 8-18-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE

Tendon No.: D-122 Tendon End: Buttress 5 Shop Field

ANCHORAGE INSPECTION CRITERIA

- BEARING PLATE SURFACE PROPERLY PREPARED: YES NO
- GREASE CAP SURFACE PROPERLY PREPARED: YES NO
- GASKET MATING SURFACE PROPERLY PREPARED: YES NO
- STUD/BOLT HOLES PROPERLY PREPARED: YES NO
- FOREIGN MATERIAL EXCLUSION CONTROLLED: YES NO

COMMENTS

None

CREW FOREMAN SIGNOFF

[Signature]

Date: 8-18-09

QC Reviewed:

[Signature]

Level:

I

Date: 8-18-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE

Tendon No.: 2722 Tendon End: FIELD/NE Shop Field

ANCHORAGE INSPECTION CRITERIA

| | | |
|--|---|-----------------------------|
| BEARING PLATE SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GREASE CAP SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GASKET MATING SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| STUD/BOLT HOLES PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| FOREIGN MATERIAL EXCLUSION CONTROLLED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |

COMMENTS

NONE

CREW FOREMAN SIGNOFF *Paul P. O'Hara / Jeffrey Cox* Date: 11-13-09

QC Reviewed: *M. Bussone* Level: III Date: 2/2/10



Project: TMI 35TH YEAR TENDON SURVEILLANCE

Tendon No.: D-225 Tendon End: Butt.5 Shop Field

ANCHORAGE INSPECTION CRITERIA

| | | |
|--|---|-----------------------------|
| BEARING PLATE SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GREASE CAP SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GASKET MATING SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| STUD/BOLT HOLES PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| FOREIGN MATERIAL EXCLUSION CONTROLLED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |

COMMENTS

None

CREW FOREMAN SIGNOFF

[Signature]

Date: 8-13-09

QC Reviewed:

[Signature]

Level:

I

Date: 8-20-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE

Tendon No.: D225 Tendon End: Butt. 2 Shop Field

ANCHORAGE INSPECTION CRITERIA

| | | |
|--|---|-----------------------------|
| BEARING PLATE SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GREASE CAP SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GASKET MATING SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| STUD/BOLT HOLES PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| FOREIGN MATERIAL EXCLUSION CONTROLLED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |

COMMENTS

None

CREW FOREMAN SIGNOFF

[Signature]

Date: 8-13-09

QC Reviewed:

W. Lance Pollock

Level:

II

Date: 8-18-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE

Tendon No.: D-322 Tendon End: Shop/NORTH Shop Field

ANCHORAGE INSPECTION CRITERIA

| | | |
|--|---|-----------------------------|
| BEARING PLATE SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GREASE CAP SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GASKET MATING SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| STUD/BOLT HOLES PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| FOREIGN MATERIAL EXCLUSION CONTROLLED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |

COMMENTS

None

CREW FOREMAN SIGNOFF *Paul P. [Signature]* / *[Signature]*

Date: 11-17-09

QC Reviewed: *A. Bussone*

Level: III

Date: 2/2/10

PSC



Project: TMI 35TH YEAR TENDON SURVEILLANCE

Tendon No.: D-322 Tendon End: FIELD / SOUTH Shop Field

ANCHORAGE INSPECTION CRITERIA

| | | |
|--|---|-----------------------------|
| BEARING PLATE SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GREASE CAP SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GASKET MATING SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| STUD/BOLT HOLES PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
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COMMENTS

NONE

CREW FOREMAN SIGNOFF

[Signature]

Date: 11-17-09

QC Reviewed:

[Signature]

Level: II

Date: 11-17-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE

Tendon No.: D-942 Tendon End: Butt. 6 Shop Field

ANCHORAGE INSPECTION CRITERIA

- | | | |
|--|---|-----------------------------|
| BEARING PLATE SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GREASE CAP SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GASKET MATING SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| STUD/BOLT HOLES PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| FOREIGN MATERIAL EXCLUSION CONTROLLED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |

COMMENTS

None

CREW FOREMAN SIGNOFF

[Signature]

Date: 8-17-09

QC Reviewed:

[Signature]

Level:

II

Date: 8-17-09



Project: TMI 35TH YEAR TENDON SURVEILLANCE

Tendon No.: D3412 Tendon End: Bot. 4 / Field Shop Field

ANCHORAGE INSPECTION CRITERIA

| | | |
|--|---|--|
| BEARING PLATE SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input checked="" type="checkbox"/> NO <u>WR 8-17-09</u> |
| GREASE CAP SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GASKET MATING SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| STUD/BOLT HOLES PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| FOREIGN MATERIAL EXCLUSION CONTROLLED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |

COMMENTS

None

CREW FOREMAN SIGNOFF

[Signature]

Date: 8-17-09

QC Reviewed:

[Signature]

Level: I

Date: 8-17-09



Gasket Repair

Project: TMI 35TH YEAR TENDON SURVEILLANCE

Tendon No.: V- 10 Tendon End: Gallery Shop Field

ANCHORAGE INSPECTION CRITERIA

- BEARING PLATE SURFACE PROPERLY PREPARED: YES NO
- GREASE CAP SURFACE PROPERLY PREPARED: YES NO
- GASKET MATING SURFACE PROPERLY PREPARED: YES NO
- STUD/BOLT HOLES PROPERLY PREPARED: YES NO
- FOREIGN MATERIAL EXCLUSION CONTROLLED: YES NO

COMMENTS

None

CREW FOREMAN SIGNOFF

[Signature]

Date: 8-21-09

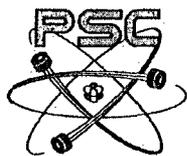
QC Reviewed:

W. Lance Robb

Level:

IV

Date: 8-21-09



GREASE LEAK REPAIR

Project: TMI 35TH YEAR TENDON SURVEILLANCE

Tendon No.: V55 Tendon End: BOTTOM Shop Field

ANCHORAGE INSPECTION CRITERIA

| | | |
|--|---|-----------------------------|
| BEARING PLATE SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GREASE CAP SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GASKET MATING SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| STUD/BOLT HOLES PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| FOREIGN MATERIAL EXCLUSION CONTROLLED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |

COMMENTS

NONE

CREW FOREMAN SIGNOFF *[Signature]*

Date: 11-19-09

QC Reviewed: *[Signature]*

Level: IT

Date: 11-19-09



Gasket Repair

Project: TMI 35TH YEAR TENDON SURVEILLANCE

Tendon No.: V-60 Tendon End: Gallery Shop Field

ANCHORAGE INSPECTION CRITERIA

- | | | |
|--|---|-----------------------------|
| BEARING PLATE SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GREASE CAP SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GASKET MATING SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| STUD/BOLT HOLES PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| FOREIGN MATERIAL EXCLUSION CONTROLLED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |

COMMENTS

None

CREW FOREMAN SIGNOFF

Date: 8-21-09

QC Reviewed:

W. Ponce Roble

Level:

IT

Date: 8-21-09



Gasket Repair

Project: TMI 35TH YEAR TENDON SURVEILLANCE

Tendon No.: V-62 Tendon End: Gallery Shop Field

ANCHORAGE INSPECTION CRITERIA

- | | | |
|--|---|-----------------------------|
| BEARING PLATE SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GREASE CAP SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GASKET MATING SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| STUD/BOLT HOLES PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| FOREIGN MATERIAL EXCLUSION CONTROLLED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |

COMMENTS

None

CREW FOREMAN SIGNOFF

[Signature]

Date: 8-21-09

QC Reviewed:

[Signature]

Level: I

Date: 8-21-09



Gasket Repair

Project: TMI 35TH YEAR TENDON SURVEILLANCE

Tendon No.: V- 7/ Tendon End: Gallery Shop Field

ANCHORAGE INSPECTION CRITERIA

- | | | |
|--|---|-----------------------------|
| BEARING PLATE SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GREASE CAP SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GASKET MATING SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| STUD/BOLT HOLES PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| FOREIGN MATERIAL EXCLUSION CONTROLLED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |

COMMENTS

None

CREW FOREMAN SIGNOFF

Date: 8-21-09

QC Reviewed:

Level:

II

Date: 8-21-09



GREASE LEAK FOAM

Project: TMI 35TH YEAR TENDON SURVEILLANCE

Tendon No.: 184 Tendon End: BOTTOM Shop Field

ANCHORAGE INSPECTION CRITERIA

- | | | |
|--|---|-----------------------------|
| BEARING PLATE SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GREASE CAP SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GASKET MATING SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| STUD/BOLT HOLES PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| FOREIGN MATERIAL EXCLUSION CONTROLLED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |

COMMENTS

NONE

CREW FOREMAN SIGNOFF n/a Date: 11-19-09

QC Reviewed: *[Signature]* Level: II Date: 11-19-09



Gasket Repair

Project: TMI 35TH YEAR TENDON SURVEILLANCE

Tendon No.: V- 88 Tendon End: Gallery Shop Field

ANCHORAGE INSPECTION CRITERIA

- BEARING PLATE SURFACE PROPERLY PREPARED: YES NO
- GREASE CAP SURFACE PROPERLY PREPARED: YES NO
- GASKET MATING SURFACE PROPERLY PREPARED: YES NO
- STUD/BOLT HOLES PROPERLY PREPARED: YES NO
- FOREIGN MATERIAL EXCLUSION CONTROLLED: YES NO

COMMENTS

None

CREW FOREMAN SIGNOFF

Henry Estep

Date: 8-20-09

QC Reviewed:

W. Lance Robb

Level:

II

Date: 8-21-09



Gasket Repair

Project: TMI 35TH YEAR TENDON SURVEILLANCE

Tendon No.: V- 98 Tendon End: Gallery Shop Field

ANCHORAGE INSPECTION CRITERIA

| | | |
|--|---|-----------------------------|
| BEARING PLATE SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GREASE CAP SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| GASKET MATING SURFACE PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| STUD/BOLT HOLES PROPERLY PREPARED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| FOREIGN MATERIAL EXCLUSION CONTROLLED: | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |

COMMENTS

None

CREW FOREMAN SIGNOFF

Jeffery Estep

Date: 8-20-09

QC Reviewed:

Tommy C. [Signature]

Level:

I

Date: 8-21-09



Gasket Repair

Project: TMI 35TH YEAR TENDON SURVEILLANCE

Tendon No.: V- 99 Tendon End: Gallery Shop Field

ANCHORAGE INSPECTION CRITERIA

- BEARING PLATE SURFACE PROPERLY PREPARED: YES NO
- GREASE CAP SURFACE PROPERLY PREPARED: YES NO
- GASKET MATING SURFACE PROPERLY PREPARED: YES NO
- STUD/BOLT HOLES PROPERLY PREPARED: YES NO
- FOREIGN MATERIAL EXCLUSION CONTROLLED: YES NO

COMMENTS

None

CREW FOREMAN SIGNOFF

[Signature]

Date: 8-20-09

QC Reviewed:

[Signature]

Level:

I

Date: 8-20-09



Project: TMI 35th YEAR TENDON SURVEILLANCE

Tendon No.: H13-41

GREASE REPLACEMENT

QC SIGNOFFS

(8.4) Grease Used NEW OLD - TEST DATE: ACCEPTABLE APPROVAL LETTER DATED: SP011-13-09

8.0 PREREQUISITES

(8.5) Total Grease Loss from Data Sheet 6.0 for Butt. 3/Field tendon end: 5 gal. WRR 8-26-09

(8.6) Total Grease Loss from Data Sheet 6.0 for Butt 1/Swap tendon end: 6 1/2 gal. SP011-13-09

(8.7) Estimated grease losses from leaks for Butt. 3/Field tendon end: 0 gal. WRR 8-26-09

(8.8) Estimated grease losses from leaks for Butt 1/Swap tendon end: 0 gal. SP011-13-09

(8.9) TOTAL Tendon Grease Loss: 11 1/2 gal. SP011-13-09

13.0 POURING AND HAND PUMPING - FIRST END

(13.6) Ambient Temp.: 99 °F Thermometer ID: PK-104 Recal Date: 7-27-10

(13.7) Grease Temp.: 195 °F Thermometer ID: PK-104 Recal Date: 7-27-10

(13.9) Initial Grease Height (a) 14 in. (13.12) Final Grease Height (b) 11 in.

(13.14) Total amount of Grease added: 5.31 gal. (a - b) x 1.77 into the Field end

(13.16) Quantity of Waste Grease: 0 gal. (13.15) Poured Hand Pumped

(13.17) Total Grease Replaced this end: 5.31 gal. WRR 8-27-09

13.0 HAND PUMPING - SECOND END

(13.6) Ambient Temp.: 52 °F Thermometer ID: PK104 Recal Date: 7-27-10

(13.7) Grease Temp.: 180 °F Thermometer ID: PK104 Recal Date: 7-27-10

(13.9) Initial Grease Height (a) 14 in. (13.12) Final Grease Height (b) 9 1/2 in.

(13.14) Total amount of Grease added: 7.96 gal. (a - b) x 1.77 into the _____ end

(13.16) Quantity of Waste Grease: 0 gal. (13.15) Poured Hand Pumped

(13.17) Total Grease Replaced this end: 7.96 gal. SP011-13-09

14.0 CALCULATION OF PRESSURE PUMPING

(14.1) Total Tendon Grease Replaced: 13.27 gal. (13.17 + 13.17)

(14.2) Net Tendon Duct Grease Volume: 103.5 gal. Refer to SQ 12.2 - GREASE VOLUMES, for the Tendon Net Duct Volume

(14.3) Percent Difference: $\frac{\text{Total Tendon Replaced (14.1) - Total Tendon Loss (8.9)}}{\text{Net Tendon Duct Grease Volume (14.2)}} \times 100 = \underline{1.71} % Difference$

(14.4) Grease Leaks: Yes No

(14.5) Refill Acceptable: Yes (less than 10%) No (greater than 10%)

If No - Customer Notified NCR No.: n/a

(14.6) Comments: none

Reviewed: A. Bussone

Level: III

Date: 2/2/10



Project: TMI 35th YEAR TENDON SURVEILLANCE

Tendon No.: H24-33

GREASE REPLACEMENT

QC SIGNOFFS

(8.4) Grease Used NEW OLD - TEST DATE: ACCEPTABLE APPROVAL LETTER DATED: 7/28/09

8.0 PREREQUISITES

(8.5) Total Grease Loss from Data Sheet 6.0 for Field/Butt. 2 tendon end: 4 gal. 7/28/09
 (8.6) Total Grease Loss from Data Sheet 6.0 for Shop/Butt. 2 tendon end: 5 gal. 7/28/09
 (8.7) Estimated grease losses from leaks for Field/Butt. 2 tendon end: 0 gal. 7/28/09
 (8.8) Estimated grease losses from leaks for Shop/Butt. 2 tendon end: 0 gal. 7/28/09
 (8.9) TOTAL Tendon Grease Loss: 9 gal. 7/28/09

13.0 POURING AND HAND PUMPING – FIRST END

(13.6) Ambient Temp.: 89 °F Thermometer ID: PK-104 Recal Date: 7-27-09
 (13.7) Grease Temp.: 195 °F Thermometer ID: PK-104 Recal Date: 7-27-09
 (13.9) Initial Grease Height (a) 17 in. (13.12) Final Grease Height (b) 14.5 in.
 (13.14) Total amount of Grease added: 4.42 gal. (a - b) x 1.77 into the Field end
 (13.16) Quantity of Waste Grease: 0 gal. (13.15) Poured Hand Pumped
 (13.17) Total Grease Replaced this end: 4.42 gal. 7/28/09

13.0 HAND PUMPING – SECOND END

(13.6) Ambient Temp.: 91 °F Thermometer ID: PK-104 Recal Date: 7-27-10
 (13.7) Grease Temp.: 196 °F Thermometer ID: PK-104 Recal Date: 7-27-10
 (13.9) Initial Grease Height (a) 7.5 in. (13.12) Final Grease Height (b) 3 in.
 (13.14) Total amount of Grease added: 7.96 gal. (a - b) x 1.77 into the Shop end
 (13.16) Quantity of Waste Grease: 0 gal. (13.15) Poured Hand Pumped
 (13.17) Total Grease Replaced this end: 7.96 gal. 7/28/09

14.0 CALCULATION OF PRESSURE PUMPING

(14.1) Total Tendon Grease Replaced: 12.38 gal. (13.17 + 13.17)
 (14.2) Net Tendon Duct Grease Volume: 103.2 gal. Refer to SQ 12.2 – GREASE VOLUMES, for the Tendon Net Duct Volume
 (14.3) Percent Difference: $\frac{\text{Total Tendon Replaced (14.1) - Total Tendon Loss (8.9)}}{\text{Net Tendon Duct Grease Volume (14.2)}} \times 100 = \frac{12.38 - 9}{103.2} \times 100 = \underline{3.27} % Difference 7/28/09
 (14.4) Grease Leaks: Yes No 7/28/09
 (14.5) Refill Acceptable: Yes (less than 10%) No (greater than 10%) 7/28/09
 If No – Customer Notified NCR No.: N/A 7/28/09
 (14.6) Comments: None$

Reviewed: W. Lance Colton Level: II Date: 8-24-09



Project: TMI 35th YEAR TENDON SURVEILLANCE

Tendon No.: H46-50

GREASE REPLACEMENT

QC SIGNOFFS

(8.4) Grease Used NEW OLD - TEST DATE: ACCEPTABLE APPROVAL LETTER DATED: 2/18/8-14-09

8.0 PREREQUISITES

(8.5) Total Grease Loss from Data Sheet 6.0 for Butt. 4/Field tendon end: 4.5 gal. WRP 8-11-09

(8.6) Total Grease Loss from Data Sheet 6.0 for Butt. 6/shop tendon end: 4.5 gal. 2/18/8-14-09

(8.7) Estimated grease losses from leaks for Butt. 4/Field tendon end: 0 gal. WRP 8-11-09

(8.8) Estimated grease losses from leaks for Butt. 6/shop tendon end: 0 gal. 2/18/8-14-09

(8.9) TOTAL Tendon Grease Loss: 9 gal. 2/18/8-14-09

13.0 POURING AND HAND PUMPING – FIRST END

(13.6) Ambient Temp.: 91 °F Thermometer ID: ST-83 Recal Date: 3-26-10

(13.7) Grease Temp.: 196 °F Thermometer ID: PK-104 Recal Date: 7-27-10

(13.9) Initial Grease Height (a) 12 in. (13.12) Final Grease Height (b) 7.5 in.

(13.14) Total amount of Grease added: 7.96 gal. (a - b) x 1.77 into the Field end

(13.16) Quantity of Waste Grease: 0 gal. (13.15) Poured Hand Pumped

(13.17) Total Grease Replaced this end: 7.96 gal. 2/18/8-14-09

13.0 HAND PUMPING – SECOND END

(13.6) Ambient Temp.: 91 °F Thermometer ID: ST-83 Recal Date: 3-26-10

(13.7) Grease Temp.: 196 °F Thermometer ID: PK-104 Recal Date: 7-27-10

(13.9) Initial Grease Height (a) 16 in. (13.12) Final Grease Height (b) 12 in.

(13.14) Total amount of Grease added: 7.08 gal. (a - b) x 1.77 into the Shop end

(13.16) Quantity of Waste Grease: 0 gal. (13.15) Poured Hand Pumped

(13.17) Total Grease Replaced this end: 7.08 gal. 2/18/8-14-09

14.0 CALCULATION OF PRESSURE PUMPING

(14.1) Total Tendon Grease Replaced: 15.04 gal. (13.17 + 13.17)

(14.2) Net Tendon Duct Grease Volume: 103.4 gal. Refer to SQ 12.2 – GREASE VOLUMES, for the Tendon Net Duct Volume

(14.3) Percent Difference: $\frac{\text{Total Tendon Replaced (14.1) - Total Tendon Loss (8.9)}}{\text{Net Tendon Duct Grease Volume (14.2)}} \times 100 = \underline{5.84} % Difference 2/18/8-14-09$

(14.4) Grease Leaks: Yes No 2/18/8-14-09

(14.5) Refill Acceptable: Yes (less than 10%) No (greater than 10%) 2/18/8-14-09

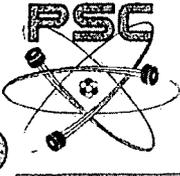
If No – Customer Notified NCR No.: N/A 2/18/8-14-09

(14.6) Comments: None

Reviewed: W. Rance Polke

Level: II

Date: 8-20-09



Project: TMI 35th YEAR TENDON SURVEILLANCE

Tendon No.: 115149

GREASE REPLACEMENT

QC SIGNOFFS

(8.4) Grease Used NEW OLD - TEST DATE: ACCEPTABLE APPROVAL LETTER DATED: 28011-13-09

8.0 PREREQUISITES

(8.5) Total Grease Loss from Data Sheet 6.0 for SHOP tendon end: 7 gal. 28011-13-09
 (8.6) Total Grease Loss from Data Sheet 6.0 for FIELD tendon end: 4 gal. 28011-13-09
 (8.7) Estimated grease losses from leaks for SHOP tendon end: 0 gal. 28011-13-09
 (8.8) Estimated grease losses from leaks for FIELD tendon end: 0 gal. 28011-13-09
 (8.9) TOTAL Tendon Grease Loss: 11 gal. 28011-13-09

13.0 POURING AND HAND PUMPING - FIRST END

(13.6) Ambient Temp.: 52 °F Thermometer ID: PK104 Recal Date: 7-27-10
 (13.7) Grease Temp.: 180 °F Thermometer ID: PK104 Recal Date: 7-27-10
 (13.9) Initial Grease Height (a) 31 in. (13.12) Final Grease Height (b) 27 in.
 (13.14) Total amount of Grease added: 7.08 gal. (a - b) x 1.77 into the SHOP end
 (13.16) Quantity of Waste Grease: 0 gal. (13.15) Poured Hand Pumped
 (13.17) Total Grease Replaced this end: 7.08 gal. 28011-13-09

13.0 HAND PUMPING - SECOND END

(13.6) Ambient Temp.: 54 °F Thermometer ID: PK104 Recal Date: 7-27-10
 (13.7) Grease Temp.: 200 °F Thermometer ID: PK104 Recal Date: 7-27-10
 (13.9) Initial Grease Height (a) 18 in. (13.12) Final Grease Height (b) 14 in.
 (13.14) Total amount of Grease added: 7.08 gal. (a - b) x 1.77 into the FIELD end
 (13.16) Quantity of Waste Grease: 0 gal. (13.15) Poured Hand Pumped
 (13.17) Total Grease Replaced this end: 7.08 gal. 28011-13-09

14.0 CALCULATION OF PRESSURE PUMPING

(14.1) Total Tendon Grease Replaced: 14.16 gal. (13.17 + 13.17)
 (14.2) Net Tendon Duct Grease Volume: 103.4 gal. Refer to SQ 12.2 - GREASE VOLUMES, for the Tendon Net Duct Volume
 (14.3) Percent Difference: $\frac{\text{Total Tendon Replaced (14.1)} - \text{Total Tendon Loss (8.9)}}{\text{Net Tendon Duct Grease Volume (14.2)}} \times 100 = \underline{3.05} \% \text{ Difference}$ 28011-13-09
 (14.4) Grease Leaks: Yes No 28011-13-09
 (14.5) Refill Acceptable: Yes (less than 10%) No (greater than 10%) 28011-13-09
 If No - Customer Notified NCR No.: n/a 28011-13-09
 (14.6) Comments: NONE

Reviewed: A. Bussone Level: III Date: 2/2/10



Project: TMI 35th YEAR TENDON SURVEILLANCE

Tendon No.: H 62-26

GREASE REPLACEMENT

QC SIGNOFFS

(8.4) Grease Used NEW OLD - TEST DATE: ACCEPTABLE APPROVAL LETTER

8.0 PREREQUISITES

DATED:

(8.5) Total Grease Loss from Data Sheet 6.0 for Butt. 6/shop tendon end: 4 gal. WRP 8-12-09

(8.6) Total Grease Loss from Data Sheet 6.0 for Butt. 2/Field tendon end: 5.25 gal. WLS 8-28-09

(8.7) Estimated grease losses from leaks for Butt. 6/shop tendon end: 0 gal. WRP 8-12-09

(8.8) Estimated grease losses from leaks for Butt. 2/Field tendon end: 0 gal. WLS 8-28-09

(8.9) TOTAL Tendon Grease Loss: 9.25 gal. WLS 8-28-09

13.0 POURING AND HAND PUMPING – FIRST END

(13.6) Ambient Temp.: 86 °F Thermometer ID: PK-102 Recal Date: 7-27-10

(13.7) Grease Temp.: 190 °F Thermometer ID: PK-102 Recal Date: 7-27-10

(13.9) Initial Grease Height (a) 28 in. (13.12) Final Grease Height (b) 24 in.

(13.14) Total amount of Grease added: 7.08 gal. (a - b) x 1.77 into the Butt. 6/shop end

(13.16) Quantity of Waste Grease: 0 gal. (13.15) Poured Hand Pumped

(13.17) Total Grease Replaced this end: 7.08 gal. WRP 8-12-09

13.0 HAND PUMPING – SECOND END

(13.6) Ambient Temp.: 96 °F Thermometer ID: PK-104 Recal Date: 7-27-10

(13.7) Grease Temp.: 196 °F Thermometer ID: PK-104 Recal Date: 7-27-10

(13.9) Initial Grease Height (a) 11 in. (13.12) Final Grease Height (b) 7.5 in.

(13.14) Total amount of Grease added: 6.19 gal. (a - b) x 1.77 into the Field/Butt. 2 end

(13.16) Quantity of Waste Grease: 0 gal. (13.15) Poured Hand Pumped

(13.17) Total Grease Replaced this end: 6.19 gal. WLS 8-28-09

14.0 CALCULATION OF PRESSURE PUMPING

(14.1) Total Tendon Grease Replaced: 13.27 gal. (13.17 + 13.17)

(14.2) Net Tendon Duct Grease Volume: 102.2 gal. Refer to SQ 12.2 – GREASE VOLUMES, for the Tendon Net Duct Volume

(14.3) Percent Difference: $\frac{\text{Total Tendon Replaced (14.1) - Total Tendon Loss (8.9)}}{\text{Net Tendon Duct Grease Volume (14.2)}} \times 100 = \underline{3.89} % Difference$

(14.4) Grease Leaks: Yes No

(14.5) Refill Acceptable: Yes (less than 10%) No (greater than 10%)

If No – Customer Notified NCR No.: N/A

(14.6) Comments: None

Reviewed: [Signature]

Level: I

Date: 8-28-09



Project: TMI 35th YEAR TENDON SURVEILLANCE

Tendon No.: V-11

GREASE REPLACEMENT

QC SIGNOFFS

(8.4) Grease Used NEW OLD - TEST DATE: ACCEPTABLE APPROVAL LETTER DATED: 7/20/14/10

8.0 PREREQUISITES

(8.5) Total Grease Loss from Data Sheet 6.0 for Gallery/Field tendon end: 57.5 gal. WCR 8-13-09

(8.6) Total Grease Loss from Data Sheet 6.0 for Shoe/Top tendon end: 4.0 gal. 7/20/14/10

(8.7) Estimated grease losses from leaks for Gallery Field tendon end: 0 gal. WCR 8-13-09

(8.8) Estimated grease losses from leaks for Shoe/Top tendon end: 0 gal. 7/20/14/10

(8.9) TOTAL Tendon Grease Loss: 61.5 gal. 7/20/14/10

12.0 INITIAL PRESSURE PUMPING

(12.6) Ambient Temp.: 72 °F Thermometer ID: PK102 Recal Date: 7-27-10

(12.7) Grease Temp.: 210 °F Thermometer ID: PK102 Recal Date: 7-27-10

(12.9) Initial Grease Height (a) 16 1/2 in. (12.14) Final Grease Height (b) 9 in.

(12.16) Total amount of Grease Pumped: 73.05 gal. (a - b) x 1.77 into the Field/BOTTOM end

(12.18) Quantity of Waste Grease: 4.50 gal. (12.17) Was Exit Achieved? Yes No

(12.19) Total Grease Replaced this end: 68.55 gal. If no, Pressure Held for N/A psi N/A min 7/20/14/10

13.0 HAND PUMPING - SECOND END (if necessary)

(13.6) Ambient Temp.: _____ °F Thermometer ID: _____ Recal Date: _____

(13.7) Grease Temp.: _____ °F Thermometer ID: _____ Recal Date: _____

(13.9) Initial Grease Height (a) N/A in. (13.12) Final Grease Height (b) _____ in.

(13.14) Total amount of Grease added: _____ gal. (a - b) x 1.77 into the _____ end

(13.16) Quantity of Waste Grease: _____ gal. (13.15) Poured Hand Pumped

(13.17) Total Grease Replaced this end: _____ gal.

14.0 CALCULATION OF PRESSURE PUMPING

(14.1) Total Tendon Grease Replaced: 68.55 gal. (12.19 + 13.17)

(14.2) Net Tendon Duct Grease Volume: 123.80 gal. Refer to SQ 12.2 - GREASE VOLUMES, for the Tendon Net Duct Volume

(14.3) Percent Difference: $\frac{\text{Total Tendon Replaced (14.1) - Total Tendon Loss (8.9)}}{\text{Net Tendon Duct Grease Volume (14.2)}} \times 100 = \underline{5.69} % Difference 7/20/14/10$

(14.4) Grease Leaks: Yes No 7/20/14/10

(14.5) Refill Acceptable: Yes (less than 10%) No (greater than 10%) 7/20/14/10

If No - Customer Notified NCR No.: N/A 7/20/14/10

(14.6) Comments: NONE

QC Reviewed: J. Brusone Level: III Date: 2/2/10



Project: TMI 35th YEAR TENDON SURVEILLANCE

Tendon No.: V-32

GREASE REPLACEMENT

QC SIGNOFFS

(8.4) Grease Used NEW OLD - TEST DATE: ACCEPTABLE APPROVAL LETTER DATED:

8.0 PREREQUISITES

(8.5) Total Grease Loss from Data Sheet 6.0 for Top/shop tendon end: 4.5 gal. 2688-18-09

(8.6) Total Grease Loss from Data Sheet 6.0 for Bottom/field tendon end: 8 gal.

(8.7) Estimated grease losses from leaks for Top/shop tendon end: 0 gal. 7688-18-09

(8.8) Estimated grease losses from leaks for Bottom/field tendon end: 0 gal. 2688-18-09

(8.9) TOTAL Tendon Grease Loss: 12.5 gal. 2688-18-09

13.0 POURING AND HAND PUMPING - FIRST END

(13.6) Ambient Temp.: 92 °F Thermometer ID: Ph-104 Recal Date: 7-27-10

(13.7) Grease Temp.: 195 °F Thermometer ID: Ph-104 Recal Date: 7-27-10

(13.9) Initial Grease Height (a) 28.5 in. (13.12) Final Grease Height (b) 15.5 in.

(13.14) Total amount of Grease added: 23.01 gal. (a - b) x 1.77 into the Top end

(13.16) Quantity of Waste Grease: 0 gal. (13.15) Poured Hand Pumped

(13.17) Total Grease Replaced this end: 23.01 gal. 7688-18-09

13.0 HAND PUMPING - SECOND END

(13.6) Ambient Temp.: _____ °F Thermometer ID: _____ Recal Date: _____

(13.7) Grease Temp.: _____ °F Thermometer ID: _____ Recal Date: _____

(13.9) Initial Grease Height (a) _____ in. (13.12) Final Grease Height (b) NA in.

(13.14) Total amount of Grease added: _____ gal. (a - b) x 1.77 into the _____ end

(13.16) Quantity of Waste Grease: _____ gal. (13.15) Poured Hand Pumped

(13.17) Total Grease Replaced this end: _____ gal. 2688-18-09

14.0 CALCULATION OF PRESSURE PUMPING

(14.1) Total Tendon Grease Replaced: 23.01 gal. (13.17 + 13.17)

(14.2) Net Tendon Duct Grease Volume: 125.2 gal. Refer to SQ 12.2 - GREASE VOLUMES, for the Tendon Net Duct Volume

(14.3) Percent Difference: $\frac{\text{Total Tendon Replaced (14.1) - Total Tendon Loss (8.9)}}{\text{Net Tendon Duct Grease Volume (14.2)}} \times 100 = \underline{8.39} % Difference 2688-18-09$

(14.4) Grease Leaks: Yes No 2688-18-09

(14.5) Refill Acceptable: Yes (less than 10%) No (greater than 10%) 2688-18-09

If No - Customer Notified NCR No.: _____ 2688-18-09

(14.6) Comments: None

Reviewed: W. Rance Pollock Level: II Date: 8-20-09



Project: TMI 35th YEAR TENDON SURVEILLANCE

Tendon No.: V-90

GREASE REPLACEMENT

QC SIGNOFFS

(8.4) Grease Used NEW OLD - TEST DATE: ACCEPTABLE APPROVAL LETTER

8.0 PREREQUISITES

(8.5) Total Grease Loss from Data Sheet 6.0 for Gallery/Field tendon end: 70.5 gal.

WRP 8-19-09

(8.6) Total Grease Loss from Data Sheet 6.0 for Top/Shop tendon end: 4.0 gal.

WRP 8-19-09

(8.7) Estimated grease losses from leaks for Gallery/Field tendon end: 0 gal.

WRP 8-19-09

(8.8) Estimated grease losses from leaks for Top/Shop tendon end: 0 gal.

WRP 8-19-09

(8.9) TOTAL Tendon Grease Loss: 74.5 gal.

WRP 8-21-09

12.0 INITIAL PRESSURE PUMPING

(12.6) Ambient Temp.: 72 °F Thermometer ID: PK102 Recal Date: 7-27-10

(12.7) Grease Temp.: 210 °F Thermometer ID: PK102 Recal Date: 7-27-10

(12.9) Initial Grease Height (a) 16 1/4 in. (12.14) Final Grease Height (b) 8 in.

(12.16) Total amount of Grease Pumped: 80.35 gal. (a-b) x 1.77 into the Field/Bottom end

(12.18) Quantity of Waste Grease: 3.50 gal. (12.17) Was Exit Achieved? Yes No

(12.19) Total Grease Replaced this end: 76.85 gal. If no, Pressure Held for N/A psi N/A min

WRP 8-19-09

13.0 HAND PUMPING - SECOND END (if necessary)

(13.6) Ambient Temp.: _____ °F Thermometer ID: _____ Recal Date: _____

(13.7) Grease Temp.: _____ °F Thermometer ID: _____ Recal Date: _____

(13.9) Initial Grease Height (a) N/A in. (13.12) Final Grease Height (b) _____ in.

(13.14) Total amount of Grease added: _____ gal. (a-b) x 1.77 into the _____ end

(13.16) Quantity of Waste Grease: _____ gal. (13.15) Poured Hand Pumped

(13.17) Total Grease Replaced this end: _____ gal.

14.0 CALCULATION OF PRESSURE PUMPING

(14.1) Total Tendon Grease Replaced: 76.85 gal. (12.19 + 13.17)

(14.2) Net Tendon Duct Grease Volume: 124.90 gal. Refer to SQ 12.2 - GREASE VOLUMES, for the Tendon Net Duct Volume

(14.3) Percent Difference: $\frac{\text{Total Tendon Replaced (14.1) - Total Tendon Loss (8.9)}}{\text{Net Tendon Duct Grease Volume (14.2)}} \times 100 = \underline{1.88} % Difference$

(14.4) Grease Leaks: Yes No

(14.5) Refill Acceptable: Yes (less than 10%) No (greater than 10%)

If No - Customer Notified NCR No.: N/A

(14.6) Comments: NONE

WRP 8-19-09

WRP 8-19-09

WRP 8-19-09

WRP 8-19-09

QC Reviewed: J. Bussone

Level: III

Date: 2/2/10



Project: TMI 35th YEAR TENDON SURVEILLANCE

Tendon No.: V-132

GREASE REPLACEMENT

QC SIGNOFFS

(8.4) Grease Used NEW OLD - TEST DATE: ACCEPTABLE APPROVAL LETTER

8.0 PREREQUISITES

(8.5) Total Grease Loss from Data Sheet 6.0 for Gallery/Field tendon end: 56.5 gal. WRR 8-13-09

(8.6) Total Grease Loss from Data Sheet 6.0 for _____ tendon end: 2.0 gal. WRR 8-13-09

(8.7) Estimated grease losses from leaks for Gallery/Field tendon end: 0 gal. WRR 8-13-09

(8.8) Estimated grease losses from leaks for _____ tendon end: 0 gal. WRR 8-13-09

(8.9) TOTAL Tendon Grease Loss: 58.5 gal. WRR 8-13-09

12.0 INITIAL PRESSURE PUMPING

(12.6) Ambient Temp.: _____ °F Thermometer ID: _____ Recal Date: _____

(12.7) Grease Temp.: _____ °F Thermometer ID: _____ Recal Date: _____

(12.9) Initial Grease Height (a) N/A (12.14) Final Grease Height (b) _____ in.

(12.16) Total amount of Grease Pumped: _____ gal. (a - b) x 1.77 into the _____ end

(12.18) Quantity of Waste Grease: _____ gal. (12.17) Was Exit Achieved? Yes No

(12.19) Total Grease Replaced this end: _____ gal. If no, Pressure Held for _____ psi _____ min

13.0 HAND PUMPING - SECOND END (if necessary)

(13.6) Ambient Temp.: _____ °F Thermometer ID: _____ Recal Date: _____

(13.7) Grease Temp.: _____ °F Thermometer ID: _____ Recal Date: _____

(13.9) Initial Grease Height (a) N/A (13.12) Final Grease Height (b) _____ in.

(13.14) Total amount of Grease added: _____ gal. (a - b) x 1.77 into the _____ end

(13.16) Quantity of Waste Grease: _____ gal. (13.15) Poured Hand Pumped

(13.17) Total Grease Replaced this end: _____ gal.

14.0 CALCULATION OF PRESSURE PUMPING

(14.1) Total Tendon Grease Replaced: N/A gal. (12.19 + 13.17)

(14.2) Net Tendon Duct Grease Volume: N/A gal. Refer to SQ 12.2 - GREASE VOLUMES, for the Tendon Net Duct Volume

(14.3) Percent Difference: $\frac{\text{Total Tendon Replaced (14.1) - Total Tendon Loss (8.9)}}{\text{Net Tendon Duct Grease Volume (14.2)}} \times 100 = \underline{N/A} \% \text{ Difference}$

(14.4) Grease Leaks: N/A Yes No

(14.5) Refill Acceptable: N/A Yes (less than 10%) No (greater than 10%)

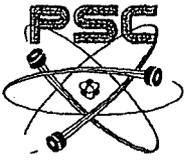
If No - Customer Notified NCR No.: N/A

(14.6) Comments: THIS IS A STEAM GENERATOR REPLACEMENT TENDON, REFER SGT DATA SHEET 7901-18-10

QC Reviewed: J. Busone

Level: III

Date: 2/2/10



Project: TMI 35th YEAR TENDON SURVEILLANCE

Tendon No.: D-122

GREASE REPLACEMENT

QC SIGNOFFS

(8.4) Grease Used NEW OLD - TEST DATE: ACCEPTABLE APPROVAL LETTER DATED: APR 11-18-09

8.0 PREREQUISITES

(8.5) Total Grease Loss from Data Sheet 6.0 for Butt.5/shop tendon end: 34.5 gal. WRR 8-17-09

(8.6) Total Grease Loss from Data Sheet 6.0 for Field/NE tendon end: 5 1/2 gal. APR 11-18-09

(8.7) Estimated grease losses from leaks for Butt.5/shop tendon end: 0 gal. WRR 8-17-09

(8.8) Estimated grease losses from leaks for Field/NE tendon end: 0 gal. APR 11-18-09

(8.9) TOTAL Tendon Grease Loss: 40 gal. APR 11-18-09

12.0 INITIAL PRESSURE PUMPING

(12.6) Ambient Temp.: 52 °F Thermometer ID: PK104 Recal Date: 7-27-10

(12.7) Grease Temp.: 194 °F Thermometer ID: PK104 Recal Date: 7-27-10

(12.9) Initial Grease Height (a) 30 in. (12.14) Final Grease Height (b) 4 in.

(12.16) Total amount of Grease Pumped: 46.02 gal. (a - b) x 1.77 into the SHOP end

(12.18) Quantity of Waste Grease: 2 gal. (12.17) Was Exit Achieved? Yes No

(12.19) Total Grease Replaced this end: 44.02 gal. If no, Pressure Held for N/A psi N/A min APR 11-18-09

13.0 HAND PUMPING - SECOND END (if necessary)

(13.6) Ambient Temp.: _____ °F Thermometer ID: _____ Recal Date: _____

(13.7) Grease Temp.: _____ °F Thermometer ID: _____ Recal Date: _____

(13.9) Initial Grease Height (a) _____ in. (13.12) Final Grease Height (b) _____ in.

(13.14) Total amount of Grease added: _____ gal. (a - b) x 1.77 into the _____ end

(13.16) Quantity of Waste Grease: _____ gal. (13.15) Poured Hand Pumped

(13.17) Total Grease Replaced this end: _____ gal.

14.0 CALCULATION OF PRESSURE PUMPING

(14.1) Total Tendon Grease Replaced: 44.02 gal. (12.19 + 13.17)

(14.2) Net Tendon Duct Grease Volume: 118.7 gal. Refer to SQ 12.2 - GREASE VOLUMES, for the Tendon Net Duct Volume

(14.3) Percent Difference: $\frac{\text{Total Tendon Replaced (14.1) - Total Tendon Loss (8.9)}}{\text{Net Tendon Duct Grease Volume (14.2)}} \times 100 = \underline{3.38} % Difference APR 11-18-09$

(14.4) Grease Leaks: Yes No APR 11-18-09

(14.5) Refill Acceptable: Yes (less than 10%) No (greater than 10%) APR 11-18-09

If No - Customer Notified NCR No.: N/A APR 11-18-09

(14.6) Comments: NONE

QC Reviewed: J Buscione Level: III Date: 2/2/10



Project: TMI 35th YEAR TENDON SURVEILLANCE

Tendon No.: D 225

GREASE REPLACEMENT

QC SIGNOFFS

(8.4) Grease Used NEW OLD - TEST DATE: ACCEPTABLE APPROVAL LETTER DATED: 268.8-13-09

8.0 PREREQUISITES

(8.5) Total Grease Loss from Data Sheet 6.0 for Shop/Butt.5 tendon end: 7 gal. 268.8-13-09

(8.6) Total Grease Loss from Data Sheet 6.0 for Field/Butt.2 tendon end: 8.75 gal. 268.8-13-09

(8.7) Estimated grease losses from leaks for Shop/Butt.5 tendon end: 0 gal. 268.8-13-09

(8.8) Estimated grease losses from leaks for Field/Butt.2 tendon end: 0 gal. 268.8-13-09

(8.9) TOTAL Tendon Grease Loss: 15.75 gal. 268.8-13-09

13.0 POURING AND HAND PUMPING – FIRST END

(13.6) Ambient Temp.: 91 °F Thermometer ID: PK-104 Recal Date: 7-27-10

(13.7) Grease Temp.: 183 °F Thermometer ID: PK-104 Recal Date: 7-27-10

(13.9) Initial Grease Height (a) 31 in. (13.12) Final Grease Height (b) 26.5 in.

(13.14) Total amount of Grease added: 7.96 gal. (a - b) x 1.77 into the Shop end

(13.16) Quantity of Waste Grease: 0 gal. (13.15) Poured Hand Pumped

(13.17) Total Grease Replaced this end: 7.96 gal. 268.8-13-09

13.0 HAND PUMPING – SECOND END

(13.6) Ambient Temp.: 89 °F Thermometer ID: PK-104 Recal Date: 7-27-10

(13.7) Grease Temp.: 185 °F Thermometer ID: PK-104 Recal Date: 7-27-10

(13.9) Initial Grease Height (a) 26.5 in. (13.12) Final Grease Height (b) 20.5 in.

(13.14) Total amount of Grease added: 10.62 gal. (a - b) x 1.77 into the Field end

(13.16) Quantity of Waste Grease: 0 gal. (13.15) Poured Hand Pumped

(13.17) Total Grease Replaced this end: 10.62 gal. 268.8-13-09

14.0 CALCULATION OF PRESSURE PUMPING

(14.1) Total Tendon Grease Replaced: 18.58 gal. (13.17 + 13.17)

(14.2) Net Tendon Duct Grease Volume: 119.9 gal. Refer to SQ 12.2 – GREASE VOLUMES, for the Tendon Net Duct Volume

(14.3) Percent Difference: $\frac{\text{Total Tendon Replaced (14.1) - Total Tendon Loss (8.9)}}{\text{Net Tendon Duct Grease Volume (14.2)}} \times 100 = \underline{2.36}$ % Difference 268.8-13-09

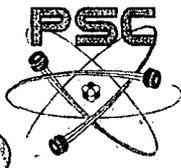
(14.4) Grease Leaks: Yes No 268.8-13-09

(14.5) Refill Acceptable: Yes (less than 10%) No (greater than 10%) 268.8-13-09

If No – Customer Notified NCR No.: N/A 268.8-13-09

(14.6) Comments: None

Reviewed: W. Rance Robt Level: II Date: 8-18-09



Project: TMI 35th YEAR TENDON SURVEILLANCE Tendon No.: D-322

GREASE REPLACEMENT QC SIGNOFFS

(8.4) Grease Used NEW OLD - TEST DATE: ACCEPTABLE APPROVAL LETTER DATED: 2011-17-09

8.0 PREREQUISITES

(8.5) Total Grease Loss from Data Sheet 6.0 for SHOP tendon end: 8 1/2 gal. 2011-17-09

(8.6) Total Grease Loss from Data Sheet 6.0 for FIELD tendon end: 6 1/2 gal. 2011-17-09

(8.7) Estimated grease losses from leaks for SHOP tendon end: 0 gal. 2011-17-09

(8.8) Estimated grease losses from leaks for FIELD tendon end: 0 gal. 2011-17-09

(8.9) TOTAL Tendon Grease Loss: 15 gal. 2011-17-09

13.0 POURING AND HAND PUMPING - FIRST END

(13.6) Ambient Temp.: 54 °F Thermometer ID: PK104 Recal Date: 7-27-10

(13.7) Grease Temp.: 194 °F Thermometer ID: PK104 Recal Date: 7-27-10

(13.9) Initial Grease Height (a) 19 in. (13.12) Final Grease Height (b) 13 in.

(13.14) Total amount of Grease added: 10.62 gal. (a - b) x 1.77 into the SHOP end
~~18.39~~
2011-29-10

(13.16) Quantity of Waste Grease: 0 gal. (13.15) Poured Hand Pumped

(13.17) Total Grease Replaced this end: 10.62 gal. 2011-17-09
~~18.39~~
2011-29-10

13.0 HAND PUMPING - SECOND END

(13.6) Ambient Temp.: 54 °F Thermometer ID: PK104 Recal Date: 7-27-10

(13.7) Grease Temp.: 194 °F Thermometer ID: PK104 Recal Date: 7-27-10

(13.9) Initial Grease Height (a) 24 in. (13.12) Final Grease Height (b) 19 in.

(13.14) Total amount of Grease added: 8.85 gal. (a - b) x 1.77 into the FIELD end

(13.16) Quantity of Waste Grease: 0 gal. (13.15) Poured Hand Pumped

(13.17) Total Grease Replaced this end: 8.85 gal. 2011-17-09

14.0 CALCULATION OF PRESSURE PUMPING

(14.1) Total Tendon Grease Replaced: 19.47 gal. (13.17 + 13.17)
21.24 gal. 2011-29-10

(14.2) Net Tendon Duct Grease Volume: 100.2 gal. Refer to SQ 12.2 - GREASE VOLUMES, for the Tendon Net Duct Volume

(14.3) Percent Difference: $\frac{\text{Total Tendon Replaced (14.1)} - \text{Total Tendon Loss (8.9)}}{\text{Net Tendon Duct Grease Volume (14.2)}} \times 100 = \frac{3.71}{100.2} \times 100 = 3.71\%$ % Difference
2011-17-09

(14.4) Grease Leaks: Yes No 2011-17-09

(14.5) Refill Acceptable: Yes (less than 10%) No (greater than 10%) 2011-17-09

If No - Customer Notified NCR No.: n/a 2011-17-09

(14.6) Comments: n/a

Reviewed: ABussone Level: JII Date: 2/2/10



Project: TMI 35th YEAR TENDON SURVEILLANCE

Tendon No.: D 342

GREASE REPLACEMENT

QC-SIGNOFFS

(8.4) Grease Used NEW OLD - TEST DATE: ACCEPTABLE APPROVAL LETTER DATED: WRR 8-18-09

8.0 PREREQUISITES

(8.5) Total Grease Loss from Data Sheet 6.0 for Butt. 4/Fick tendon end: 10 gal. WRR 8-17-09

(8.6) Total Grease Loss from Data Sheet 6.0 for Butt. 6/shop tendon end: 40 gal. WRR 8-18-09

(8.7) Estimated grease losses from leaks for Butt. 4/Fick tendon end: 0 gal. WRR 8-17-09

(8.8) Estimated grease losses from leaks for Butt. 6/shop tendon end: 0 gal. WRR 8-18-09

(8.9) TOTAL Tendon Grease Loss: 50 gal. WRR 8-18-09

12.0 INITIAL PRESSURE PUMPING

(12.6) Ambient Temp.: 80 °F Thermometer ID: PK-104 Recal Date: 7-27-10

(12.7) Grease Temp.: 190 °F Thermometer ID: PK-104 Recal Date: 7-27-10

(12.9) Initial Grease Height (a) 61.5 in. (12.14) Final Grease Height (b) 26.625 in.

(12.16) Total amount of Grease Pumped: 61.72 gal. (a - b) x 1.77 into the Butt. 6/shop end

(12.18) Quantity of Waste Grease: 3 gal. (12.17) Was Exit Achieved? Yes No

(12.19) Total Grease Replaced this end: 58.72 gal. If no, Pressure Held for N/A psi N/A min WRR 8-18-09

13.0 HAND PUMPING - SECOND END (if necessary)

(13.6) Ambient Temp.: _____ °F Thermometer ID: _____ Recal Date: _____

(13.7) Grease Temp.: _____ °F Thermometer ID: _____ Recal Date: _____

(13.9) Initial Grease Height (a) ~~_____~~ in. (13.12) Final Grease Height (b) ~~_____~~ in.

(13.14) Total amount of Grease added: ~~_____~~ gal. (a - b) x 1.77 into the _____ end

(13.16) Quantity of Waste Grease: ~~_____~~ gal. (13.15) Poured Hand Pumped

(13.17) Total Grease Replaced this end: ~~_____~~ gal. WRR 8-18-09

14.0 CALCULATION OF PRESSURE PUMPING

(14.1) Total Tendon Grease Replaced: 58.72 gal. (12.19 + 13.17)

(14.2) Net Tendon Duct Grease Volume: 107.8 gal. Refer to SQ 12.2 - GREASE VOLUMES, for the Tendon Net Duct Volume

(14.3) Percent Difference: $\frac{\text{Total Tendon Replaced (14.1) - Total Tendon Loss (8.9)}}{\text{Net Tendon Duct Grease Volume (14.2)}} \times 100 = \underline{8.08} % Difference WRR 8-18-09$

(14.4) Grease Leaks: Yes No WRR 8-18-09

(14.5) Refill Acceptable: Yes (less than 10%) No (greater than 10%) WRR 8-18-09

If No - Customer Notified NCR No.: N/A WRR 8-18-09

(14.6) Comments: NONE

QC Reviewed: [Signature]

Level: I

Date: 8-18-09



Gasket Repair

Project: TMI 35th YEAR TENDON SURVEILLANCE

Tendon No.: V-10

GREASE REPLACEMENT

QC SIGNOFFS

(8.4) Grease Used NEW OLD - TEST DATE: ACCEPTABLE APPROVAL LETTER DATED: 20.8-21-09

8.0 PREREQUISITES

(8.5) Total Grease Loss from Data Sheet 6.0 for Gallen/Field tendon end: 53 gal. 20.8-21-09
 (8.6) Total Grease Loss from Data Sheet 6.0 for N/A tendon end: N/A gal. 20.8-21-09
 (8.7) Estimated grease losses from leaks for Gallen/Field tendon end: 0 gal. 20.8-21-09
 (8.8) Estimated grease losses from leaks for N/A tendon end: N/A gal. 20.8-21-09
 (8.9) TOTAL Tendon Grease Loss: 53 gal. 20.8-21-09

12.0 INITIAL PRESSURE PUMPING

(12.6) Ambient Temp.: 72 °F Thermometer ID: PK102 Recal Date: 7-27-10
 (12.7) Grease Temp.: 210 °F Thermometer ID: PK102 Recal Date: 7-27-10
 (12.9) Initial Grease Height (a) 22 1/2 in. (12.14) Final Grease Height (b) 16 1/2 in.
 (12.16) Total amount of Grease Pumped: 58.94 gal. (a - b) x 1.77 into the FIELD/BOTTOM end
 (12.18) Quantity of Waste Grease: 3.50 gal. (12.17) Was Exit Achieved? Yes No
 (12.19) Total Grease Replaced this end: 54.94 gal. If no, Pressure Held for N/A psi 0/10 min 20.1-14-10

13.0 HAND PUMPING - SECOND END (if necessary)

(13.6) Ambient Temp.: _____ °F Thermometer ID: _____ Recal Date: _____
 (13.7) Grease Temp.: _____ °F Thermometer ID: _____ Recal Date: _____
 (13.9) Initial Grease Height (a) N/A in. (13.12) Final Grease Height (b) _____ in.
 (13.14) Total amount of Grease added: _____ gal. (a - b) x 1.77 into the _____ end
 (13.16) Quantity of Waste Grease: _____ gal. (13.15) Poured Hand Pumped
 (13.17) Total Grease Replaced this end: _____ gal.

14.0 CALCULATION OF PRESSURE PUMPING

(14.1) Total Tendon Grease Replaced: 54.94 gal. (12.19 + 13.17)
 (14.2) Net Tendon Duct Grease Volume: 124.80 gal. Refer to SQ 12.2 - GREASE VOLUMES, for the Tendon Net Duct Volume
 (14.3) Percent Difference: $\frac{\text{Total Tendon Replaced (14.1) - Total Tendon Loss (8.9)}}{\text{Net Tendon Duct Grease Volume (14.2)}} \times 100 = \underline{1.55}$ % Difference 20.1-14-10
 (14.4) Grease Leaks: Yes No 20.1-14-10
 (14.5) Refill Acceptable: Yes (less than 10%) No (greater than 10%) 20.1-14-10

If No - Customer Notified NCR No.: _____
 (14.6) Comments: This is a gasket repair tendon. Top CAN WAS NOT removed. 20.1-14-10

QC Reviewed: ABussone Level: III Date: 1/26/10



GREASE LEAK REPAIR

Project: TMI 35th YEAR TENDON SURVEILLANCE

Tendon No.: V55

GREASE REPLACEMENT

QC SIGNOFFS

(8.4) Grease Used NEW OLD - TEST DATE: ACCEPTABLE APPROVAL LETTER DATED: 8/01-19-10

8.0 PREREQUISITES

(8.5) Total Grease Loss from Data Sheet 6.0 for SHOP/TOP tendon end: 0 gal. 8/01-19-10

(8.6) Total Grease Loss from Data Sheet 6.0 for FIELD/BOTTOM tendon end: 1/4 gal. 8/01-19-10

(8.7) Estimated grease losses from leaks for SHOP/TOP tendon end: 0 gal. 8/01-19-10

(8.8) Estimated grease losses from leaks for FIELD/BOTTOM tendon end: 0 gal. 8/01-19-10

(8.9) TOTAL Tendon Grease Loss: 1/4 gal. 8/01-19-10

13.0 POURING AND HAND PUMPING – FIRST END

(13.6) Ambient Temp.: 30 °F Thermometer ID: PK102 Recal Date: 7-27-10

(13.7) Grease Temp.: 918 °F Thermometer ID: PK102 Recal Date: 7-27-10

(13.9) Initial Grease Height (a) 9 in. (13.12) Final Grease Height (b) 8 in.

(13.14) Total amount of Grease added: 1.77 gal. (a - b) x 1.77 into the SHOP/TOP end

(13.16) Quantity of Waste Grease: 0 gal. (13.15) Poured Hand Pumped

(13.17) Total Grease Replaced this end: 1.77 gal. 8/01-19-10

13.0 HAND PUMPING – SECOND END

(13.6) Ambient Temp.: _____ °F Thermometer ID: _____ Recal Date: _____

(13.7) Grease Temp.: _____ °F Thermometer ID: _____ Recal Date: _____

(13.9) Initial Grease Height (a) _____ in. N/A (13.12) Final Grease Height (b) _____ in.

(13.14) Total amount of Grease added: _____ gal. (a - b) x 1.77 into the _____ end

(13.16) Quantity of Waste Grease: _____ gal. (13.15) Poured Hand Pumped

(13.17) Total Grease Replaced this end: _____ gal.

14.0 CALCULATION OF PRESSURE PUMPING

(14.1) Total Tendon Grease Replaced: 1.77 gal. (13.17 + 13.17)

(14.2) Net Tendon Duct Grease Volume: 12600 gal. Refer to SQ 12.2 – GREASE VOLUMES, for the Tendon Net Duct Volume

(14.3) Percent Difference: $\frac{\text{Total Tendon Replaced (14.1)} - \text{Total Tendon Loss (8.9)}}{\text{Net Tendon Duct Grease Volume (14.2)}} \times 100 = \underline{1.26} \% \text{ Difference}$

(14.4) Grease Leaks: Yes No 8/01-19-10

(14.5) Refill Acceptable: Yes (less than 10%) No (greater than 10%) 8/01-19-10

If No – Customer Notified NCR No.: N/A 8/01-19-10

(14.6) Comments: NONE 8/01-19-10

Reviewed: A. Bussone

Level: III

Date: 1/26/10



Gasket Repair

Project: TMI 35th YEAR TENDON SURVEILLANCE

Tendon No.: V-60

GREASE REPLACEMENT

QC SIGNOFFS

(8.4) Grease Used NEW OLD - TEST DATE: ACCEPTABLE APPROVAL LETTER

8.0 PREREQUISITES

| | | |
|--|-------------------|----------------|
| (8.5) Total Grease Loss from Data Sheet 6.0 for <u>Gallery/Field</u> tendon end: | <u>34.25</u> gal. | <u>7/28/09</u> |
| (8.6) Total Grease Loss from Data Sheet 6.0 for <u>N/A</u> tendon end: | <u>N/A</u> gal. | <u>7/28/09</u> |
| (8.7) Estimated grease losses from leaks for <u>Gallery/Field</u> tendon end: | <u>0</u> gal. | <u>7/28/09</u> |
| (8.8) Estimated grease losses from leaks for <u>N/A</u> tendon end: | <u>N/A</u> gal. | <u>7/28/09</u> |
| (8.9) TOTAL Tendon Grease Loss: | <u>34.25</u> gal. | <u>7/28/09</u> |

12.0 INITIAL PRESSURE PUMPING

(12.6) Ambient Temp.: 72 °F Thermometer ID: PK102 Recal Date: 7-27-10
 (12.7) Grease Temp.: 214 °F Thermometer ID: PK102 Recal Date: 7-27-10
 (12.9) Initial Grease Height (a) 16 in. (12.14) Final Grease Height (b) 14 1/2 in.
 (12.16) Total amount of Grease Pumped: 14.61 gal. (a - b) x 1.77 into the FIELD/BOTTOM end
 (12.18) Quantity of Waste Grease: 0 gal. (12.17) Was Exit Achieved? Yes No
 (12.19) Total Grease Replaced this end: 14.61 gal. If no, Pressure Held for 110 psi 30 min

13.0 HAND PUMPING - SECOND END (if necessary)

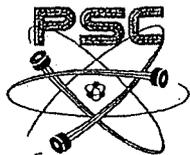
(13.6) Ambient Temp.: 30 °F Thermometer ID: PK102 Recal Date: 7-27-10
 (13.7) Grease Temp.: 210 °F Thermometer ID: PK102 Recal Date: 7-27-10
 (13.9) Initial Grease Height (a) 21 in. (13.12) Final Grease Height (b) 9 3/4 in.
 (13.14) Total amount of Grease added: 19.91 gal. (a - b) x 1.77 into the SHOP/TOP end
 (13.16) Quantity of Waste Grease: 0 gal. (13.15) Poured Hand Pumped
 (13.17) Total Grease Replaced this end: 19.91 gal.

14.0 CALCULATION OF PRESSURE PUMPING

(14.1) Total Tendon Grease Replaced: 34.52 gal. (12.19 + 13.17)
 (14.2) Net Tendon Duct Grease Volume: 120.00 gal. Refer to SQ 12.2 - GREASE VOLUMES, for the Tendon Net Duct Volume
 (14.3) Percent Difference: $\frac{\text{Total Tendon Replaced (14.1) - Total Tendon Loss (8.9)}}{\text{Net Tendon Duct Grease Volume (14.2)}} \times 100 = \underline{0.22}$ % Difference
 (14.4) Grease Leaks: Yes No
 (14.5) Refill Acceptable: Yes (less than 10%) No (greater than 10%)

If No - Customer Notified NCR No.: N/A
 (14.6) Comments: This is a gasket repair tendon. Top CAN WAS NOT removed.

QC Reviewed: [Signature] Level: III Date: 1/26/10



Gasket Repair

Project: TMI 35th YEAR TENDON SURVEILLANCE

Tendon No.: V-62

GREASE REPLACEMENT

QC SIGNOFFS

(8.4) Grease Used NEW OLD - TEST DATE: ACCEPTABLE APPROVAL LETTER DATED: 7/28/09

8.0 PREREQUISITES

(8.5) Total Grease Loss from Data Sheet 6.0 for Gallery/Field tendon end: 46.50 gal. 7/28/09

(8.6) Total Grease Loss from Data Sheet 6.0 for N/A tendon end: N/A gal. 7/28/09

(8.7) Estimated grease losses from leaks for Gallery/Field tendon end: 0 gal. 7/28/09

(8.8) Estimated grease losses from leaks for N/A tendon end: N/A gal. 7/28/09

(8.9) TOTAL Tendon Grease Loss: 46.50 gal. 7/28/09

12.0 INITIAL PRESSURE PUMPING

(12.6) Ambient Temp.: 72 °F Thermometer ID: PK102 Recal Date: 7-27-10

(12.7) Grease Temp.: 220 °F Thermometer ID: PK102 Recal Date: 7-27-10

(12.9) Initial Grease Height (a) 17 3/4 in. (12.14) Final Grease Height (b) 14 in.

(12.16) Total amount of Grease Pumped: 17.04 gal. (a - b) x 1.77 into the FIELD/BOTTOM end

(12.18) Quantity of Waste Grease: 0 gal. (12.17) Was Exit Achieved? Yes No

(12.19) Total Grease Replaced this end: 17.04 gal. If no, Pressure Held for 110 psi 30 min 7/28/09

13.0 HAND PUMPING - SECOND END (if necessary)

(13.6) Ambient Temp.: 30 °F Thermometer ID: PK102 Recal Date: 7-27-10

(13.7) Grease Temp.: 218 °F Thermometer ID: PK102 Recal Date: 7-27-10

(13.9) Initial Grease Height (a) 30 in. (13.12) Final Grease Height (b) 13 in.

(13.14) Total amount of Grease added: 30.09 gal. (a - b) x 1.77 into the SHOP/TOP end

(13.16) Quantity of Waste Grease: 0 gal. (13.15) Poured Hand Pumped

(13.17) Total Grease Replaced this end: 30.09 gal. 7/28/09

14.0 CALCULATION OF PRESSURE PUMPING

(14.1) Total Tendon Grease Replaced: 47.13 gal. (12.19 + 13.17)

(14.2) Net Tendon Duct Grease Volume: 120.00 gal. Refer to SQ 12.2 - GREASE VOLUMES, for the Tendon Net Duct Volume

(14.3) Percent Difference: $\frac{\text{Total Tendon Replaced (14.1) - Total Tendon Loss (8.9)}}{\text{Net Tendon Duct Grease Volume (14.2)}} \times 100 = \underline{0.52}$ % Difference 7/28/09

(14.4) Grease Leaks: Yes No 7/28/09

(14.5) Refill Acceptable: Yes (less than 10%) No (greater than 10%) 7/28/09

If No - Customer Notified NCR No.: N/A 7/28/09

(14.6) Comments: This is a gasket repair tendon. Top CAN WAS NOT removed.

QC Reviewed: A. Buosone

Level: III

Date: 1/26/10



Gasket Repair

Project: TMI 35th YEAR TENDON SURVEILLANCE

Tendon No.: V-71

GREASE REPLACEMENT

QC SIGNOFFS

(8.4) Grease Used NEW OLD - TEST DATE: _____ ACCEPTABLE APPROVAL LETTER DATED: 7/28/09

8.0 PREREQUISITES

(8.5) Total Grease Loss from Data Sheet 6.0 for Gallery/Field tendon end: 46 gal. 7/28/09

(8.6) Total Grease Loss from Data Sheet 6.0 for N/A tendon end: N/A gal. 7/28/09

(8.7) Estimated grease losses from leaks for Gallery/Field tendon end: 0 gal. 7/28/09

(8.8) Estimated grease losses from leaks for N/A tendon end: N/A gal. 7/28/09

(8.9) TOTAL Tendon Grease Loss: 46 gal. 7/28/09

12.0 INITIAL PRESSURE PUMPING

(12.6) Ambient Temp.: 72 °F Thermometer ID: PK102 Recal Date: 7-27-10

(12.7) Grease Temp.: 220 °F Thermometer ID: PK102 Recal Date: 7-27-10

(12.9) Initial Grease Height (a) 22 3/4 in. (12.14) Final Grease Height (b) 17 3/4 in.

(12.16) Total amount of Grease Pumped: 48.7 gal. (a - b) x 1.77 into the FIELD/BOTTOM end

(12.18) Quantity of Waste Grease: 2.5 gal. (12.17) Was Exit Achieved? Yes No

(12.19) Total Grease Replaced this end: 46.2 gal. If no, Pressure Held for N/A psi N/A min 7/28/09

13.0 HAND PUMPING - SECOND END (if necessary)

(13.6) Ambient Temp.: _____ °F Thermometer ID: _____ Recal Date: _____

(13.7) Grease Temp.: _____ °F Thermometer ID: _____ Recal Date: _____

(13.9) Initial Grease Height (a) _____ in. N/A (13.12) Final Grease Height (b) _____ in.

(13.14) Total amount of Grease added: _____ gal. (a - b) x 1.77 into the _____ end

(13.16) Quantity of Waste Grease: _____ gal. (13.15) Poured Hand Pumped

(13.17) Total Grease Replaced this end: _____ gal.

14.0 CALCULATION OF PRESSURE PUMPING

(14.1) Total Tendon Grease Replaced: 46.2 gal. (12.19 + 13.17)

(14.2) Net Tendon Duct Grease Volume: 120.00 gal. Refer to SQ 12.2 - GREASE VOLUMES, for the Tendon Net Duct Volume.

(14.3) Percent Difference: $\frac{\text{Total Tendon Replaced (14.1) - Total Tendon Loss (8.9)}}{\text{Net Tendon Duct Grease Volume (14.2)}} \times 100 = \underline{0.16} \% \text{ Difference}$ 7/28/09

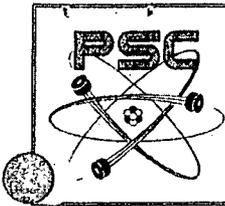
(14.4) Grease Leaks: Yes No 7/28/09

(14.5) Refill Acceptable: Yes (less than 10%) No (greater than 10%) 7/28/09

If No - Customer Notified NCR No.: N/A 7/28/09

(14.6) Comments: This is a gasket repair tendon. Top CAN WAS NOT removed.

QC Reviewed: J. Bussone Level: III Date: 1/26/10



Project: TMI 35th YEAR TENDON SURVEILLANCE

Tendon No.: 184

GREASE REPLACEMENT

QC SIGNOFFS

(8.4) Grease Used NEW OLD - TEST DATE: ACCEPTABLE APPROVAL LETTER DATED: 7/20/19/10

8.0 PREREQUISITES

(8.5) Total Grease Loss from Data Sheet 6.0 for SHOP/TOP tendon end: 0 gal. 7/20/19/10

(8.6) Total Grease Loss from Data Sheet 6.0 for FIELD/BOTTOM tendon end: 1/4 gal. 7/20/19/10

(8.7) Estimated grease losses from leaks for SHOP/TOP tendon end: 0 gal. 7/20/19/10

(8.8) Estimated grease losses from leaks for FIELD/BOTTOM tendon end: 0 gal. 7/20/19/10

(8.9) TOTAL Tendon Grease Loss: 1/4 gal. 7/20/19/10

13.0 POURING AND HAND PUMPING – FIRST END

(13.6) Ambient Temp.: 30 °F Thermometer ID: PK102 Recal Date: 7-27-10

(13.7) Grease Temp.: 212 °F Thermometer ID: PK102 Recal Date: 7-27-10

(13.9) Initial Grease Height (a) 22 in. (13.12) Final Grease Height (b) 21 in.

(13.14) Total amount of Grease added: 1.77 gal. (a - b) x 1.77 into the SHOP/TOP end

(13.16) Quantity of Waste Grease: 0 gal. (13.15) Poured Hand Pumped

(13.17) Total Grease Replaced this end: 1.77 gal. 7/20/19/10

13.0 HAND PUMPING – SECOND END

(13.6) Ambient Temp.: _____ °F Thermometer ID: _____ Recal Date: _____

(13.7) Grease Temp.: _____ °F Thermometer ID: _____ Recal Date: _____

(13.9) Initial Grease Height (a) N/A in. (13.12) Final Grease Height (b) _____ in.

(13.14) Total amount of Grease added: _____ gal. (a - b) x 1.77 into the _____ end

(13.16) Quantity of Waste Grease: _____ gal. (13.15) Poured Hand Pumped

(13.17) Total Grease Replaced this end: _____ gal.

14.0 CALCULATION OF PRESSURE PUMPING

(14.1) Total Tendon Grease Replaced: 1.77 gal. (13.17 + 13.17)

(14.2) Net Tendon Duct Grease Volume: 130.00 gal. Refer to SQ 12.2 – GREASE VOLUMES, for the Tendon Net Duct Volume

(14.3) Percent Difference: $\frac{\text{Total Tendon Replaced (14.1) - Total Tendon Loss (8.9)}}{\text{Net Tendon Duct Grease Volume (14.2)}} \times 100 = \frac{1.77}{130.00} \times 100 = \underline{1.36} % Difference$

(14.4) Grease Leaks: Yes No

(14.5) Refill Acceptable: Yes (less than 10%) No (greater than 10%)

If No – Customer Notified NCR No.: N/A

(14.6) Comments: None

7/20/19/10
7/20/19/10
7/20/19/10
7/20/19/10

Reviewed: J. Bussone

Level: III

Date: 1/26/10



Gasket Repair

Project: TMI 35th YEAR TENDON SURVEILLANCE

Tendon No.: V-88

GREASE REPLACEMENT

QC SIGNOFFS

- (8.4) Grease Used NEW OLD - TEST DATE: ACCEPTABLE APPROVAL LETTER DATED: 7/20/09
- 8.0 PREREQUISITES**
- (8.5) Total Grease Loss from Data Sheet 6.0 for Gallery/Field tendon end: 53.56 gal. 7/20/09
- (8.6) Total Grease Loss from Data Sheet 6.0 for N/A tendon end: N/A gal. 7/20/09
- (8.7) Estimated grease losses from leaks for Gallery/Field tendon end: 0 gal. 7/20/09
- (8.8) Estimated grease losses from leaks for N/A tendon end: N/A gal. 7/20/09
- (8.9) TOTAL Tendon Grease Loss: 53.56 gal. 7/20/09

12.0 INITIAL PRESSURE PUMPING

- (12.6) Ambient Temp.: 72 °F Thermometer ID: PK102 Recal Date: 7-27-10
- (12.7) Grease Temp.: 214 °F Thermometer ID: PK102 Recal Date: 7-27-10
- (12.9) Initial Grease Height (a) 14 3/4 in. (12.14) Final Grease Height (b) 9 in.
- (12.16) Total amount of Grease Pumped: 56.00 gal. (a - b) x 1.77 into the FIELD/BOTTOM end
- (12.18) Quantity of Waste Grease: 2 1/2 gal. (12.17) Was Exit Achieved? Yes No
- (12.19) Total Grease Replaced this end: 53.50 gal. If no, Pressure Held for n/a psi n/a min 7/20/09

13.0 HAND PUMPING - SECOND END (if necessary)

- (13.6) Ambient Temp.: _____ °F Thermometer ID: _____ Recal Date: _____
- (13.7) Grease Temp.: _____ °F Thermometer ID: _____ Recal Date: _____
- (13.9) Initial Grease Height (a) _____ in. N/A (13.12) Final Grease Height (b) _____ in.
- (13.14) Total amount of Grease added: _____ gal. (a - b) x 1.77 into the _____ end
- (13.16) Quantity of Waste Grease: _____ gal. (13.15) Poured Hand Pumped
- (13.17) Total Grease Replaced this end: _____ gal.

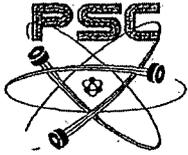
14.0 CALCULATION OF PRESSURE PUMPING

- (14.1) Total Tendon Grease Replaced: 53.50 gal. (12.19 + 13.17)
- (14.2) Net Tendon Duct Grease Volume: 120.00 gal. Refer to SQ 12.2 - GREASE VOLUMES, for the Tendon Net Duct Volume
- (14.3) Percent Difference: $\frac{\text{Total Tendon Replaced (14.1) - Total Tendon Loss (8.9)}}{\text{Net Tendon Duct Grease Volume (14.2)}} \times 100 = \underline{-0.5}$ % Difference 7/20/09
- (14.4) Grease Leaks: Yes No 7/20/09
- (14.5) Refill Acceptable: Yes (less than 10%) No (greater than 10%) 7/20/09
- If No - Customer Notified NCR No.: n/a 7/20/09
- (14.6) Comments: This is a gasket repair tendon. Top CAN WAS not removed.

QC Reviewed: M. Brusone

Level: III

Date: 1/26/10



Gasket Repair

Project: TMI 35th YEAR TENDON SURVEILLANCE

Tendon No.: V-98

GREASE REPLACEMENT

QC SIGNOFFS

(8.4) Grease Used NEW OLD - TEST DATE: ACCEPTABLE APPROVAL LETTER DATED: 26.8.2009

8.0 PREREQUISITES

(8.5) Total Grease Loss from Data Sheet 6.0 for Gallery/Field tendon end: 40.28 gal. 26.8.2009

(8.6) Total Grease Loss from Data Sheet 6.0 for N/A tendon end: N/A gal. 26.8.2009

(8.7) Estimated grease losses from leaks for Gallery/Field tendon end: 0 gal. 26.8.2009

(8.8) Estimated grease losses from leaks for N/A tendon end: N/A gal. 26.8.2009

(8.9) TOTAL Tendon Grease Loss: 40.28 gal. 26.8.2009

12.0 INITIAL PRESSURE PUMPING

(12.6) Ambient Temp.: 72 °F Thermometer ID: PK102 Recal Date: 7-27-10

(12.7) Grease Temp.: 210 °F Thermometer ID: PK102 Recal Date: 7-27-10

(12.9) Initial Grease Height (a) 16 1/4 in. (12.14) Final Grease Height (b) 14 3/4 in.

(12.16) Total amount of Grease Pumped: 14.61 gal. (a - b) x 1.77 into the FIELD/BOTTOM end

(12.18) Quantity of Waste Grease: 0 gal. (12.17) Was Exit Achieved? Yes No

(12.19) Total Grease Replaced this end: 14.61 gal. If no, Pressure Held for 110 psi 30 min 26.1-19-10

13.0 HAND PUMPING - SECOND END (if necessary)

(13.6) Ambient Temp.: 30 °F Thermometer ID: PK102 Recal Date: 7-27-10

(13.7) Grease Temp.: 220 °F Thermometer ID: PK102 Recal Date: 7-27-10

(13.9) Initial Grease Height (a) 30 in. (13.12) Final Grease Height (b) 10 in.

(13.14) Total amount of Grease added: 35.40 gal. (a - b) x 1.77 into the SHOP/TOP end

(13.16) Quantity of Waste Grease: 0 gal. (13.15) Poured Hand Pumped

(13.17) Total Grease Replaced this end: 35.40 gal. 26.1-19-10

14.0 CALCULATION OF PRESSURE PUMPING

(14.1) Total Tendon Grease Replaced: 50.01 gal. (12.19 + 13.17)

(14.2) Net Tendon Duct Grease Volume: 120.00 gal. Refer to SQ 12.2 - GREASE VOLUMES, for the Tendon Net Duct Volume

(14.3) Percent Difference: $\frac{\text{Total Tendon Replaced (14.1) - Total Tendon Loss (8.9)}}{\text{Net Tendon Duct Grease Volume (14.2)}} \times 100 = \underline{8.10} % Difference 26.1-19-10$

(14.4) Grease Leaks: Yes No 26.1-19-10

(14.5) Refill Acceptable: Yes (less than 10%) No (greater than 10%) 26.1-19-10

If No - Customer Notified NCR No.: N/A 26.1-19-10

(14.6) Comments: This is a gasket repair tendon. Top CAN WAS NOT removed.

QC Reviewed: ABussone

Level: III

Date: 1/26/10



Gasket Repair

Project: TMI 35th YEAR TENDON SURVEILLANCE

Tendon No.: V-99

GREASE REPLACEMENT

QC SIGNOFFS

(8.4) Grease Used NEW OLD - TEST DATE: ACCEPTABLE APPROVAL LETTER DATED: 7/28/2009

8.0 PREREQUISITES

(8.5) Total Grease Loss from Data Sheet 6.0 for Gallery/Field tendon end: 44.25 gal. 7/28/2009
 (8.6) Total Grease Loss from Data Sheet 6.0 for N/A tendon end: N/A gal. 7/28/2009
 (8.7) Estimated grease losses from leaks for Gallery/Field tendon end: 0 gal. 7/28/2009
 (8.8) Estimated grease losses from leaks for N/A tendon end: N/A gal. 7/28/2009
 (8.9) TOTAL Tendon Grease Loss: 44.25 gal. 7/28/2009

12.0 INITIAL PRESSURE PUMPING

(12.6) Ambient Temp.: 72 °F Thermometer ID: PK102 Recal Date: 7-27-10
 (12.7) Grease Temp.: 218 °F Thermometer ID: PK102 Recal Date: 7-27-10
 (12.9) Initial Grease Height (a) 21 1/2 in. (12.14) Final Grease Height (b) 16 1/2 in.
 (12.16) Total amount of Grease Pumped: 48.70 gal. (a - b) x 1.77 into the FIELD/BOTTOM end
 (12.18) Quantity of Waste Grease: 3.50 gal. (12.17) Was Exit Achieved? Yes No
 (12.19) Total Grease Replaced this end: 45.20 gal. If no, Pressure Held for N/A psi N/A min 2801-18-10

13.0 HAND PUMPING - SECOND END (if necessary)

(13.6) Ambient Temp.: _____ °F Thermometer ID: _____ Recal Date: _____
 (13.7) Grease Temp.: _____ °F Thermometer ID: _____ Recal Date: _____
 (13.9) Initial Grease Height (a) N/A in. (13.12) Final Grease Height (b) _____ in.
 (13.14) Total amount of Grease added: _____ gal. (a - b) x 1.77 into the _____ end
 (13.16) Quantity of Waste Grease: _____ gal. (13.15) Poured Hand Pumped
 (13.17) Total Grease Replaced this end: _____ gal.

14.0 CALCULATION OF PRESSURE PUMPING

(14.1) Total Tendon Grease Replaced: 45.20 gal. (12.19 + 13.17)
 (14.2) Net Tendon Duct Grease Volume: 120.00 gal. Refer to SQ 12.2 - GREASE VOLUMES, for the Tendon Net Duct Volume
 (14.3) Percent Difference: $\frac{\text{Total Tendon Replaced (14.1) - Total Tendon Loss (8.9)}}{\text{Net Tendon Duct Grease Volume (14.2)}} \times 100 = \underline{0.79} % Difference 2801-19-10
 (14.4) Grease Leaks: Yes No 2801-18-10
 (14.5) Refill Acceptable: Yes (less than 10%) No (greater than 10%) 2801-19-10$

If No - Customer Notified NCR No.: N/A 2801-18-10
 (14.6) Comments: This is a gasket repair tendon. Top CAN WAS NOT removed.

QC Reviewed: A. Buscione Level: III Date: 1/26/10

DATA SHEET 11
Tendon Surveillance Program

Inspection Period 35th yr.

| | Tendon No. | Gallons Removed* | | | Net Duct Volume, (Q _N), Gallons | Gallons Replaced* | | | 100 x (Q ₂ - Q ₁) / Q _N % | Acceptable (Yes or No) |
|-----|------------|------------------|-----------|--|---|-------------------|-----------|--|---|---|
| | | Shop End | Field End | Sum (Q ₁) Shop & Field End | | Shop End | Field End | Sum (Q ₂) Shop & Field End | | |
| 1. | V-11 | 4 | 87.5 | 61.5 | 123.8 | 78.0 | 68.55 | 68.55 | 5.69 | Yes |
| 2. | U-32 | 4.5 | 8 | 12.5 | 125.2 | 23.01 | N/A | 23.01 | 8.39 | Yes |
| 3. | V-9D | 4 | 70.5 | 74.5 | 124.9 | 0 | 76.85 | 76.85 | 1.89 | Yes <i>THIS IS A SGR TENDON REFER SGT 700-285-10</i> |
| 4. | U-132 | 4.5 | 56.5 | 61 | 124.2 | | | | | |
| 5. | D-122 | 34.5 | 5.5 | 40 | 118.7 | 44.02 | N/A | 44.02 | 3.38 | Yes |
| 6. | D-225 | 7 | 8.75 | 15.75 | 119.9 | 7.96 | 10.62 | 18.58 | 2.36 | Yes |
| 7. | D-322 | 8 1/2 | 6 1/2 | 15 | 120.2 | 12.39 | 8.85 | 21.24 | 5.19 | Yes |
| 8. | D-342 | 40 | 10 | 50 | 107.8 | 58.72 | N/A | 58.72 | 8.08 | Yes |
| 9. | H-13-41 | 6.5 | 5 | 11.5 | 103.5 | 7.96 | 5.31 | 13.27 | 1.71 | Yes |
| 10. | H-24-33 | 5 | 4 | 9 | 103.2 | 2.96 | 4.42 | 12.38 | 3.29 | Yes |
| 11. | H-46-50 | 4.5 | 4.5 | 9 | 103.4 | 7.08 | 7.96 | 15.04 | 5.84 | Yes |

- * Only one end of vertical tendons may be used for removal and replacement of grease.
- ** Differences greater than 4 gallons require TMI-1 evaluation. Acceptance limit is not > 10% of net duct volume per 9.4.3.

Cognizant QV Inspector: [Signature] Date: 11-19-09
 Verification By: [Signature] Date: 8-26-09
 Cognizant Mech/Struct Engineer: [Signature]
 Review By: [Signature] Date: 19 MAR 10

Due to the relatively high coefficient of thermal expansion of the grease that is installed at a high temperature, experience during surveillances has been that the quantity of replacement grease frequently exceeds the arbitrary acceptance criteria. Exceeding the acceptance criteria is primarily an indication that an inspection and assessment for possible grease leakage within the structure is necessary. The visual examination of the anchorage and wire will determine whether the corrosion protection system is functioning effectively.

DATA SHEET 11
Tendon Surveillance Program

Inspection Period 3.5th yr.

| | Tendon No. | Gallons Removed* | | | Net Duct Volume, (Q _N), Gallons | Gallons Replaced* | | | 100 x (Q ₂ - Q ₁) / Q _N , % | Acceptable (Yes or No) |
|-----|----------------|------------------|-------------|--|---|-------------------|-------------|--|---|------------------------|
| | | Shop End | Field End | Sum (Q ₁) Shop & Field End | | Shop End | Field End | Sum (Q ₂) Shop & Field End | | |
| 1. | <u>H 51-49</u> | <u>7</u> | <u>4</u> | <u>11</u> | <u>103.4</u> | <u>7.08</u> | <u>7.08</u> | <u>14.16</u> | <u>3.05</u> | <u>Yes</u> |
| 2. | <u>H 62-26</u> | <u>4</u> | <u>5.25</u> | <u>9.25</u> | <u>103.2</u> | <u>7.08</u> | <u>6.19</u> | <u>13.27</u> | <u>3.89</u> | <u>Yes</u> |
| 3. | | | | | | | | | | |
| 4. | | | | | | | | | | |
| 5. | | | | | | | | | | |
| 6. | | | | | | | | | | |
| 7. | | | | | | | | | | |
| 8. | | | | | | | | | | |
| 9. | | | | | | | | | | |
| 10. | | | | | | | | | | |
| 11. | | | | | | | | | | |

- * Only one end of vertical tendons may be used for removal and replacement of grease.
- ** Differences greater than 4 gallons require TMI-1 evaluation. Acceptance limit is not > 10% of net duct volume per 9.4.3.

Cognizant QV Inspector: [Signature] Date: 11-19-09
 Verification By: [Signature] Date: 8-26-09
 Cognizant Mech/Struct Engineer: [Signature]
 Review By: [Signature] Date: 19 MAR 10

Due to the relatively high coefficient of thermal expansion of the grease that is installed at a high temperature, experience during surveillances has been that the quantity of replacement grease frequently exceeds the arbitrary acceptance criteria. Exceeding the acceptance criteria is primarily an indication that an inspection and assessment for possible grease leakage within the structure is necessary. The visual examination of the anchorage and wire will determine whether the corrosion protection system is functioning effectively.

**ATTACHMENT 1
Data Sheet 1**

1410-Y-83
Revision 7
Page 1 of 1

Regreasing of RB Tendon End Caps

8.1 Tendon Identity: H13-41 Tendon End: SHOP

8.3.2 Amount of grease removed: 6 1/2 gallons

8.4 Hoop and Dome Tendons

8.4.6 Replacement grease temperature: 180 °F (140°F to 200°F)

8.4.7 Grease level below vent hole 2 inches (1 1/2 to 2")

8.4.9 Grease leaking Yes No

8.4.9 Amount of grease added 7.96 gallons

8.5 Top Vertical Tendons

8.5.6(1) Replacement grease temperature n/a °F (140°F to 200°F)

8.5.6(2) Grease level below vent hole n/a inches (2" to 3")

8.5.6(4) Grease leaking n/a Yes n/a No

8.5.6(5) Amount of grease added n/a gallons

8.6 Lower Vertical Tendons

8.6.5 Replacement grease temperature n/a °F (140°F to 200°F)

8.6.6 Grease leaking n/a Yes n/a No

8.6.7 Amount of grease added n/a gallons

10.0 PMT Sat Unsat

Comments: n/a

Calibrated Test Equip.: POCKET THERMOMETER #PK 104 Cal. Due Date: 7-27-¹⁰09
2001/13-09

Supervisor Signoff: [Signature] Date: 11/18-09

Attach filled out and signed copies of this data sheet to the Job Closeout or Tendon Surveillance Report Package for any end caps which have been removed/regreased.

ATTACHMENT 1
Data Sheet 1

1410-Y-83
Revision 7
Page 1 of 1

Regreasing of RB Tendon End Caps

8.1 Tendon Identity: H13-41 Tendon End: Bottom 3 / Field End

8.3.2 Amount of grease removed: 5 gallons

8.4 Hoop and Dome Tendons

8.4.6 Replacement grease temperature: 195 °F (140°F to 200°F)

8.4.7 Grease level below vent hole 2 inches (1½ to 2")

8.4.9 Grease leaking _____ Yes X No

8.4.9 Amount of grease added 5.31 gallons

8.5 Top Vertical Tendons

8.5.6(1) Replacement grease temperature n/a °F (140°F to 200°F)

8.5.6(2) Grease level below vent hole n/a inches (2" to 3")

8.5.6(4) Grease leaking n/a Yes n/a No

8.5.6(5) Amount of grease added n/a gallons

8.6 Lower Vertical Tendons

8.6.5 Replacement grease temperature n/a °F (140°F to 200°F)

8.6.6 Grease leaking n/a Yes n/a No

8.6.7 Amount of grease added n/a gallons

10.0 PMT Sat X Unsat _____

Comments: n/a

Calibrated Test Equip.: _____ Cal. Due Date: _____

QC
Supervisor Signoff: Paul P. [Signature] Date: 2-25-20
TRANSFERRED FROM SQ 12.1 DATA SHEET

Attach filled out and signed copies of this data sheet to the Job Closeout or Tendon Surveillance Report Package for any end caps which have been removed/regreased.

ATTACHMENT 1
Data Sheet 1

1410-Y-83
Revision 7
Page 1 of 1

Regreasing of RB Tendon End Caps

8.1 Tendon Identity: H 24-33 Tendon End: Butt. 4 / Shop end
8.3.2 Amount of grease removed: 5 gallons

8.4 Hoop and Dome Tendons

8.4.6 Replacement grease temperature: 196 °F (140°F to 200°F)
8.4.7 Grease level below vent hole 2 inches (1½ to 2")
8.4.9 Grease leaking Yes X No
8.4.9 Amount of grease added 7.96 gallons

8.5 Top Vertical Tendons

~~8.5.6(1) Replacement grease temperature N °F (140°F to 200°F)
8.5.6(2) Grease level below vent hole _____ inches (2" to 3")
8.5.6(4) Grease leaking Yes A No
8.5.6(5) Amount of grease added _____ gallons~~

8.6 Lower Vertical Tendons

~~8.6.5 Replacement grease temperature N °F (140°F to 200°F)
8.6.6 Grease leaking Yes A No
8.6.7 Amount of grease added _____ gallons~~

10.0 PMT Sat X Unsat _____

Comments: n/a

Calibrated Test Equip.: Probe Thermometer P-K 104 Cal. Due Date: 7-27-10

QC
Supervisor Signoff: Timothy C. [Signature] Date: 8-14-09

Attach filled out and signed copies of this data sheet to the Job Closeout or Tendon Surveillance Report Package for any end caps which have been removed/regreased.

ATTACHMENT 1
Data Sheet 1

1410-Y-83
Revision 7
Page 1 of 1

Regreasing of RB Tendon End Caps

8.1 Tendon Identity: H-24-33 Tendon End: Butt. 2/Field

8.3.2 Amount of grease removed: 4 gallons

8.4 Hoop and Dome Tendons

8.4.6 Replacement grease temperature: 195 °F (140°F to 200°F)

8.4.7 Grease level below vent hole 2" inches (1½ to 2")

8.4.9 Grease leaking Yes No

8.4.9 Amount of grease added 4.42 gallons

8.5 Top Vertical Tendons

8.5.6(1) Replacement grease temperature _____ °F (140°F to 200°F)

8.5.6(2) Grease level below vent hole NA inches (2" to 3")

8.5.6(4) Grease leaking Yes No

8.5.6(5) Amount of grease added NA gallons

8.6 Lower Vertical Tendons

8.6.5 Replacement grease temperature NA °F (140°F to 200°F)

8.6.6 Grease leaking Yes No

8.6.7 Amount of grease added NA gallons

10.0 PMT Sat X Unsat _____

Comments: None

Calibrated Test Equip.: Probe Thermometer PK-104 Cal. Due Date: 7-27-10

Supervisor Signoff: [Signature] Date: 8-24-09

Attach filled out and signed copies of this data sheet to the Job Closeout or Tendon Surveillance Report Package for any end caps which have been removed/regreased.

ATTACHMENT 1
Data Sheet 1

1410-Y-83
Revision 7
Page 1 of 1

Regreasing of RB Tendon End Caps

8.1 Tendon Identity: H46-50 Tendon End: Buttress 6/shop

8.3.2 Amount of grease removed: 4.5 gallons

8.4 Hoop and Dome Tendons

8.4.6 Replacement grease temperature: 196 °F (140°F to 200°F)

8.4.7 Grease level below vent hole 1 1/2 inches (1 1/2 to 2")

8.4.9 Grease leaking Yes No

8.4.9 Amount of grease added 2.08 gallons

8.5 Top Vertical Tendons

~~8.5.6(1) Replacement grease temperature N °F (140°F to 200°F)~~

~~8.5.6(2) Grease level below vent hole A inches (2" to 3")~~

~~8.5.6(4) Grease leaking Yes No~~

~~8.5.6(5) Amount of grease added _____ gallons~~

8.6 Lower Vertical Tendons

~~8.6.5 Replacement grease temperature N °F (140°F to 200°F)~~

~~8.6.6 Grease leaking Yes No~~

~~8.6.7 Amount of grease added A gallons~~

10.0 PMT Sat Unsat _____

Comments: None

Calibrated Test Equip.: Probe Thermometer Pk-104 Cal. Due Date: 7-27-10

Supervisor Signoff: QC [Signature] Date: 8-14-09

Attach filled out and signed copies of this data sheet to the Job Closeout or Tendon Surveillance Report Package for any end caps which have been removed/regreased.

ATTACHMENT 1
Data Sheet 1

1410-Y-83
Revision 7
Page 1 of 1

Regreasing of RB Tendon End Caps

8.1 Tendon Identity: H46-50 Tendon End: Butt. 4 / Field End

8.3.2 Amount of grease removed: 4.5 gallons

8.4 Hoop and Dome Tendons

8.4.6 Replacement grease temperature: 196 °F (140°F to 200°F)

8.4.7 Grease level below vent hole 1 3/4 inches (1 1/2 to 2")

8.4.9 Grease leaking Yes X No

8.4.9 Amount of grease added 7.96 gallons

8.5 Top Vertical Tendons

~~8.5.6(1) Replacement grease temperature N °F (140°F to 200°F)~~

~~8.5.6(2) Grease level below vent hole A inches (2" to 3")~~

~~8.5.6(4) Grease leaking Yes A No~~

~~8.5.6(5) Amount of grease added _____ gallons~~

8.6 Lower Vertical Tendons

~~8.6.5 Replacement grease temperature N °F (140°F to 200°F)~~

~~8.6.6 Grease leaking Yes A No~~

~~8.6.7 Amount of grease added _____ gallons~~

10.0 PMT Sat X Unsat _____

Comments: None

Calibrated Test Equip.: Probe Thermometer PK-104 Cal. Due Date: 7-27-10

QC
Supervisor Signoff: Jimmy C. O'Sta Date: 8-14-09

Attach filled out and signed copies of this data sheet to the Job Closeout or Tendon Surveillance Report Package for any end caps which have been removed/regreased.

ATTACHMENT 1
Data Sheet 1

1410-Y-83
Revision 7
Page 1 of 1

Regreasing of RB Tendon End Caps

8.1 Tendon Identity: H51-49 Tendon End: SHOP

8.3.2 Amount of grease removed: 7 gallons

8.4 Hoop and Dome Tendons

8.4.6 Replacement grease temperature: 180 °F (140°F to 200°F)

8.4.7 Grease level below vent hole 2 inches (1½ to 2")

8.4.9 Grease leaking Yes No

8.4.9 Amount of grease added 7.08 gallons

8.5 Top Vertical Tendons

8.5.6(1) Replacement grease temperature n/a °F (140°F to 200°F)

8.5.6(2) Grease level below vent hole n/a inches (2" to 3")

8.5.6(4) Grease leaking n/a Yes No

8.5.6(5) Amount of grease added n/a gallons

8.6 Lower Vertical Tendons

8.6.5 Replacement grease temperature n/a °F (140°F to 200°F)

8.6.6 Grease leaking n/a Yes No

8.6.7 Amount of grease added n/a gallons

10.0 PMT Sat Unsat

Comments: n/a

Calibrated Test Equip.: Pocket Thermometer #PK104 Cal. Due Date: 7-27-10

QC
Supervisor Signoff: [Signature] Date: 11-13-09

Attach filled out and signed copies of this data sheet to the Job Closeout or Tendon Surveillance Report Package for any end caps which have been removed/regreased.

**ATTACHMENT 1
Data Sheet 1**

**1410-Y-83
Revision 7
Page 1 of 1**

Regreasing of RB Tendon End Caps

8.1 Tendon Identity: H51-49 Tendon End: FIELD / BUT 5

8.3.2 Amount of grease removed: 4 gallons

8.4 Hoop and Dome Tendons

8.4.6 Replacement grease temperature: 200 °F (140°F to 200°F)

8.4.7 Grease level below vent hole 2" inches (1½ to 2")

8.4.9 Grease leaking Yes No

8.4.9 Amount of grease added 7.08 gallons

8.5 Top Vertical Tendons

8.5.6(1) Replacement grease temperature N/A °F (140°F to 200°F)

8.5.6(2) Grease level below vent hole N/A inches (2" to 3")

8.5.6(4) Grease leaking N/A Yes N/A No

8.5.6(5) Amount of grease added N/A gallons

8.6 Lower Vertical Tendons

8.6.5 Replacement grease temperature N/A °F (140°F to 200°F)

8.6.6 Grease leaking N/A Yes N/A No

8.6.7 Amount of grease added N/A gallons

10.0 PMT Sat X Unsat

Comments: NONE

Calibrated Test Equip.: POMER THERMOMETER # 7K104 Cal. Due Date: 7-27-10

QC
Supervisor Signoff: [Signature] Date: 11-13-09

Attach filled out and signed copies of this data sheet to the Job Closeout or Tendon Surveillance Report Package for any end caps which have been removed/regreased.

ATTACHMENT 1
Data Sheet 1

1410-Y-83
Revision 7
Page 1 of 1

Regreasing of RB Tendon End Caps

8.1 Tendon Identity: H62-26 Tendon End: Butt. 6 / Shop

8.3.2 Amount of grease removed: 4 gallons

8.4 Hoop and Dome Tendons

8.4.6 Replacement grease temperature: 190 °F (140°F to 200°F)

8.4.7 Grease level below vent hole 1 1/2 inches (1 1/2 to 2")

8.4.9 Grease leaking Yes No

8.4.9 Amount of grease added 7.08 gallons

8.5 Top Vertical Tendons

~~8.5.6(1) Replacement grease temperature N °F (140°F to 200°F)~~

~~8.5.6(2) Grease level below vent hole A inches (2" to 3")~~

~~8.5.6(4) Grease leaking Yes No~~

~~8.5.6(5) Amount of grease added _____ gallons~~

8.6 Lower Vertical Tendons

~~8.6.5 Replacement grease temperature N °F (140°F to 200°F)~~

~~8.6.6 Grease leaking Yes No~~

~~8.6.7 Amount of grease added _____ gallons~~

10.0 PMT Sat Unsat _____

Comments: n/a

Calibrated Test Equip.: Probe thermomiter PK102 Cal. Due Date: 7-27-10

Supervisor Signoff: QC W. Bruce Robb Date: 8-12-09

Attach filled out and signed copies of this data sheet to the Job Closeout or Tendon Surveillance Report Package for any end caps which have been removed/regreased.

ATTACHMENT 1
Data Sheet 1

1410-Y-83
Revision 7
Page 1 of 1

Regreasing of RB Tendon End Caps

8.1 Tendon Identity: H62-26 Tendon End: Buttress 2 / Field

8.3.2 Amount of grease removed: 5.25 gallons

8.4 Hoop and Dome Tendons

8.4.6 Replacement grease temperature: 196 °F (140°F to 200°F)

8.4.7 Grease level below vent hole 2" inches (1½ to 2")

8.4.9 Grease leaking Yes No

8.4.9 Amount of grease added 6.19 gallons

8.5 Top Vertical Tendons

8.5.6(1) Replacement grease temperature _____ °F (140°F to 200°F)

8.5.6(2) Grease level below vent hole _____ inches (2" to 3")

8.5.6(4) Grease leaking Yes No

8.5.6(5) Amount of grease added _____ gallons

8.6 Lower Vertical Tendons

8.6.5 Replacement grease temperature _____ °F (140°F to 200°F)

8.6.6 Grease leaking Yes No

8.6.7 Amount of grease added _____ gallons

10.0 PMT Sat None Unsat _____

Comments: _____

Calibrated Test Equip.: PK-104 Cal. Due Date: 7-27-10

QC Supervisor Signoff: [Signature] Date: 8-28-09

Attach filled out and signed copies of this data sheet to the Job Closeout or Tendon Surveillance Report Package for any end caps which have been removed/regreased.

ATTACHMENT 1
Data Sheet 1

1410-Y-83
Revision 7
Page 1 of 1

Regreasing of RB Tendon End Caps

8.1 Tendon Identity: V-11 Tendon End: Gallery / Field

8.3.2 Amount of grease removed: 57.5 gallons

8.4 Hoop and Dome Tendons

8.4.6 Replacement grease temperature: N °F (140°F to 200°F)

8.4.7 Grease level below vent hole _____ inches (1½ to 2")

8.4.9 Grease leaking Yes A No

8.4.9 Amount of grease added _____ gallons

8.5 Top Vertical Tendons

8.5.6(1) Replacement grease temperature n/a °F (140°F to 200°F)

8.5.6(2) Grease level below vent hole n/a inches (2" to 3")

8.5.6(4) Grease leaking n/a Yes X No

8.5.6(5) Amount of grease added 0 gallons

8.6 Lower Vertical Tendons

8.6.5 Replacement grease temperature 210 °F (140°F to 200°F)

8.6.6 Grease leaking Yes X No

8.6.7 Amount of grease added 68.55 gallons

10.0 PMT Sat X Unsat _____

Comments: PUMP THRU ACHIEVED

Calibrated Test Equip.: PORT TENDON MONITOR PK102 Cal. Due Date: 7-27-10

Supervisor Signoff: [Signature] Date: 1-17-10

Attach filled out and signed copies of this data sheet to the Job Closeout or Tendon Surveillance Report Package for any end caps which have been removed/regreased.

ATTACHMENT 1
Data Sheet 1

1410-Y-83
Revision 7
Page 1 of 1

Regreasing of RB Tendon End Caps

8.1 Tendon Identity: V-32 Tendon End: Top / shop

8.3.2 Amount of grease removed: 4.5 gallons

8.4 Hoop and Dome Tendons

8.4.6 Replacement grease temperature: NA °F (140°F to 200°F)

8.4.7 Grease level below vent hole NA inches (1½ to 2")

8.4.9 Grease leaking NA Yes NA No

8.4.9 Amount of grease added NA gallons

8.5 Top Vertical Tendons

8.5.6(1) Replacement grease temperature 195 °F (140°F to 200°F)

8.5.6(2) Grease level below vent hole 3 inches (2" to 3")

8.5.6(4) Grease leaking NA Yes X No

8.5.6(5) Amount of grease added 23.01 gallons

8.6 Lower Vertical Tendons

8.6.5 Replacement grease temperature NA °F (140°F to 200°F)

8.6.6 Grease leaking NA Yes NA No

8.6.7 Amount of grease added NA gallons

10.0 PMT Sat X Unsat

Comments: None

Calibrated Test Equip.: Probe Thermometer PK-104 Cal. Due Date: 7-27-10

QC Supervisor Signoff: Timothy C. Davis Date: 8-18-09

Attach filled out and signed copies of this data sheet to the Job Closeout or Tendon Surveillance Report Package for any end caps which have been removed/regreased.

**ATTACHMENT 1
Data Sheet 1**

1410-Y-83
Revision 7
Page 1 of 1

Regreasing of RB Tendon End Caps

8.1 Tendon Identity: V-32 Tendon End: Gallery / Field

8.3.2 Amount of grease removed: 8 gallons

8.4 Hoop and Dome Tendons

8.4.6 Replacement grease temperature: _____ °F (140°F to 200°F)

8.4.7 Grease level below vent hole N inches (1½ to 2")

8.4.9 Grease leaking Yes A No

8.4.9 Amount of grease added _____ gallons

8.5 Top Vertical Tendons

8.5.6(1) Replacement grease temperature _____ °F (140°F to 200°F)

8.5.6(2) Grease level below vent hole _____ inches (2" to 3")

8.5.6(4) Grease leaking Yes A No

8.5.6(5) Amount of grease added _____ gallons

8.6 Lower Vertical Tendons

8.6.5 Replacement grease temperature 195 °F (140°F to 200°F)

8.6.6 Grease leaking _____ Yes X No

8.6.7 Amount of grease added 23.01 gallons

10.0 PMT Sat X Unsat _____

Comments: Grease hand powered from top/shop end.

Calibrated Test Equip.: Probe thermometer PK-104 Cal. Due Date: 7-2-10

Supervisor Signoff: OC. [Signature] Date: 8-13-09

Attach filled out and signed copies of this data sheet to the Job Closeout or Tendon Surveillance Report Package for any end caps which have been removed/regreased.

ATTACHMENT 1
Data Sheet 1

1410-Y-83
Revision 7
Page 1 of 1

Regreasing of RB Tendon End Caps

8.1 Tendon Identity: V-90 Tendon End: Gallery / Field

8.3.2 Amount of grease removed: 70.5 gallons

8.4 Hoop and Dome Tendons

8.4.6 Replacement grease temperature: _____ °F (140°F to 200°F)

8.4.7 Grease level below vent hole N inches (1½ to 2")

8.4.9 Grease leaking Yes A No

~~8.4.9 Amount of grease added _____ gallons~~

8.5 Top Vertical Tendons

8.5.6(1) Replacement grease temperature _____ °F (140°F to 200°F)

8.5.6(2) Grease level below vent hole N inches (2" to 3")

8.5.6(4) Grease leaking Yes A No

~~8.5.6(5) Amount of grease added _____ gallons~~

8.6 Lower Vertical Tendons

8.6.5 Replacement grease temperature 210 °F (140°F to 200°F)

8.6.6 Grease leaking _____ Yes X No

8.6.7 Amount of grease added 76.85 gallons

10.0 PMT Sat X Unsat _____

Comments: PUMP THRU ACHIEVED

Calibrated Test Equip.: FORNAT TRANSDUCER FK102 Cal. Due Date: 7-27-10

Supervisor Signoff: [Signature] Date: 1-18-10

Attach filled out and signed copies of this data sheet to the Job Closeout or Tendon Surveillance Report Package for any end caps which have been removed/regreased.

ATTACHMENT 1
Data Sheet 1

1410-Y-83
Revision 7
Page 1 of 1

Regreasing of RB Tendon End Caps

8.1 Tendon Identity: V-132 Tendon End: Top Shop

8.3.2 Amount of grease removed: 4.5 gallons

8.4 Hoop and Dome Tendons

8.4.6 Replacement grease temperature: _____ °F (140°F to 200°F)

8.4.7 Grease level below vent hole _____ inches (1½ to 2")

8.4.9 Grease leaking Yes _____ No

8.4.9 Amount of grease added _____ gallons

8.5 Top Vertical Tendons

8.5.6(1) Replacement grease temperature _____ °F (140°F to 200°F)

8.5.6(2) Grease level below vent hole N/A inches (2" to 3")

8.5.6(4) Grease leaking Yes _____ No

8.5.6(5) Amount of grease added _____ gallons

8.6 Lower Vertical Tendons

8.6.5 Replacement grease temperature _____ °F (140°F to 200°F)

8.6.6 Grease leaking Yes _____ No

8.6.7 Amount of grease added N/A gallons

10.0 PMT Sat N/A Unsat N/A

Comments: THIS IS A STEAM GENERATOR REPLACEMENT TENDON, REFER SGT DATASHEET

Calibrated Test Equip.: N/A Cal. Due Date: N/A

Supervisor Signoff: [Signature] Date: 1-18-10

Attach filled out and signed copies of this data sheet to the Job Closeout or Tendon Surveillance Report Package for any end caps which have been removed/regreased.

ATTACHMENT 1
Data Sheet 1

1410-Y-83
Revision 7
Page 1 of 1

Regreasing of RB Tendon End Caps

8.1 Tendon Identity: D-122 Tendon End: Butt. 5 / Shop end

8.3.2 Amount of grease removed: 34.5 gallons + 5 1/2 GAL. FIELD END = 40 GAL.

8.4 Hoop and Dome Tendons

8.4.6 Replacement grease temperature: 194 °F (140°F to 200°F)

8.4.7 Grease level below vent hole 2 inches (1 1/2 to 2")

8.4.9 Grease leaking Yes X No

8.4.9 Amount of grease added 44.02 gallons

8.5 Top Vertical Tendons

~~8.5.6(1) Replacement grease temperature N °F (140°F to 200°F)~~

~~8.5.6(2) Grease level below vent hole N inches (2" to 3")~~

~~8.5.6(4) Grease leaking Yes A No~~

~~8.5.6(5) Amount of grease added A gallons~~

8.6 Lower Vertical Tendons

~~8.6.5 Replacement grease temperature N °F (140°F to 200°F)~~

~~8.6.6 Grease leaking Yes A No~~

~~8.6.7 Amount of grease added A gallons~~

10.0 PMT Sat X Unsat _____

Comments: None

Calibrated Test Equip.: POCKET THERMOMETER #PK104 Cal. Due Date: 7-27-10

Supervisor Signoff: [Signature] Date: 11-18-09

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Regreasing of RB Tendon End Caps

8.1 Tendon Identity: D-225 Tendon End: Shop

8.3.2 Amount of grease removed: 7 gallons

8.4 Hoop and Dome Tendons

8.4.6 Replacement grease temperature: 183 °F (140°F to 200°F)

8.4.7 Grease level below vent hole 1 1/2 inches (1 1/2 to 2")

8.4.9 Grease leaking Yes No

8.4.9 Amount of grease added 8 gallons

8.5 Top Vertical Tendons

8.5.6(1) Replacement grease temperature _____ °F (140°F to 200°F)

8.5.6(2) Grease level below vent hole _____ inches (2" to 3")

8.5.6(4) Grease leaking Yes No

8.5.6(5) Amount of grease added _____ gallons

8.6 Lower Vertical Tendons

8.6.5 Replacement grease temperature _____ °F (140°F to 200°F)

8.6.6 Grease leaking Yes No

8.6.7 Amount of grease added _____ gallons

10.0 PMT Sat X Unsat _____

Comments: None

Calibrated Test Equip.: Probe Thermometer PK-104 Cal. Due Date: 7-27-10

Recorded By: [Signature] Date: 8-11-09
Supervisor Signoff: [Signature]

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Regreasing of RB Tendon End Caps

8.1 Tendon Identity: D 225 Tendon End: Butt. 2 / Field

8.3.2 Amount of grease removed: 8.75 gallons

8.4 Hoop and Dome Tendons

8.4.6 Replacement grease temperature: 185 °F (140°F to 200°F)

8.4.7 Grease level below vent hole 1 1/2 inches (1 1/4 to 2")

8.4.9 Grease leaking Yes No

8.4.9 Amount of grease added 10.62 gallons

8.5 Top Vertical Tendons

8.5.6(1) Replacement grease temperature N/A °F (140°F to 200°F)

8.5.6(2) Grease level below vent hole N/A inches (2" to 3")

8.5.6(4) Grease leaking Yes No

8.5.6(5) Amount of grease added N/A gallons

8.6 Lower Vertical Tendons

8.6.5 Replacement grease temperature N/A °F (140°F to 200°F)

8.6.6 Grease leaking Yes No

8.6.7 Amount of grease added N/A gallons

10.0 PMT Sat Upsat

Comments: N/A

Calibrated Test Equip.: Probe Thermometer PK-104 Cal. Due Date: 7-27-10

Supervisor Signoff: QC [Signature] Date: 8-12-09

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Regreasing of RB Tendon End Caps

8.1 Tendon Identity: D-322 Tendon End: SHOP/NORTH

8.3.2 Amount of grease removed: 8 1/2 gallons

8.4 Hoop and Dome Tendons

8.4.6 Replacement grease temperature: 194 °F (140°F to 200°F)

8.4.7 Grease level below vent hole 2 inches (1 1/2 to 2")

8.4.9 Grease leaking Yes No

8.4.9 Amount of grease added 12.39 gallons

8.5 Top Vertical Tendons

8.5.6(1) Replacement grease temperature n/a °F (140°F to 200°F)

8.5.6(2) Grease level below vent hole n/a inches (2" to 3")

8.5.6(4) Grease leaking n/a Yes No

8.5.6(5) Amount of grease added n/a gallons

8.6 Lower Vertical Tendons

8.6.5 Replacement grease temperature n/a °F (140°F to 200°F)

8.6.6 Grease leaking n/a Yes No

8.6.7 Amount of grease added n/a gallons

10.0 PMT Sat X Unsat

Comments: NONE

Calibrated Test Equip.: POCKET THERMOMETER # PK104 Cal. Due Date: 7-27-10

Supervisor Signoff: [Signature] Date: 11-17-09

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Regreasing of RB Tendon End Caps

8.1 Tendon Identity: D-322 Tendon End: FIELD

8.3.2 Amount of grease removed: 6 1/2 gallons

8.4 Hoop and Dome Tendons

8.4.6 Replacement grease temperature: 194 °F (140°F to 200°F)

8.4.7 Grease level below vent hole 2 inches (1 1/2 to 2")

8.4.9 Grease leaking Yes No

8.4.9 Amount of grease added 8.85 gallons

8.5 Top Vertical Tendons

8.5.8(1) Replacement grease temperature N/A °F (140°F to 200°F)

8.5.8(2) Grease level below vent hole N/A inches (2" to 3")

8.5.8(4) Grease leaking N/A Yes N/A No

8.5.8(5) Amount of grease added N/A gallons

8.6 Lower Vertical Tendons

8.6.5 Replacement grease temperature N/A °F (140°F to 200°F)

8.6.6 Grease leaking N/A Yes N/A No

8.6.7 Amount of grease added N/A gallons

10.0 PMT Sat Unsat

Comments: NONE

Calibrated Test Equip.: FORK THERMOMETER #PK104 Cal. Due Date: 7-27-10

Supervisor Signoff: *Paul P. O'Neil* Date: 11-27-09

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Regreasing of RB Tendon End Caps

8.1 Tendon Identity: D342 Tendon End: Butt. 6 / Shop end

8.3.2 Amount of grease removed: 40 gallons

8.4 Hoop and Dome Tendons

8.4.6 Replacement grease temperature: 190 °F (140°F to 200°F)

8.4.7 Grease level below vent hole 1 1/2 inches (1 1/2 to 2")

8.4.9 Grease leaking _____ Yes (No)

8.4.9 Amount of grease added 58.72 gallons

8.5 Top Vertical Tendons

~~8.5.6(1) Replacement grease temperature _____ °F (140°F to 200°F)~~

~~8.5.6(2) Grease level below vent hole N inches (2" to 3")~~

~~8.5.6(4) Grease leaking _____ Yes A No~~

~~8.5.6(5) Amount of grease added _____ gallons~~

8.6 Lower Vertical Tendons

~~8.6.5 Replacement grease temperature _____ °F (140°F to 200°F)~~

~~8.6.6 Grease leaking _____ Yes A No~~

~~8.6.7 Amount of grease added _____ gallons~~

10.0 PMT Sat X Unsat _____

Comments: None

Calibrated Test Equip.: PK104 Cal. Due Date: 7-27-10

^{QC}
Supervisor Signoff: W. Pance Polte Date: 8-18-09

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Regreasing of RB Tendon End Caps

8.1 Tendon Identity: D 342 Tendon End: Butt. 4 / Field

8.3.2 Amount of grease removed: 10 gallons

8.4 Hoop and Dome Tendons

8.4.6 Replacement grease temperature: 190 °F (140°F to 200°F)

8.4.7 Grease level below vent hole 1 1/2 inches (1 1/2 to 2")

8.4.9 Grease leaking Yes No

8.4.9 Amount of grease added 58.72 gallons

8.5 Top Vertical Tendons

~~8.5.6(1) Replacement grease temperature _____ °F (140°F to 200°F)~~

~~8.5.6(2) Grease level below vent hole N inches (2" to 3")~~

~~8.5.6(4) Grease leaking Yes No~~

~~8.5.6(5) Amount of grease added A gallons~~

8.6 Lower Vertical Tendons

~~8.6.5 Replacement grease temperature N °F (140°F to 200°F)~~

~~8.6.6 Grease leaking Yes No~~

~~8.6.7 Amount of grease added A gallons~~

10.0 PMT Sat Unsat _____

Comments: None

Calibrated Test Equip.: PK 104 Cal. Due Date: 7-27-10

QC
Supervisor Signoff: W. Lance Robb Date: 8-18-09

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Regreasing of RB Tendon End Caps

8.1 Tendon Identity: V-10 Tendon End: Bottom/Field

8.3.2 Amount of grease removed: 5.3 gallons

8.4 Hoop and Dome Tendons

8.4.6 Replacement grease temperature: N/A °F (140°F to 200°F)

8.4.7 Grease level below vent hole N/A inches (1½ to 2")

8.4.9 Grease leaking N/A Yes N/A No

8.4.9 Amount of grease added N/A gallons

8.5 Top Vertical Tendons

8.5.6(1) Replacement grease temperature N/A °F (140°F to 200°F)

8.5.6(2) Grease level below vent hole 2 inches (2" to 3")

8.5.6(4) Grease leaking _____ Yes X No

8.5.6(5) Amount of grease added 54.94 gallons
280 1-14-10

8.6 Lower Vertical Tendons

8.6.5 Replacement grease temperature 210 °F (140°F to 200°F)

8.6.6 Grease leaking _____ Yes X No

8.6.7 Amount of grease added 54.94 gallons

10.0 PMT Sat X Unsat _____

Comments: PUMP TRUCK ACQUIRED

Calibrated Test Equip.: POCKET THERMOMETER PR102 Cal. Due Date: 7-27-10

Supervisor Signoff: [Signature] Date: 1-14-10

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Regreasing of RB Tendon End Caps

8.1 Tendon Identity: V55 Tendon End: Bottom

8.3.2 Amount of grease removed: 1/4 gallons

8.4 Hoop and Dome Tendons

8.4.6 Replacement grease temperature: n/a °F (140°F to 200°F)

8.4.7 Grease level below vent hole n/a inches (1½ to 2")

8.4.9 Grease leaking n/a Yes n/a No

8.4.9 Amount of grease added n/a gallons

8.5 Top Vertical Tendons

8.5.6(1) Replacement grease temperature 218 °F (140°F to 200°F)

8.5.6(2) Grease level below vent hole 2 inches (2" to 3")

8.5.6(4) Grease leaking _____ Yes X No

8.5.6(5) Amount of grease added 1.77 gallons

8.6 Lower Vertical Tendons

8.6.5 Replacement grease temperature n/a °F (140°F to 200°F)

8.6.6 Grease leaking _____ Yes X No

8.6.7 Amount of grease added n/a gallons

10.0 PMT Sat X Unsat _____

Comments: n/a

Calibrated Test Equip.: ROCKET THERMOMETER FK102 Cal. Due Date: 7-27-10

Supervisor Signoff: [Signature] Date: 1-19-10

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ATTACHMENT 1
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Regreasing of RB Tendon End Caps

8.1 Tendon Identity: V-60 Tendon End: Bottom / Field
8.3.2 Amount of grease removed: 34.25 gallons

8.4 Hoop and Dome Tendons

8.4.6 Replacement grease temperature: n/a °F (140°F to 200°F)
8.4.7 Grease level below vent hole n/a inches (1½ to 2")
8.4.9 Grease leaking n/a Yes n/a No
8.4.9 Amount of grease added n/a gallons

8.5 Top Vertical Tendons

8.5.6(1) Replacement grease temperature 210 °F (140°F to 200°F)
8.5.6(2) Grease level below vent hole 2 inches (2" to 3")
8.5.6(4) Grease leaking _____ Yes X No
8.5.6(5) Amount of grease added 19.91 gallons

8.6 Lower Vertical Tendons

8.6.5 Replacement grease temperature 214 °F (140°F to 200°F)
8.6.6 Grease leaking _____ Yes X No
8.6.7 Amount of grease added 14.61 gallons

10.0 PMT Sat X Unsat _____

Comments: n/a

Calibrated Test Equip.: POCKET THERMOMETERS PK102 Cal. Due Date: 7-27-10

Supervisor Signoff: [Signature] Date: 1-18-10

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Regreasing of RB Tendon End Caps

8.1 Tendon Identity: V-62 Tendon End: Bottom / Field
8.3.2 Amount of grease removed: 46.50 gallons

8.4 Hoop and Dome Tendons

8.4.6 Replacement grease temperature: n/a °F (140°F to 200°F)
8.4.7 Grease level below vent hole n/a inches (1½ to 2")
8.4.9 Grease leaking n/a Yes n/a No
8.4.9 Amount of grease added n/a gallons

8.5 Top Vertical Tendons

8.5.6(1) Replacement grease temperature 218 °F (140°F to 200°F)
8.5.6(2) Grease level below vent hole 2 inches (2" to 3")
8.5.6(4) Grease leaking _____ Yes X No
8.5.6(5) Amount of grease added 30.09 gallons

8.6 Lower Vertical Tendons

8.6.5 Replacement grease temperature 220 °F (140°F to 200°F)
8.6.6 Grease leaking _____ Yes X No
8.6.7 Amount of grease added 17.04 gallons

10.0 PMT Sat X Unsat _____

Comments: n/a

Calibrated Test Equip.: POCKET THERMOMETER FK102 Cal. Due Date: 7-27-10

Supervisor Signoff: [Signature] Date: 1-18-10

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Regreasing of RB Tendon End Caps

8.1 Tendon Identity: V-71 Tendon End: Bottom / Field

8.3.2 Amount of grease removed: 46 gallons

8.4 Hoop and Dome Tendons

8.4.6 Replacement grease temperature: n/a °F (140°F to 200°F)

8.4.7 Grease level below vent hole n/a inches (1½ to 2")

8.4.9 Grease leaking n/a Yes n/a No

8.4.9 Amount of grease added n/a gallons

8.5 Top Vertical Tendons

8.5.6(1) Replacement grease temperature n/a °F (140°F to 200°F)

8.5.6(2) Grease level below vent hole 2 inches (2" to 3")

8.5.6(4) Grease leaking _____ Yes X No

8.5.6(5) Amount of grease added n/a gallons

8.6 Lower Vertical Tendons

8.6.5 Replacement grease temperature 220 °F (140°F to 200°F)

8.6.6 Grease leaking _____ Yes X No

8.6.7 Amount of grease added 44.2 gallons

10.0 PMT Sat X Unsat _____

Comments: n/a

Calibrated Test Equip.: POCKET THERMOMETER PK102 Cal. Due Date: 7-27-10

Supervisor Signoff: [Signature] Date: 1-18-10

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Regreasing of RB Tendon End Caps

8.1 Tendon Identity: V84 Tendon End: BOTTOM

8.3.2 Amount of grease removed: 14 gallons

8.4 Hoop and Dome Tendons

8.4.6 Replacement grease temperature: n/a °F (140°F to 200°F)

8.4.7 Grease level below vent hole n/a inches (1½ to 2")

8.4.9 Grease leaking n/a Yes n/a No

8.4.9 Amount of grease added n/a gallons

8.5 Top Vertical Tendons

8.5.6(1) Replacement grease temperature 212 °F (140°F to 200°F)

8.5.6(2) Grease level below vent hole 2 inches (2" to 3")

8.5.6(4) Grease leaking _____ Yes X No

8.5.6(5) Amount of grease added 1.77 gallons

8.6 Lower Vertical Tendons

8.6.5 Replacement grease temperature n/a °F (140°F to 200°F)

8.6.6 Grease leaking _____ Yes X No

8.6.7 Amount of grease added n/a gallons

10.0 PMT Sat X Unsat _____

Comments: n/a

Calibrated Test Equip.: POCKET THERMOMETER FK102 Cal. Due Date: 7-27-10

Supervisor Signoff: [Signature] Date: 1-19-10

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Regreasing of RB Tendon End Caps

7/28-2/10

8.1 Tendon Identity: V-88 Tendon End: J Gallery / Field

8.3.2 Amount of grease removed: 53.56 gallons

8.4 Hoop and Dome Tendons

8.4.6 Replacement grease temperature: n/a °F (140°F to 200°F)

8.4.7 Grease level below vent hole n/a inches (1½ to 2")

8.4.9 Grease leaking n/a Yes n/a No

8.4.9 Amount of grease added n/a gallons

8.5 Top Vertical Tendons

8.5.6(1) Replacement grease temperature n/a °F (140°F to 200°F)

8.5.6(2) Grease level below vent hole 2 inches (2" to 3")

8.5.6(4) Grease leaking _____ Yes: X No

8.5.6(5) Amount of grease added n/a gallons

8.6 Lower Vertical Tendons

8.6.5 Replacement grease temperature 214 °F (140°F to 200°F)

8.6.6 Grease leaking _____ Yes: X No

8.6.7 Amount of grease added 53.50 gallons

10.0 PMT Sat X Unsat _____

Comments: n/a

Calibrated Test Equip.: POCKET THERMOMETER PK102 Cal. Due Date: 7-27-10

QC
Supervisor Signoff: [Signature] Date: 7-19-10

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ATTACHMENT 1
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Regreasing of RB Tendon End Caps

8.1 Tendon Identity: V-98 Tendon End: Gallery / Field

8.3.2 Amount of grease removed: 40.28 gallons

8.4 Hoop and Dome Tendons

8.4.6 Replacement grease temperature: n/a °F (140°F to 200°F)

8.4.7 Grease level below vent hole n/a inches (1½ to 2")

8.4.9 Grease leaking n/a Yes n/a No

8.4.9 Amount of grease added n/a gallons

8.5 Top Vertical Tendons

8.5.6(1) Replacement grease temperature 220 °F (140°F to 200°F)

8.5.6(2) Grease level below vent hole 2 inches (2" to 3")

8.5.6(4) Grease leaking _____ Yes X No

8.5.6(5) Amount of grease added 35.40 gallons

8.6 Lower Vertical Tendons

8.6.5 Replacement grease temperature 210 °F (140°F to 200°F)

8.6.6 Grease leaking _____ Yes X No

8.6.7 Amount of grease added 14.61 gallons

10.0 PMT Sat X Unsat _____

Comments: n/a

Calibrated Test Equip.: Boat Transducer PR02 Cal. Due Date: 7-27-10

QC
Supervisor Signoff: [Signature] Date: 1-19-10

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Regreasing of RB Tendon End Caps

8.1 Tendon Identity: V-99 Tendon End: Gallery / Field

8.3.2 Amount of grease removed: 44.25 gallons

8.4 Hoop and Dome Tendons

8.4.6 Replacement grease temperature: n/a °F (140°F to 200°F)

8.4.7 Grease level below vent hole n/a inches (1½ to 2")

8.4.9 Grease leaking n/a Yes n/a No

8.4.9 Amount of grease added n/a gallons

8.5 Top Vertical Tendons

8.5.6(1) Replacement grease temperature n/a °F (140°F to 200°F)

8.5.6(2) Grease level below vent hole 2 inches (2" to 3")

8.5.6(4) Grease leaking _____ Yes X No

8.5.6(5) Amount of grease added n/a gallons

8.6 Lower Vertical Tendons

8.6.5 Replacement grease temperature 218 °F (140°F to 200°F)

8.6.6 Grease leaking _____ Yes X No

8.6.7 Amount of grease added 45.20 gallons

10.0 PMT Sat X Unsat _____

Comments: n/a

Calibrated Test Equip.: POCKET THERMOMETER FR102 Cal. Due Date: 7-27-10

Supervisor Signoff: AC [Signature] Date: 1-19-10

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