

Exelon Nuclear  
Limerick Generating Station  
P.O. Box 2300  
Pottstown, PA 19464

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T.S. 4.0.5 & 10CFR50.55a(g)

June 15, 2005

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

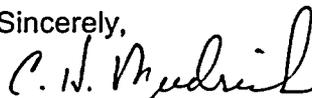
Limerick Generating Station, Unit 2  
Facility Operating License No. NPF-85  
NRC Docket No. 50-353

Subject: LGS Unit 2 Summary Report for Inservice Inspections (2R08)

The LGS Unit 2 Summary Report for Inservice Inspections and ASME Section XI non destructive examinations, repairs and replacements for the period March 24, 2003 to March 17, 2005 Report No. 8 is submitted in accordance with ASME Section XI, Article IWA-6200, Unit 2 Technical Specifications Section 4.0.5 and 10CFR50.55a(g).

If you have any questions or require additional information, please do not hesitate to contact us.

Sincerely,



for Ron J. DeGregorio  
Vice President - LGS  
Exelon Generation Company, LLC

Enclosure: Limerick Generating Station Unit 2, Summary Report for the March 24, 2003 to March 17, 2005 Periodic Inservice Inspection Report No. 8

cc: S. Collins, Administrator, Region I, USNRC  
S. Hansell, LGS USNRC Senior Resident Inspector

AD47

bcc: R. Lopriore – KSA 3N (w/o attachments)  
W. Levis – GML 5-1 (w/o attachments)  
J. Benjamin - Cantara w/o attachments)  
R. DeGregorio - KSA 3N (w/o attachments)  
B. Hanson - GML 5-1 (w/o attachments)  
P. Cowan - KSA 2N (w/o attachments)  
D. Helker - KSA 2N (w/o attachments)  
J. Hunter III - SSB 2-4 w/o attachments  
E. Callan - SSB 3-1 (w/o attachments)  
T. Basso - SSB 3-1 (w/o attachments)  
E. Kelly - SSB 3-1 (w/o attachments)  
H. Do- Cantera (w/o attachments)  
D. Schmidt - SSB 3-4 (w/attachments)  
M. Karasek - SSB 3-4 (w/attachments)  
K. Cellars - KSA (w/o attachments)  
R. Dickinson - SSB 2-3 (w/o attachments)  
J. Toro - SMB 1-2 (w/attachments)  
S. Gamble - SSB 2-4 (w/attachments)  
P. Lenair - SSB 3-1 (w/attachments)  
K. Fisher - JSK 4-1 (w/attachments)  
J. Kramer - JSK 3-1 (w/attachments)  
R. Janati - Commonwealth of PA DEP (w/attachments)  
D. Ney - (PABRP) SSB 2-4 w/o attachments

**LIMERICK GENERATING STATION**  
**UNIT 2**  
**SUMMARY REPORT FOR THE**  
**MARCH 24, 2003 TO MARCH 18, 2005**  
**PERIODIC INSERVICE INSPECTION**  
**REPORT No. 8**

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**FORM NIS-1 OWNER'S REPORT FOR INSERVICE INSPECTIONS**  
As required by the Provisions of the ASME Code Rules

1. Owner Exelon Generation Company, LLC, 200 Exelon Way, Kennett Square, PA 19348  
(Name and Address of Owner)

2. Plant Limerick Generating Station, 3146 Sanatoga Road, Pottstown, PA 19464  
(Name and Address of Plant)

3. Plant Unit 2 4. Owner Certificate of Authorization (if required) N/A

5. Commercial Service Date January 8, 1990 6. National Board Number for Unit 3960

7. Components Inspected

Component or Appurtenance	Manufacturer or Installer	Manufacturer or Installer Serial No.	State or Province No.	National Board No.
Nuclear Reactor				
Vessel	Chicago Bridge & Iron Co.	B-5027	B116768	3960
Primary Containment	Bechtel /			
Vessel	Chicago Bridge & Iron Co.		496635V	PASPEC5382
Class 1, 2, & 3				
Piping Systems				
& Supports				

\* Traceability per Form N-5 Data Report, Design Specification and Line Number.

Note: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ in. 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 (E00029) may be obtained from the ASME Order Dept., 22 Law Drive, Box 2300, Fairfield, NJ 07007-2300

FORM NIS-1 (Back)

- 8. Examination Dates: March 24, 2003 to March 18, 2005
- 9. Inspection Period Identification: 2<sup>nd</sup> 10-Year Inspection Interval, 2<sup>nd</sup> Period
- 10. Inspection Interval Identification: January 8, 2000 to January 7, 2010
- 11. Applicable Edition of Section XI Reactor Vessel and Class 1, 2, and 3 Piping - 1989 Edition Addenda  
Containment - 1992 Edition Addenda 1992
- 12. Date/Revision of Inspection Plan: Specification NE-027, Revision 2
- 13. Abstract of Examinations and Tests. Include a list of examinations and tests and a statement concerning status of work required for the Inspection Plan.  
See: Section 1, Summary of Inservice Inspection Results, Limerick Generating Station, Unit 2, Cycle 8.
- 14. Abstract of Results of Examination and Tests.  
See: Section 2, Summary of Conditions Observed, Limerick Generating Station, Unit 2, Cycle 8.
- 15. Abstract of Corrective Measures.  
See: Section 3, Summary of ASME Section XI Repairs and Replacements, Limerick Generating Station, Unit 2, Cycle 8.

We certify that a) the statements made in this report are correct, b) the examinations and tests 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 June 10, 2005 Signed Exelon Generation Company, LLC By DLSchmidt  
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 HSBCT of Hartford, Connecticut have inspected the components described in this Owner's Report during the period March 24, 2003 to March 18, 2005, and state that to the best of my knowledge and belief, the Owner has performed examinations and tests 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, tests, 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 Schmidt Commissions PA 2497 I, N, C & A  
Inspector's Signature National Board, State, Province, and Endorsements

Date 13 JUNE 20 05

## Examination Period and Requirements

During the period from March 24, 2003 to March 18, 2005, Inservice Inspections were performed at Limerick Generating Station Unit 2. Unit 2 was shutdown for a scheduled refuel outage during the period March 1<sup>st</sup> through March 18<sup>th</sup>, 2005. The inspections performed during this period were credited towards the second period of the second ten-year interval.

The examinations of the Reactor Pressure Vessel and Class 1, 2, and 3 Piping Systems and Supports completed during this period were performed in accordance with the requirements of ASME Section XI, 1989 Edition. Risk Informed Inservice Inspections of Class 1 and 2 piping welds were performed in accordance with the alternative requirements of EPRI Report No. TR-112657, Rev. B-A, "Revised Risk Informed Inservice Inspection Evaluation Procedure" and ASME Code Case N-578-1, "Risk Informed Requirements for Class 1, 2, and 3 Piping, Method B." The examinations of the Primary Containment Vessel Class MC and CC components were performed in accordance with the requirements of ASME Section XI, 1992 Edition with the 1992 Addenda.

In addition to ASME Section XI, Augmented Inservice Inspections were performed in accordance with the following regulatory requirements and industry guidance.

Generic Letter 88-01	Intergranular Stress Corrosion Cracking
NUREG-0800	No Break Boundaries
GE SIL No. 455	Recommendation for Additional ISI of Alloy 182 Nozzle Weldments
Tech Spec 3/4.7.4	Snubber Examination and Testing Program
FSAR Table 3.2-1	Non-Q RPV Internal Components
BWRVIP-05	BWR Reactor Pressure Vessel Shell Weld Inspection Recommendations
BWRVIP-18-A	Core Spray Internals Inspection and Flaw Evaluation Guidelines
BWRVIP-26-A	BWR Top Guide Inspection and Flaw Evaluation Guidelines
BWRVIP-41	BWR Jet Pump Assembly Inspection and Flaw Evaluation Guidelines
BWRVIP-42	BWR LPCI Coupling Inspection and Flaw Evaluation Guidelines
BWRVIP-47	BWR Lower Plenum Inspection and Flaw Evaluation Guidelines
BWRVIP-48	BWR Pressure Vessel ID Attachment Welds Inspection and Flaw Evaluation Guidelines
BWRVIP-75	Technical Basis for Revision to Generic Letter 88-01 Inspection Schedules
BWRVIP-76	BWR Core Shroud Inspection and Flaw Evaluation Guidelines
GE SIL No. 409	Incore Dry Tube Cracks
GE SIL No. 474	Steam Dryer Drain Channel Cracking
GE SIL No. 644S1	BWR Steam Dryer Integrity

# Section 1

## Summary of Inservice Inspection Results

### Limerick Generating Station, Unit 2

#### Cycle 8

March 24, 2003 to March 18, 2005

# Limerick ISI Component Inspection Results Listing

## Unit 2

Interval: 2  
Period: 2  
Outage: 2R06

Component ID Description	Iso Number Insp. Date	Sect. XI Cat. Item	Inspection Reason(s)	Actual Exam	Code Coverage	Results	Summary Number	Procedure(s) Inspection Comments Cal Block
LI2/AH Closure Head Dollar Plate Weld	XI-RPV-2 3/4/2005	B-A B1.21	XI	UT	100%	NRI	714600	<u>RPV STD. No. 3</u>
LI2/AJ Bottom Head Dollar Plate Weld	XI-RPV-2 3/8/2005	B-A B1.21	XI	UT	100%	NRI	713500	Examined 0 Deg. to 180 Deg. Az. with 60RL. <u>RPV STD. No. 1A</u>
LI2/DD Bottom Head Weld	XI-RPV-2 3/8/2005	B-A B1.22	XI	UT	84.3%	NRI	714000	100% of accessible portion of weld was examined by 60RL. Examinations were limited for 12" due to Support Skirt Knuckle Welds FR/CG. <u>RPV STD. No. 1A</u>
LI2/DE Bottom Head Weld	XI-RPV-2 3/8/2005	B-A B1.22	XI	UT	84.3%	NRI	714100	100% of accessible portion examined with 60RL. Examinations limited for a distance of 12" due to Support Skirt Knuckle Welds FR/CG. <u>RPV STD. No. 1A</u>
LI2/DG 13 Bottom Head Weld	XI-RPV-2 3/8/2005	B-A B1.22	XI	UT	45.8%	NRI	714300	100% of accessible weld length examined from 0 Deg. Az. (22.9%) and 180 Deg. Az. (22.9%). Examination limitation due to CRD Housings installed through the weld. <u>RPV STD. No. 1A</u>
LI2/DG 14 Bottom Head Weld	XI-RPV-2 3/8/2005	B-A B1.22	XI	UT	45.8%	NRI	714400	Examined 100% of accessible portion of weld at both 0 Deg. Az. (22.9%) and 180 deg. Az. (22.9%). Examination limitation due to CRD Housings installed through weld. <u>RPV STD. No. 1A</u>
LI2/DK Closure Head Weld	XI-RPV-2 3/4/2005	B-A B1.22	XI	UT	100%	NRI	715000	<u>RPV STD. No. 3</u>
LI2/DM Closure Head Weld	XI-RPV-2 3/4/2005	B-A B1.22	XI	UT	100%	NRI	715100	ASME Code coverage achieved. Manuel P-scan: Looking-up scan limited due to closure flange radius. <u>RPV STD. No. 3</u>

# Limerick ISI Component Inspection Results Listing

Interval: 2  
Period: 2  
Outage: 2R08

## Unit 2

Component ID Description	Iso Number Insp. Date	Sect. XI Cat. Item	Inspection Reason(s)	Actual Exam	Code Coverage	Results	Summary Number	Procedure(s) Inspection Comments Cal Block
LI2/AG Closure Head to Flange Weld	XI-RPV-2 3/3/2005	B-A B1.40	XI	MT	100% UT 88.4%	NRI	714500	Examined 120 Deg. Az. to 240 Deg. Az. 60RL UT scans limited due to closure head to flange configuration. <u>RPV STD. No. 3</u>
LI2/N17A-IR LPCI "B" Loop Nozzle Inside Radius Section	XI-RPV-2 3/11/2005	B-D B3.100	XI	UT	100%	NRI	711800	Examined full length CW and CCW; NRI Zones 1 and 2A. <u>RPV STD. No. 1A</u>
LI2/N5A-IR Core Spray "B" Loop Nozzle Inside Radius Section	XI-RPV-2 3/7/2005	B-D B3.100	XI	UT	100%	NRI	710600	Examined full length CW and CCW; Zones 1 and 2A NRI. <u>RPV STD. No. 1A</u>
LI2/N6A-IR RPV Head Spray Nozzle Inside Radius Section	XI-RPV-2 3/4/2005	B-D B3.100	XI	UT	100%	NRI	715500	Examined full length CW and CCW; NRI Zones 1 and 2A. <u>RPV STD. No. 4</u>
LI2/N6B-IR RPV Head Spray (Spare) Nozzle Inside Radius Section	XI-RPV-2 3/10/2005	B-D B3.100	XI	UT	100%	NRI	715700	Examined full length CW and CCW; NRI Zones 1 and 2A. <u>RPV STD. No. 4</u>
LI2/N7-IR RPV Vent Nozzle Inside Radius Section	XI-RPV-2 3/3/2005	B-D B3.100	XI	UT	100%	NRI	715900	Examined full length CW and CCW; NRI Zones 1 and 2A. <u>RPV STD. No. 4</u>
LI2/N9-IR CRD Return (Capped) Nozzle Inside Radius Section	XI-RPV-2 3/6/2005	B-D B3.100	XI	UT	100%	NRI	711600	Examined full length CW and CCW; NRI Zones 1 and 2A. <u>RPV STD. No. 1A</u>
LI2/N17A LPCI "B" Loop Nozzle to Vessel Weld	XI-RPV-2 3/11/2005	B-D B3.90	XI	UT	81.2%	NRI	711700	Examined full length CW and CCW; NRI 45S and 60RL. <u>RPV STD. No. 1A</u>
LI2/N5A Core Spray "B" Loop Nozzle to Vessel Weld	XI-RPV-2 3/7/2005	B-D B3.90	XI	UT	71.75%	NRI	710500	Examined full length CW and CCW; NRI 45S and 60RL. <u>RPV STD. No. 1A</u>

# Limerick ISI Component Inspection Results Listing

## Unit 2

Interval: 2  
Period: 2  
Outage: 2R06

Component ID Description	Iso Number Insp. Date	Sect. XI Cat. Item	Inspection Reason(s)	Actual Exam	Code Coverage	Results	Summary Number	Procedure(s) Inspection Comments <u>Cal Block</u>
<b>LI2/N6A</b> RPV Head Spray Nozzle to Vessel Weld	XI-RPV-2 3/4/2005	B-D B3.90	XI	UT	71.75%	NRI	715400	Examined full length CW and CCW; NRI 60S and 60RL. <u>RPV STD. No. 4</u>
<b>LI2/N6B</b> RPV Head Spray (Spare) Nozzle to Vessel Weld	XI-RPV-2 3/10/2005	B-D B3.90	XI	UT	71.9%	NRI	715600	Examination moved from LI2R10 to LI2R08 for N8A Nozzle Category B-D examinations due to High Dose rates. Examined full length CW and CCW; NRI 60S and 60RL. <u>RPV STD. No. 4</u>
<b>LI2/N7</b> RPV Vent Nozzle to Vessel Weld	XI-RPV-2 3/4/2005	B-D B3.90	XI	UT	81.25%	NRI	715800	Examined full length CW and CCW; NRI 60S and 60RL. <u>RPV STD. No. 4</u>
<b>LI2/N9</b> CRD Return (Capped) Nozzle to Vessel Weld	XI-RPV-2 3/6/2005	B-D B3.90	XI	UT	77.1%	NRI	711500	Examined full length CW and CCW; NRI 45S and 60RL. <u>RPV STD. No. 1A</u>
<b>LI2/RPV CLOSURE HEAD NUTS</b> Nuts SN 1 - SN 76	XI-RPV-2 3/3/2005	B-G-1 B6.10	XI	UT	100%	NRI	724300	UT Calibration Block 8.5-6-8-CS-22- PEB. Examined SN#27 through SN#51. <u>8.5-6-8-CS-22PEB</u>
<b>LI2/RPV CLOSURE STUDS IN PLACE</b> Studs SN 1 - SN 76	XI-RPV-2 3/1/2005	B-G-1 B6.20	XI	UT	100%	NRI	724400	Examined SN#27 Through SN#51. <u>CLOSURE STUD</u>
<b>LI2/THREADED HOLES IN RPV FLANGE</b> Holes SN1 - SN 76	XI-RPV-2 3/1/2005	B-G-1 B6.40	XI	UT	98.4%	NRI	724600	Limited UT scanning due to flange sealing surface. Examined SN#27 through SN#51. <u>STD. No. 2</u>
<b>LI2/RPV CLOSURE WASHERS</b> Washers SN 1 - SN 76	XI-RPV-2 3/3/2005	B-G-1 B6.50	XI	VT-1	100%	NRI	724700	Examined SN#27 through SN#51.
<b>RPV-2IN N6A (BOLTING)</b> Head Spray Flange 12 1 1/8" Studs & 24 1 1/8" Nuts	XI-BF-6 3/3/2005	B-G-2 B7.10	XI	VT-1	100%	NRI	535700	

## Limerick ISI Component Inspection Results Listing

### Unit 2

Interval: 2  
Period: 2  
Outage: 2R08

Component ID Description	Iso Number Insp. Date	Sect. XI Cat. Item	Inspection Reason(s)	Actual Exam	Code Coverage	Results	Summary Number	Procedure(s) Inspection Comments Cal Block
RPV-2IN N6B (BOLTING) Head Spray Flange 12 Stud/24 N	XI-BF-6 3/3/2005	B-G-2 B7.10	XI	VT-1	100%	NRI	535800	
RPV-2IN N7 (BOLTING) Head Spray Flange 8 1 1/8" Studs & 16 1 1/8" Nuts	XI-BF-7 3/4/2005	B-G-2 B7.10	XI	VT-1	100%	NRI	722930	
APE-2MS-LA-2 M1 Flange Bolting at APE-2MS-LA-2 M1	XI-APE-2MS-LA 3/5/2005	B-G-2 B7.50	XI	VT-1	100%	NRI	173400	
APE-2MS-LA-2 SWC (BOLTING) Flange Bolting at APE-2MS-LA-2 SWC	XI-APE-2MS-LA 3/5/2005	B-G-2 B7.50	XI	VT-1	100%	NRI	172900	
APE-2MS-LB-6 SWD (BOLTING) Flange Bolting at APE-2MS-LB-6 SWD	XI-APE-2MS-LB 3/5/2005	B-G-2 B7.50	XI	VT-1	100%	NRI	179300	
APE-2MS-LC-9 SWD (BOLTING) Flange Bolting at APE-2MS-LC-9 SWD	XI-APE-2MS-LC 3/5/2005	B-G-2 B7.50	XI	VT-1	100%	NRI	185800	
HV-51-2F015A Bolting 12" M.O.Globe Valve Bonnet Bolting	XI-DCA-204-2 3/2/2005	B-G-2 B7.70	XI	VT-1	100%	NRI	325200	
HV-52-2F006B Bolting 12" Check Valve Bonnet and Hinge Pin Cover Bolting	XI-DLA-210-1 3/5/2005	B-G-2 B7.70	XI	VT-1	100%	NRI	025500	
LI2/CRD HOUSING FLANGE BOLTING 185 CRD Housing Flanges - 8 Cap Screws per Flange	XI-BN-6	B-G-2 B7.80	XI	VT-1	100%	RI	739700	Examined bolting at 19 core locations disassembled for maintenance LI2R08: CRD 14-07, 18-07, 18-39, 18-47, 26-31, 26-43, 30-59, 34-43, 38-35, 42-07, 42-19, 42-35, 42-59, 46-35, 50-11, 58-43; CRD/CRB 22-23, 38-15, 46-31. Bolt inspection per W/O R0905640: Bolt replacement resolved all reportable indications: 2 new bolts 14-07; 3 new bolts 18-47; 1 new bolt 38-35; 4 new bolts 42-07; 1 new bolt 42-59; 4 new bolts 58-43.

## Limerick ISI Component Inspection Results Listing Unit 2

Interval: 2  
Period: 2  
Outage: 2R08

Component ID Description	Iso Number Insp. Date	Sect. XI Cat. Item	Inspection Reason(s)	Actual Exam	Code Coverage	Results	Summary Number	Procedure(s) Inspection Comments Cal Block
<b>LI2/CG</b> Skirt Knuckle to RPV Weld	XI-BH-1 3/8/2005	B-K B10.10	XI	MT	100%	NRI	724900	Examined 2/3rd of weld length LI2R08; NRI 0 Deg. Az. to 240 Deg. Az. Coverage per RR-11.
<b>LI2/FR</b> RPV Weld Build-Up	XI-BH-1 3/8/2005	B-K B10.10	XI	MT	100%	NRI	724800	Examined 2/3rd of weld length LI2R08; NRI 0 Deg. Az. To 240 Deg. Az. Coverage per RR-11.
<b>LI2/RPV STABILIZER BRACKET (090 DEG.)</b> Bracket to RPV Weld - Integrally Welded Attachment	XI-BH-3 3/7/2005	B-K B10.10	XI	PT VT-1	75% 25%	NRI	725200	Limitation to PT due to mirror insulation support ring; NRI PT and supplemental VT-1. Coverage per RR-11.
<b>ST-4-041-950-2</b> ISI System Leakage Test for all Class 1 Systems and some Class 2 Systems	ST-INDEX 3/16/2005	B-P B15.10	XI	VT-2	100%	NRI		
<b>2AE-205 MS-1</b> Mounting Support to Shell (Ring #2)	XI-2E-205 3/7/2005	C-C C3.10	XI	MT PT	87.5% 12.5%	NRI	365400	PT performed on bottom side of attachment weld to achieve coverage.
<b>GBB-213-1 FW8A</b> Lug GBB-213-1-8 to 12" Pipe (H1)	XI-GBB-213-1 2/28/2005	C-C C3.20	XI	MT	94.96%	NRI	044900	Limitation due to end-of-attachment weld HAZ covered by support clamp. Complete per Case N-460.
<b>GBB-213-1 FW8B</b> Lug GBB-213-1-9 to 12" Pipe (H1)	XI-GBB-213-1 2/28/2005	C-C C3.20	XI	MT	94.96%	NRI	045000	Limitation due to end-of-attachment weld HAZ covered by support clamp. Complete per Case N-460.
<b>GBB-213-1 FW8C</b> Lug GBB-213-1-10 to 12" Pipe (H1)	XI-GBB-213-1 2/28/2005	C-C C3.20	XI	MT	94.96%	NRI	045100	Limitation due to end-of-attachment weld HAZ covered by support clamp. Complete per Case N-460.
<b>GBB-213-1 FW8D</b> Lug GBB-213-1-11 to 12" Pipe (H1)	XI-GBB-213-1 2/28/2005	C-C C3.20	XI	MT	94.96%	NRI	045200	Limitation due to end-of-attachment weld HAZ covered by support clamp. Complete per Case N-460.
<b>GBB-213-1 FW8E</b> Lug GBB-213-1-12 to 12" Pipe (H1)	XI-GBB-213-1 2/28/2005	C-C C3.20	XI	MT	94.96%	NRI	045300	Limitation due to end-of-attachment weld HAZ covered by support clamp. Complete per Case N-460.

# Limerick ISI Component Inspection Results Listing

## Unit 2

Interval: 2  
Period: 2  
Outage: 2R08

Component ID Description	Iso Number Insp. Date	Sect. XI Cat. Item	Inspection Reason(s)	Actual Exam	Code Coverage	Results	Summary Number	Procedure(s) Inspection Comments Cal Block
GBB-213-1 FW8F Lug GBB-213-1-13 to 12" Pipe (H1)	XI-GBB-213-1 2/28/2005	C-C C3.20	XI	MT	94.96%	NRI	045400	Limitation due to end-of-attachment weld HAZ covered by support clamp. Complete per Case N-460.
GBB-213-1 FW8G Lug GBB-213-1-14 to 12" Pipe (H1)	XI-GBB-213-1 2/28/2005	C-C C3.20	XI	MT	94.96%	NRI	045500	Limitation due to end-of-attachment weld HAZ covered by support clamp. Complete per Case N-460.
GBB-213-1 FW8H Lug GBB-213-1-15 to 12" Pipe (H1)	XI-GBB-213-1 2/28/2005	C-C C3.20	XI	MT	94.96%	NRI	045600	Limitation due to end-of-attachment weld HAZ covered by support clamp. Complete per Case N-460.
GBB-213-3 FW16A Lug GBB-213-3-11 to 14" Pipe (H29)	XI-GBB-213-3 3/1/2005	C-C C3.20	XI	MT	94.96%	NRI	050800	Limitation due to end-of-attachment weld HAZ covered by support clamp. Complete per Case N-460.
GBB-213-3 FW16B Lug GBB-213-3-12 to 14" Pipe (H29)	XI-GBB-213-3 3/1/2005	C-C C3.20	XI	MT	94.96%	NRI	050900	Limitation due to end-of-attachment weld HAZ covered by support clamp. Complete per Case N-460.
GBB-213-3 FW16C Lug GBB-213-3-13 to 14" Pipe (H29)	XI-GBB-213-3 3/1/2005	C-C C3.20	XI	MT	94.96%	NRI	051000	Limitation due to end-of-attachment weld HAZ covered by support clamp. Complete per Case N-460.
GBB-213-3 FW16D Lug GBB-213-3-14 to 14" Pipe (H29)	XI-GBB-213-3 3/1/2005	C-C C3.20	XI	MT	94.96%	NRI	051100	Limitation due to end-of-attachment weld HAZ covered by support clamp. Complete per Case N-460.
2BP-206 SWC-1-5 Discharge Elbow to Flange Weld	XI-2P-206 3/1/2005	C-G C6.10	XI	MT	100%	NRI	029700	
2BP-206 SWC-2-5 Discharge Elbow to Head Flange Weld	XI-2P-206 3/1/2005	C-G C6.10	XI	MT	100%	NRI	029500	
ST-4-001-950-2 ISI Inservice Pressure Test of the Main Steam System	ST-INDEX 3/18/2005	C-H C7.30	XI	VT-2	100%	NRI		

## Limerick ISI Component Inspection Results Listing Unit 2

Interval: 2  
Period: 2  
Outage: 2R06

Component ID Description	Iso Number Insp. Date	Sect. XI Cat. Item	Inspection Reason(s)	Actual Exam	Code Coverage	Results	Summary Number	Procedure(s) Inspection Comments Cal Block
ST-4-013-950-2 ISI Inservice Pressure Test of Class II RECW Piping	ST-INDEX 12/3/2004	C-H C7.30	XI	VT-2	100%	NRI		
ST-4-044-950-2 ISI Inservice Pressure Test of Reactor Water Clean-up System and Class 2 Feedwater	ST-INDEX 3/16/2005	C-H C7.30	XI	VT-2	100%	NRI		
ST-4-048-951-2 ISI Functional Pressure Test of Standby Liquid Control Piping Downstream of Squib Valves	ST-INDEX 3/10/2005	C-H C7.30	XI	VT-2	100%	NRI		
ST-4-049-950-2 ISI Functional Pressure Test of RCIC Pump Discharge and Turbine Exhaust	ST-INDEX 9/4/2003	C-H C7.30	XI	VT-2	100%	NRI		
ST-4-049-951-2 ISI Inservice Pressure Test of RCIC Pump and Turbine Supply	ST-INDEX 9/5/2003	C-H C7.30	XI	VT-2	100%	NRI		
ST-4-051-955-2 ISI Inservice Pressure Test of RHR Shutdown Cooling	ST-INDEX 3/2/2005	C-H C7.30	XI	VT-2	100%	NRI		
ST-4-052-951-2 ISI Functional Pressure Test Class II Core Spray A and C Loops	ST-INDEX 8/20/2004	C-H C7.30	XI	VT-2	100%	NRI		Examination partialled: A Loop only.
ST-4-052-951-2 ISI Functional Pressure Test Class II Core Spray A and C Loops	ST-INDEX 11/17/2004	C-H C7.30	XI	VT-2	100%	NRI		Examination partialled: C Loop only.
ST-4-052-952-2 ISI Functional Pressure Test Class II Core Spray B and D Loops	ST-INDEX 10/25/2004	C-H C7.30	XI	VT-2	100%	NRI		

# Limerick ISI Component Inspection Results Listing

## Unit 2

Interval: 2  
Period: 2  
Outage: 2R08

Component ID Description	Iso Number Insp. Date	Sect. XI Cat. Item	Inspection Reason(s)	Actual Exam	Code Coverage	Results	Summary Number	Procedure(s) Inspection Comments Cal Block
ST-4-055-950-2 ISI Functional Pressure Test of HPCI Pump Discharge and Turbine Exhaust	ST-INDEX 12/17/2004	C-H C7.30	XI	VT-2	100%	NRI		
ST-4-061-950-2 ISI Inservice Pressure Test of Liquid Radwaste Collection System	ST-INDEX 3/11/2005	C-H C7.30	XI	VT-2	100%	NRI		
ST-4-087-950-2 ISI Inservice Pressure Test of Class 2 Drywell Chilled Water System Components	ST-INDEX 6/18/2004	C-H C7.30	XI	VT-2	100%	NRI		
ST-4-042-951-2 ISI Inservice Pressure Test of Class 2 and 3 Instrument Tubing and Suppression Pool Cleanup Piping	ST-INDEX 3/16/2005	C-H, D-A C7.30, D1.10	XI	VT-2	100%	NRI		
ST-4-047-951-2 ISI Functional Pressure Test of SCRAM Discharge Volume Components	ST-INDEX 2/28/2005	C-H, D-A C7.30, D1.10	XI	VT-2	100%	NRI		
ST-4-057-952-2 B Post LOCA Recombiner Pneumatic Pressure Test and Contaminated Piping Inspection	ST-INDEX 3/8/2005	C-H, D-A C7.30, D1.10	XI	VT-2	100%	NRI		
ST-4-059-955-2 Service Air & PCIG Drywell Piping Inservice Test	ST-INDEX 3/14/2005	C-H, D-A C7.30, D1.10	XI	VT-2	100%	NRI		
ST-4-057-951-2 A Post LOCA Recombiner Pneumatic Pressure Test and Contaminated Piping Inspection	ST-INDEX 3/7/2005	C-H, D-A C7.30, D1.10	XI	VT-2	100%	NRI		

## Limerick ISI Component Inspection Results Listing Unit 2

Interval: 2  
Period: 2  
Outage: 2R08

Component ID Description	Iso Number Insp. Date	Sect. XI Cat. Item	Inspection Reason(s)	Actual Exam	Code Coverage	Results	Summary Number	Procedure(s) Inspection Comments <u>Cal Block</u>
ST-4-020-951-2 ISI Functional Pressure Test of D21 Diesel Fuel Oil Transfer System	ST-INDEX 8/16/2004	D-A D1.10	XI	VT-2	100%	NRI		
ST-4-020-952-2 ISI Functional Pressure Test of D22 Diesel Fuel Oil Transfer System	ST-INDEX 8/23/2004	D-A D1.10	XI	VT-2	100%	NRI		
ST-4-041-951-2 ISI Pressure Test of Class 3 MSIV Accumulators and Pipe	ST-INDEX 3/11/2005	D-A D1.10	XI	VT-2	100%	NRI		
ST-4-059-953-2 PCIG Loop "A" Pressure Decay Test	ST-INDEX 3/10/2005	D-A D1.10	XI	VT-2	100%	NRI		
ST-4-059-954-2 PCIG Loop "B" Pressure Decay Test	ST-INDEX 3/11/2005	D-A D1.10	XI	VT-2	100%	NRI		
ST-4-092-964-2 ISI Pressure Test of the D24 Diesel (2DG501) Fuel and Diesel Oil Storage and Transfer Systems	ST-INDEX 6/9/2003	D-A D1.10	XI	VT-2	100%	NRI		
GBC-201-9 FW61 Wrapper Plate GBC-201- 9-25,26 12" Pipe (H191)	GBC-201-9 3/6/2005	D-A D1.20	XI	VT-1	100%	NRI	268800	
GBC-201-9 FW62 Wrapper Plate GBC-201- 9-25,26 12" Pipe (H191)	GBC-201-9 3/6/2005	D-A D1.20	XI	VT-1	100%	NRI	268900	
GBC-201-9 FW63 Wrapper Plate GBC-201- 9-25,26 12" Pipe (H191)	GBC-201-9 3/6/2005	D-A D1.20	XI	VT-1	100%	NRI	269000	
GBC-201-9 FW64 Wrapper Plate GBC-201- 9-25,26 12" Pipe (H191)	GBC-201-9 3/6/2005	D-A D1.20	XI	VT-1	100%	NRI	269100	
HBC-258-1 FW3A Lug HBC-258-1-2 to 8" Pipe (H3)	HBC-258-1 6/14/2004	D-A D1.20	XI	VT-1	100%	NRI	080000	

# Limerick ISI Component Inspection Results Listing

## Unit 2

Interval: 2  
Period: 2  
Outage: 2R08

Component ID Description	Iso Number Insp. Date	Sect. XI Cat. Item	Inspection Reason(s)	Actual Exam	Code Coverage	Results	Summary Number	Procedure(s) Inspection Comments Cal Block
HBC-258-1 FW3B Lug HBC-258-1-3 to 8" Pipe (H3)	HBC-258-1 6/14/2004	D-A D1.20	XI	VT-1	100%	NRI	080100	
HBC-258-1 FW3C Lug HBC-258-1-4 to 8" Pipe (H3)	HBC-258-1 6/14/2004	D-A D1.20	XI	VT-1	100%	NRI	080200	
HBC-258-1 FW3D Lug HBC-258-1-5 to 8" Pipe (H3)	HBC-258-1 6/14/2004	D-A D1.20	XI	VT-1	100%	NRI	080300	
ST-4-012-950-2 ISI Functional Pressure Test of 2A Residual Heat Removal Service Water HX	ST-INDEX 3/30/2004	D-B D2.10	XI	VT-2	100%	NRI		
20S199-DS Diaphragm Slab	C-0294 3/15/2005	E-A E1.11	XI	VT-3	100%	NRI	902130	ST-4-060-970-2
20S199-DS-IA Diaphragm Slab - Integral Attachment	C-0284 3/15/2005	E-A E1.11	XI	VT-3	100%	NRI	900060	ST-4-060-970-2
20S199-DWH Drywell Head	C-0290 3/15/2005	E-A E1.11	XI	VT-3	100%	NRI	900020	ST-4-060-970-2. Four (4) loose bolts (hand tight) identified on penetration X-4, head access manway. Evaluated previously per A131206; no flaw, as designed.
20S199-DWH-LF Drywell Head - Lower Flange	C-0290 3/15/2005	E-A E1.11	XI	VT-3	100%	NRI	900030	ST-4-060-970-2. Minor coatings damage above and behind flange bolting; scrape/rub from installation and removal.
20S199-DWH-LFSP Drywell Head - Lower Flange Seal Plate	C-0290 3/15/2005	E-A E1.11	XI	VT-3	100%	NRI	900040	ST-4-060-970-2
20S199-DWL Drywell Liner	C-0276 3/15/2005	E-A E1.11	XI	VT-3	100%	NRI	900000	ST-4-060-970-2

## Limerick ISI Component Inspection Results Listing Unit 2

Interval: 2  
Period: 2  
Outage: 2R08

Component ID Description	Iso Number Insp. Date	Sect. XI Cat. Item	Inspection Reason(s)	Actual Exam	Code Coverage	Results	Summary Number	Procedure(s) Inspection Comments Cal Block
20S199-PEN All Penetrations of Containment	C-0287 3/15/2005	E-A E1.11	XI	VT-3	75%	NRI	902530	Examination from inside suppression pool, below water level, was not performed Li2R08. ST-4-060-970-2 was partialled to complete inspections Li2R09. Previously identified loose bolting found on penetration X-4 and separation found at top of penetration show no change from previous engineering review and evaluation to be non-relevant per. A1310206
20S199-SPL-VS Suppression Pool Liner - Vapor Space	C-0247 3/15/2005	E-A E1.11	XI	VT-3	100%	NRI	900010	ST-4-060-970-2
20S199-ST-IA Seismic Truss - Integral Attachment	C-0286	E-A E1.11	XI		0%		900050	Examinations were not completed Li2R08. ST-4-060-970-2 was partialled. Rescheduled for Li2R09.
20S199-RP-IA RPV Pedestal - Integral Attachment to Base Mat	C-0281	E-A E1.12	XI		0%		900360	Examinations were not completed Li2R08. ST-4-060-970-2 was partialled. Rescheduled for Li2R09.
APE-2MS-HHB1 Variable Support	XI-APE-2MS-LB 3/6/2005	F-A F1.10	XI	VT-3		NRI	183300	
APE-2MS-HHC1 Variable Support	XI-APE-2MS-LC 3/6/2005	F-A F1.10	XI	VT-3		NRI	189400	
APE-2MS-HHD1 Variable Support	XI-APE-2MS-LD 3/6/2005	F-A F1.10	XI	VT-3		NRI	195500	
DBA-212 H5 Rigid Support	XI-DBA-212-1 3/6/2005	F-A F1.10	XI	VT-3		NRI	660600	
DBA-212 H6 Rigid Support	XI-DBA-212-1 3/6/2005	F-A F1.10	XI	VT-3		NRI	660300	
DBA-212-1 FW18 Anchor: Flued Head X- 44 to Penetration Sleeve	XI-DBA-212-1 3/2/2005	F-A F1.10	XI	VT-3		NRI	659100	
DCA-201-H014 Mechanical Snubber	XI-DCA-201-1 3/4/2005	F-A F1.10	XI	VT-3		NRI	671300	

## Limerick ISI Component Inspection Results Listing

### Unit 2

Interval: 2  
Period: 2  
Outage: 2R08

Component ID Description	Iso Number Insp. Date	Sect. XI Cat. Item	Inspection Reason(s)	Actual Exam	Code Coverage	Results	Summary Number	Procedure(s) Inspection Comments Cal Block
DCA-201-H015 Mechanical Snubber	XI-DCA-201-1 3/6/2005	F-A F1.10	XI	VT-3		NRI	670400	
DCA-201-H016 Mechanical Snubber	XI-DCA-201-1 3/5/2005	F-A F1.10	XI	VT-3		NRI	670200	
DCA-201-H065(A) Mechanical Snubber	XI-DCA-201-3 3/3/2005	F-A F1.10	XI	VT-3		NRI	674400	
DCA-201-H065(B) Mechanical Snubber	XI-DCA-201-3 3/3/2005	F-A F1.10	XI	VT-3		NRI	675400	
DCA-201-H066 Variable Support	XI-DCA-201-3 3/3/2005	F-A F1.10	XI	VT-3		NRI	674600	
DCA-202-E1 H16 Rigid Support	XI-DCA-202-E1 3/6/2005	F-A F1.10	XI	VT-3		NRI	686100	
DCA-202-E1 H7 Rigid Support	XI-DCA-202-E1 3/6/2005	F-A F1.10	XI	VT-3		NRI	686000	
DCA-212-E2 H5 Rigid Support	XI-DCA-212-E2 3/5/2005	F-A F1.10	XI	VT-3		NRI	695000	
DCA-212-E2 H7 Rigid Support	XI-DCA-212-E2 3/5/2005	F-A F1.10	XI	VT-3		NRI	694900	
DCA-212-E2 H9 Rigid Support	XI-DCA-212-E2 3/5/2005	F-A F1.10	XI	VT-3		NRI	694800	
DLA-207-H003 Variable Support	XI-DLA-207-1 3/5/2005	F-A F1.10	XI	VT-3		NRI	111600	
DLA-207-H004 Variable Support	XI-DLA-207-1 3/5/2005	F-A F1.10	XI	VT-3		NRI	112200	
DLA-207-H013 Mechanical Snubber	XI-DLA-207-1 3/5/2005	F-A F1.10	XI	VT-3		NRI	112300	
DLA-208-H003 Variable Support	XI-DLA-208-1 3/5/2005	F-A F1.10	XI	VT-3		NRI	118700	
DLA-208-H004 Variable Support	XI-DLA-208-1 3/5/2005	F-A F1.10	XI	VT-3		NRI	119300	

## Limerick ISI Component Inspection Results Listing Unit 2

Interval: 2  
Period: 2  
Outage: 2R06

Component ID Description	Iso Number Insp. Date	Sect. XI Cat. Item	Inspection Reason(s)	Actual Exam	Code Coverage	Results	Summary Number	Procedure(s) Inspection Comments <u>Cal Block</u>
DLA-210 H1 Variable Support	XI-DLA-210-1 3/13/2005	F-A F1.10	XI	VT-3		NRI	026900	
DLA-210-1 FW2 Anchor: Flued Head X- 16B to Penetration Sleeve	XI-DLA-210-1 6/15/2004	F-A F1.10	XI	VT-3		NRI	027200	
VRR-2RD-HHA2 Variable Support	XI-VRR-2RD-2A 3/6/2005	F-A F1.10	XI	VT-3		NRI	629300	N/A
DBB-203 H1 Rigid Support	XI-DBB-203-2 3/8/2005	F-A F1.20	XI	VT-3		NRI	123300	
EBB-201 H10 Rigid Support	XI-EBB-201-1 3/9/2005	F-A F1.20	XI	VT-3		NRI	206400	
EBB-201 H11 Rigid Support	XI-EBB-201-1 3/9/2005	F-A F1.20	XI	VT-3		NRI	206500	
EBB-202 H10 Rigid Support	XI-EBB-202-1 3/9/2005	F-A F1.20	XI	VT-3		NRI	214300	
EBB-202 H11 Rigid Support	XI-EBB-202-1 3/9/2005	F-A F1.20	XI	VT-3		NRI	214400	
EBB-202 H12 Rigid Support	XI-EBB-202-1 3/9/2005	F-A F1.20	XI	VT-3		NRI	214500	
EBB-203 H10 Rigid Support	XI-EBB-203-1 3/9/2005	F-A F1.20	XI	VT-3		NRI	222200	DEFERRED FROM 2R07.
EBB-204 H10 Rigid Support	XI-EBB-204-1 3/9/2005	F-A F1.20	XI	VT-3		NRI	230000	RESCHED: DUE TO INSULATION ON PIPE & RESTRAINT AND NEED FOR SCAFFOLDING. PER D. SCHMIDT, MAY RESELECT 2ND INTERVAL.
EBB-204 H28 Rigid Support	XI-EBB-204-1 3/11/2005	F-A F1.20	XI	VT-3		NRI	229700	

# Limerick ISI Component Inspection Results Listing

## Unit 2

Interval: 2  
Period: 2  
Outage: 2R08

Component ID Description	Iso Number Insp. Date	Sect. XI Cat. Item	Inspection Reason(s)	Actual Exam	Code Coverage	Results	Summary Number	Procedure(s) Inspection Comments Cal Block
EBB-231 H1 Variable Support	XI-EBB-231-1 9/2/2004	F-A F1.20	XI	VT-3		NRI	034500	Additional examination for rejectable indication; EBB-231-H003(A)(B) loose clamp bolting identified during scheduled examination. Bolting rework, successive, and additional examinations per A1472680.
EBB-231-H003(A) Mechanical Snubber	XI-EBB-231-1 6/16/2004	F-A F1.20	XI	VT-3 VT-3		RI NRI	034300	Rejectable indication; loose clamp bolting identified during scheduled examination. Bolting rework, successive, and additional examinations per A1472680. Successive examination scheduled LI2R09. Additional examinations performed on supports GBB-212-H041, EBB-231-H001, and GBB-213-H013(A)(B).
EBB-231-H003(B) Mechanical Snubber	XI-EBB-231-1 6/19/2004	F-A F1.20	XI	VT-3 VT-3		RI NRI	035000	Rejectable indication; loose clamp bolting identified during scheduled examination. Bolting rework, successive, and additional examinations per A1472680. Successive examination scheduled LI2R09. Additional examinations performed on supports GBB-212-H041, EBB-231-H001, and GBB-213-H013(A)(B).
GBB-202-H007 Variable Support	XI-GBB-202-1 6/14/2004	F-A F1.20	XI	VT-3		NRI	390600	
GBB-205-H008 Mechanical Snubber	XI-GBB-205-1 3/2/2005	F-A F1.20	XI	VT-3		NRI	403300	
GBB-212 H41 Rigid Support	XI-GBB-212-3 9/2/2004	F-A F1.20	XI	VT-3		NRI	044800	Additional examination for rejectable indication; EBB-231-H003(A)(B) loose clamp bolting identified during scheduled examination. Bolting rework, successive, and additional examinations per A1472680.
GBB-212 H901 Anchor	XI-GBB-212-3 6/14/2004	F-A F1.20	XI	VT-3		NRI	043700	

# Limerick ISI Component Inspection Results Listing

## Unit 2

Interval: 2  
Period: 2  
Outage: 2R0L

Component ID Description	Iso Number Insp. Date	Sect. XI Cat. Item	Inspection Reason(s)	Actual Exam	Code Coverage	Results	Summary Number	Procedure(s) Inspection Comments <u>Cal Block</u>
GBB-213-H013(A) Mechanical Snubber	XI-GBB-213-2 9/2/2004	F-A F1.20	XI	VT-3		NRI	049600	Additional examination for rejectable indication; EBB-231-H003(A)(B) loose clamp bolting identified during scheduled examination. Bolting rework, successive, and additional examinations per A1472680.
GBB-213-H013(B) Mechanical Snubber	XI-GBB-213-2 9/2/2004	F-A F1.20	XI	VT-3		NRI	050600	Additional examination for rejectable indication; EBB-231-H003(A)(B) loose clamp bolting identified during scheduled examination. Bolting rework, successive, and additional examinations per A1472680.
GBB-218 H74 Rigid Support	XI-GBB-218-3 3/2/2005	F-A F1.20	XI	VT-3		NRI	446700	
GBB-219-H093(A) Mechanical Snubber	XI-GBB-219-4 3/4/2005	F-A F1.20	XI	VT-3		NRI	469700	
GBB-219-H093(B) Mechanical Snubber	XI-GBB-219-4 3/4/2005	F-A F1.20	XI	VT-3		NRI	470100	
HBB-220 H1 Variable Support	XI-HBB-220-3 6/14/2004	F-A F1.20	XI	VT-3		NRI	068800	
HBB-220 H3 Rigid Support	XI-HBB-220-3 6/14/2004	F-A F1.20	XI	VT-3		NRI	068700	
GBC-201 H49 Variable Support	GBC-201-7 3/6/2005	F-A F1.30	XI	VT-1		NRI	265400	
GBC-201 H50 Variable Support	GBC-201-7 3/6/2005	F-A F1.30	XI	VT-3		NRI	264900	
GBC-201-H191(A) Mechanical Snubber	GBC-201-9 3/6/2005	F-A F1.30	XI	VT-3		NRI	270100	
GBC-201-H191(B) Mechanical Snubber	GBC-201-9 3/6/2005	F-A F1.30	XI	VT-3		NRI	270900	
GBC-203 H4 Rigid Support	GBC-203-1 6/14/2004	F-A F1.30	XI	VT-3		NRI	527700	
HBC-243 H18 Rigid Support	HBC-243-3 6/14/2004	F-A F1.30	XI	VT-3		NRI	076900	

# Limerick ISI Component Inspection Results Listing

## Unit 2

Interval: 2  
Period: 2  
Outage: 2R08

Component ID Description	Iso Number Insp. Date	Sect. XI Cat. Item	Inspection Reason(s)	Actual Exam	Code Coverage	Results	Summary Number	Procedure(s) Inspection Comments Cal Block
HBC-243 H19 Rigid Support	HBC-243-3 6/14/2004	F-A F1.30	XI	VT-3		NRI	076750	
HBC-252 H20 Rigid Support	HBC-252-3 6/14/2004	F-A F1.30	XI	VT-3		NRI	079300	
HBC-252 H21 Rigid Support	HBC-252-3 6/14/2004	F-A F1.30	XI	VT-3		NRI	079550	
2AE-205 FC-1-1 Final Mechanical Conn. Base Plate 1 3/4" Bolting to Building (Az. 0 Degrees)	XI-2E-205 3/4/2005	F-A F1.40	XI	VT-3		NRI	363000	
2AE-205 FC-1-2 Final Mechanical Conn. Base Plate 1 3/4" Bolting to Building (Az. 90 Degrees)	XI-2E-205 3/4/2005	F-A F1.40	XI	VT-3		NRI	363001	
2AE-205 FC-1-3 Final Mechanical Conn. Base Plate 1 3/4" Bolting to Building (Az. 180 Degrees)	XI-2E-205 3/4/2005	F-A F1.40	XI	VT-3		NRI	363002	
2AE-205 FC-1-4 Final Mechanical Conn. Base Plate 1 3/4" Bolting to Building (Az. 270 Degrees)	XI-2E-205 3/4/2005	F-A F1.40	XI	VT-3		NRI	363003	
2AE-205 IM-1-1 Support Arm (Az. 0 Degrees)	XI-2E-205 3/4/2005	F-A F1.40	XI	VT-3		NRI	362600	
2AE-205 IM-1-2 Support Arm (Az.90 Degrees)	XI-2E-205 3/4/2005	F-A F1.40	XI	VT-3		NRI	362700	
2AE-205 IM-1-3 Support Arm (Az.180 Degrees)	XI-2E-205 3/4/2005	F-A F1.40	XI	VT-3		NRI	362800	
2AE-205 IM-1-4 Support Arm (Az.270 Degrees)	XI-2E-205 3/4/2005	F-A F1.40	XI	VT-3		NRI	362900	

# Limerick ISI Component Inspection Results Listing

## Unit 2

Interval: 2  
Period: 2  
Outage: 2R0

Component ID Description	Iso Number Insp. Date	Sect. XI Cat. Item	Inspection Reason(s)	Actual Exam	Code Coverage	Results	Summary Number	Procedure(s) Inspection Comments
<b>L12/RPV STABILIZER (180 DEG)</b>	XI-FA-2	F-A	XI	VT-3		NRI	757600	<b>Cal Block</b>
Stabilizer Assembly & Brackets	3/9/2005	F1.40						
<b>L12/RPV STABILIZER (90 DEG)</b>	XI-FA-2	F-A	XI	VT-3		NRI	757400	
Stabilizer Assembly & Brackets	3/6/2005	F1.40						
<b>L12/RPV SUPPORT</b>	XI-FA-1	F-A	XI	VT-3		NRI	758000	
Support Skirt Assembly	3/9/2005	F1.40						Examined 180 Deg. Az. to 360 Deg. Az. L12R08. Limited examination due to Mirror insulation; weld CJ is 20% inaccessible; weld CA is 100% inaccessible.
<b>20S199-DWC</b>	C-0276	L-A	XI	VT-3C	100%	NRI	902090	
Drywell Concrete	3/15/2005	L1.11						ST-4-060-970-2
<b>20S199-RPC</b>	C-0281	L-A	XI	VT-3C	100%	NRI	900355	
RPV Pedestal Concrete Above Diaphragm Slab	3/15/2005	L1.11						ST-4-060-979-2.
<b>20S199-SPC</b>	C-0247	L-A	XI	VT-3C	100%	NRI	902100	
Suppression Pool Concrete	3/15/2005	L1.11						ST-4-060-970-2. No change to minor surface imperfections / epoxy coatings cracking previously identified and evaluated as non-relevant per A1310206.
<b>L12/LIFTING LUG 090 DEG</b>	XI-BH-4	N/A	AUG	MT	100%	NRI	725900	
Lug to Closure Head Weld	3/3/2005	N/A						
<b>RPV-2IN N9</b>	XI-RPV-2IN	N/A	AUG	UT	100%	NRI	722970	
Nozzle to Cap (146Deg. - CRD Hydraulic Return)	3/6/2005	N/A						NRI flaws 45S, 45RL, and 60RL; ID geometry 45RL and 60RL.  <u>BF-9-CB-1</u>
<b>VRR-2RD-2B N2A</b>	XI-VRR-2RD-2B	N/A	AUG	UT	100%	NRI	716600	
Safe End to Nozzle (Az.30)	2/26/2005	N/A						NRI of IGSCC; beam redirect, acoustic interface, shear component (RL), ID geometry and non-relevant indications recorded 45S, 45 RL and 60RL.  <u>S/S No. 4</u>

# Limerick ISI Component Inspection Results Listing

## Unit 2

Interval: 2  
Period: 2  
Outage: 2R08

Component ID Description	Iso Number Insp. Date	Sect. XI Cat. Item	Inspection Reason(s)	Actual Exam	Code Coverage	Results	Summary Number	Procedure(s) Inspection Comments Cal Block
VRR-2RD-2B N2D Safe End to Nozzle (Az.120)	XI-VRR-2RD-2B 2/26/2005	N/A N/A	AUG	UT	100%	NRI	717500	NRI of IGSCC; beam redirect, acoustic interface, shear component (RL), ID geometry and non-relevant indications recorded 45S, 45 RL and 60RL. <u>S/S No. 4</u>
VRR-2RS-2A N1A Nozzle to Safe End (Az. 0 Deg.)	XI-VRR-2RS-2A 2/25/2005	N/A N/A	AUG	UT	100%	NRI	716000	NRI of IGSCC; beam redirect, acoustic interface, shear component (RL), ID geometry and non-relevant indications recorded 45S, 45 RL and 60RL. <u>LIM-U2-N1-NOZ</u>
DCA-212-E2 W15 2" Elbow to Pipe	XI-DCA-212-E2 3/16/2005	R-A R1.11	XI	VT-2	100%	NRI	693300	
DCA-277-E1 W3 2" Pipe to Valve 43-2F051A	XI-DCA-277-E1 3/16/2005	R-A R1.11	XI	VT-2	100%	NRI	610300	
DCA-418-2 FW1 12" Pipe to Safe End (Az.45 Deg.)	XI-DCA-418-2 3/1/2005	R-A R1.11	XI	UT-E	72%	NRI	343600	No Code credit LI2R08; due to transition weld, examination from safe end side exceeds PDI qualified 5 Deg. taper and examination from pipe side experiences loss of contact. NRI of IGSCC; beam redirect, acoustic interface, shear component (RL), ID geometry and non-relevant indications recorded 45S, 45 RL and 60RL. <u>PART No. 21</u>
DCA-419-1 FW1 10" Pipe to Safe End (Az. 60 Deg.)	XI-DCA-419-1 3/7/2005	R-A R1.11	XI	UT-E	100%	NRI	019200	No Code credit LI2R08; due to transition weld, examination from safe end side exceeds PDI qualified 5 Deg. taper and examination from pipe side experiences loss of contact. NRI of IGSCC; beam redirect, acoustic interface, shear component (RL), ID geometry and non-relevant indications recorded 45S, 45 RL and 60RL. <u>PART No. 11</u>
DCA-418-2 N17A Safe End to Nozzle (Az.45 Deg.)	XI-DCA-418-2 2/26/2005	R-A R1.11, R1.16	XI AUG	UT-E	100%	NRI	723100	NRI of IGSCC; beam redirect, acoustic interface, shear component (RL), ID geometry and non-relevant indications recorded 45S, 45 RL and 60RL. <u>S/S No. 4</u>

## Limerick ISI Component Inspection Results Listing Unit 2

Interval: 2  
Period: 2  
Outage: 2R0

Component ID Description	Iso Number Insp. Date	Sect. XI Cat. Item	Inspection Reason(s)	Actual Exam	Code Coverage	Results	Summary Number	Procedure(s) Inspection Comments <u>Cal Block</u>
DCA-419-1 N5A Nozzle to Safe End (Az. 60 Deg.)	XI-DCA-419-1 2/26/2005	R-A R1.11, R1.16	XI AUG	UT-E	100%	NRI	722500	NRI of IGSCC; beam redirect, acoustic interface, shear component (RL), ID geometry and non-relevant indications recorded 45S, 45 RL and 60RL. <u>S/S No. 4</u>
DBB-203-1 FW2 Valve HV-41-2F032A to 24"x24"x16" Reducing Tee	XI-DBB-203-1 3/7/2005	R-A R1.11, R1.18	XI AUG	UT-E	81.5%	NRI	120000	NRI flow indications; 45S, 60S, and 70S; ID geometry 60S. Examination limited due to OD geometry. <u>LIM-24-1.812-CS</u>
DBB-203-1 FW3 16" Pipe to Valve HV-41- 209A	XI-DBB-203-1 3/8/2005	R-A R1.11, R1.18	XI AUG	UT-E	100%	NRI	120200	NRI flow indications; ID geometry 45S. <u>LIM-16-1.219-CS</u>
DBB-203-1 FW8 24"x24"x16" Reducing Tee to 16" Elbow	XI-DBB-203-1 3/7/2005	R-A R1.11, R1.18	XI AUG	UT-E	100%	NRI	121000	NRI flow indications; ID geometry 45S. <u>LIM-16-1.219-CS</u>
DBB-203-1-1A SW4 16" Elbow to Elbow	XI-DBB-203-1 3/7/2005	R-A R1.11, R1.18	XI AUG	UT-E	100%	NRI	121200	<u>LIM-16-1.219-CS</u>
DBB-203-1-1A SW5 16" Elbow to Pipe	XI-DBB-203-1 3/8/2005	R-A R1.11, R1.18	XI AUG	UT-E	100%	NRI	121400	<u>LIM-16-1.219-CS</u>
DBB-203-1-1B SW2 24"x24"x16" Reducing Tee to Pipe	XI-DBB-203-1 3/7/2005	R-A R1.11, R1.18	XI AUG	UT-E	100%	NRI	120800	<u>LIM-24-1.812-CS</u>
DLA-207-1 N4A1 Safe End to Safe End (GE)(Az.30 Degrees)	XI-DLA-207-1 3/6/2005	R-A R1.11, R1.18	XI AUG	UT-E	100%	NRI	720000	<u>PART No. 7</u>
DLA-207-1 N4A2 Safe End to Nozzle (GE) (Az.30 Degrees)	XI-DLA-207-1 3/6/2005	R-A R1.11, R1.18	XI AUG	UT-E	100%	NRI	720200	<u>PART No. 7</u>

# Limerick ISI Component Inspection Results Listing

Interval: 2  
Period: 2  
Outage: 2R08

## Unit 2

Component ID Description	Iso Number Insp. Date	Sect. XI Cat. Item	Inspection Reason(s)	Actual Exam	Code Coverage	Results	Summary Number	Procedure(s) Inspection Comments Cal Block
DLA-207-1 N4B1 Safe End to Safe End (GE)(Az.90 Degrees)	XI-DLA-207-1 3/6/2005	R-A R1.11, R1.18	XI AUG		UT-E 100%	NRI	720400	<u>PART No. 7</u>
DLA-207-1 N4B2 Safe End to Nozzle (GE) (Az.90 Degrees)	XI-DLA-207-1 3/6/2005	R-A R1.11, R1.18	XI AUG		UT-E 100%	NRI	720600	<u>PART No. 7</u>
DLA-207-1 S4A 12" Pipe to Safe End (GE)(Az.30 Degrees)	XI-DLA-207-1 3/6/2005	R-A R1.11, R1.18	XI AUG		UT-E 100%	NRI	108800	<u>LIM-12-688-CS-R</u>
DLA-207-1 S4B 12" Pipe to Safe End (GE)(Az.90 Degrees)	XI-DLA-207-1 3/6/2005	R-A R1.11, R1.18	XI AUG		UT-E 100%	NRI	109100	<u>LIM-12-688-CS-R</u>
APE-2MS-LB WB06 Flued Head (X-7B) to Valve HV-41-2F028B	XI-APE-2MS-LB 3/8/2005	R-A R1.20	XI AUG		UT-E 100%	NRI	180600	<u>LIM-26-1.013-CS</u>
APE-2MS-LD WD06 Flued Head (X-7D) to 26" Valve HV-41-2F028D	XI-APE-2MS-LD 3/9/2005	R-A R1.20	XI AUG		UT-E 100%	NRI	193100	<u>LIM-26-1.013-CS</u>
DBA-206-1 FW7 10" Pipe to Valve HV-55- 2F002	XI-DBA-206-1 3/9/2005	R-A R1.20	XI AUG		UT-E 100%	NRI	125700	<u>LIM-10-0.593-CS</u>
DBA-206-1-3B SW3 10" Pipe to 10"x10"x10" Tee	XI-DBA-206-1 3/9/2005	R-A R1.20	XI AUG		UT-E 100%	NRI	127200	<u>LIM-10-0.593-CS</u>
DBA-206-1-3B SW4 10" x 10" x 10" Tee to 10" Blind Flange	XI-DBA-206-1 3/9/2005	R-A R1.20	XI AUG		UT-E 100%	NRI	127400	<u>LIM-10-0.718-CS</u>
EBB-204-1 FW2 26" Elbow to Pipe	XI-EBB-204-1 3/10/2005	R-A R1.20	XI AUG		UT-E 100%	NRI	224100	NRI of flaws, 45S and 60S; ID geometry 60S <u>LIM-26-0.928-CS</u>

## Limerick ISI Component Inspection Results Listing Unit 2

Interval: 2  
Period: 2  
Outage: 2R06

Component ID Description	Iso Number Insp. Date	Sect. XI Cat. Item	Inspection Reason(s)	Actual Exam	Code Coverage	Results	Summary Number	Procedure(s) Inspection Comments <u>Cal Block</u>
EBB-204-1 FW46 26" Valve HV-41- 2F028B to 26" Pipe I.D. 23.647" Match Valve ID	XI-EBB-204-1 3/8/2005	R-A R1.20	XI AUG	UT-E	100%	NRI	229300	<u>LIM-26-1.013-CS</u>
EBB-204-1-1 SW1 26" Pipe to Elbow	XI-EBB-204-1 3/10/2005	R-A R1.20	XI AUG	UT-E	100%	NRI	226600	NRI flaws 45S and 60S; ID geometry 60S. <u>LIM-26-0.928-CS</u>

# Limerick IVVI Component Inspection Results Listing

## Unit 2

Interval: 2  
 Period: 2  
 Outage: 2R08

Component ID Description	Iso Number Insp. Date	Sect. XI Cat. Item	Inspection Reason(s)	Actual Exam	Coverage	Results	Summary Number	Procedure(s) Comments
L12/SA Shroud Annulus Surfaces	XI-BN-10 3/9/2005	B-N-1 B13.10	AUG	VT-3	100%	NRI		GE-VT-204 V7  Examined areas around 0 deg access hole cover, 180 deg access hole cover, and between JPs 2, 3, 6, 7, 8, and JP 9. Examined area under core plate at JP 12.
L12/P4dA Core Spray "A" Loop "A" Downcomer Elbow to Shroud Pipe Weld 352.5 Az	XI-BN-8 3/3/2005	N/A N/A	RE	EVT-1	75%	NRI		GE-VT-204 V7
L12/P4dC Core Spray "A" Loop "C" Downcomer Elbow to Shroud Pipe Weld 187.5 Az	XI-BN-8 3/10/2005	N/A N/A	RE	EVT-1	100%	NRI		GE-VT-204 V7
L12/P8aA Core Spray "A" Loop "A" Shroud Pipe to Collar Weld 352.5 Az	XI-BN-8 3/3/2005	N/A N/A	RE	EVT-1	90%	NRI		GE-VT-204 V7
L12/P8aB Core Spray "B" Loop "B" Shroud Pipe to Collar Weld 7.5 Az	XI-BN-8 3/9/2005	N/A N/A	RE	EVT-1	95%	NRI		GE-VT-204 V7
L12/P8aC Core Spray "A" Loop "C" Shroud Pipe to Collar Weld 187.5 Az	XI-BN-8 3/10/2005	N/A N/A	RE	EVT-1	95%	NRI		GE-VT-204 V7
L12/P8aD Core Spray "B" Loop "D" Shroud Pipe to Collar Weld 172.5 Az	XI-BN-8 3/10/2005	N/A N/A	RE	EVT-1	95%	NRI		GE-VT-204 V7
L12/PB1 Core Spray "B" Loop "B and D" Header Pipe Bracket 15 Az	XI-BN-8 3/3/2005	N/A N/A	RE	EVT-1	95%	NRI		GE-VT-204 V7
L12/PB2 Core Spray "B" Loop "B and D" Header Pipe Vertical Bracket 85.5 Az	XI-BN-8 3/3/2005	N/A N/A	RE	EVT-1	95%	NRI		GE-VT-204 V7
L12/PB3 Core Spray "B" Loop "B and D" Header Pipe Radial Bracket 112.5 Az	XI-BN-8 3/9/2005	N/A N/A	RE	EVT-1	90%	NRI		GE-VT-204 V7
L12/S1A "A" Sparger T-Box Cover Plate Weld (352.5 Az)	XI-BN-8 3/8/2005	N/A N/A	RE	EVT-1	100%	NRI		GE-VT-204 V7

## Limerick IVVI Component Inspection Results Listing Unit 2

Interval: 2  
Period: 2  
Outage: 2R08

Component ID Description	Iso Number Insp. Date	Sect. XI Cat. Item	Inspection Reason(s)	Actual Exam	Coverage	Results	Summary Number	Procedure(s) Comments
<b>LI2/S1C</b> "C" Sparger T-Box Cover Plate Weld (187.5 Az)	XI-BN-8 3/10/2005	N/A N/A	RE	EVT-1	100%	NRI		GE-VT-204 V7
<b>LI2/S1D</b> "D" Sparger T-Box Cover Plate Weld (172.5 Az)	XI-BN-8 3/11/2005	N/A N/A	RE	EVT-1	80%	NRI		GE-VT-204 V7
<b>LI2/S2aA</b> "A" Sparger T-Box to Pipe Weld (Right Side) (352.5 Az)	XI-BN-8 3/8/2005	N/A N/A	RE	EVT-1	45%	NRI		GE-VT-204 V7
<b>LI2/S2aC</b> "C" Sparger T-Box to Pipe Weld (Right Side) (187.5 Az)	XI-BN-8 3/10/2005	N/A N/A	RE	EVT-1	45%	NRI		GE-VT-204 V7
<b>LI2/S2aD</b> "D" Sparger T-Box to Pipe Weld (Right Side) (172.5 Az)	XI-BN-8 3/9/2005	N/A N/A	RE	EVT-1	20%	NRI		GE-VT-204 V7
<b>LI2/S2bC</b> "C" Sparger T-Box to Pipe Weld (Left Side) (187.5 Az)	XI-BN-8 3/10/2005	N/A N/A	RE	EVT-1	45%	NRI		GE-VT-204 V7
<b>LI2/S2bD</b> "D" Sparger T-Box to Pipe Weld (Left Side) (172.5 Az)	XI-BN-8 3/9/2005	N/A N/A	RE	EVT-1	30%	NRI		GE-VT-204 V7
<b>LI2/S3aXXD</b> "D" Sparger Pipe to Nozzle Weld, Typical of 65 Nozzles (XX) (93-267 Az)	XI-BN-8 3/11/2005	N/A N/A	BL	VT-1	90%	NRI		GE-VT-204 V7
<b>LI2/S3bXXD</b> "D" Sparger Nozzle to Orifice Weld, Typical of 65 Orifices (XX) (93-267 Az)	XI-BN-8 3/11/2005	N/A N/A	BL	VT-1	90%	NRI		GE-VT-204 V7
<b>LI2/S3c4D</b> "D" Sparger to Drain Pipe Weld (Left Side) (95 Az)	XI-BN-8 3/11/2005	N/A N/A	BL	VT-1	50%	NRI		GE-VT-204 V7
<b>LI2/S3c62D</b> "D" Sparger to Drain Pipe Weld (Right Side) (263 Az)	XI-BN-8 3/11/2005	N/A N/A	BL	VT-1	50%	NRI		GE-VT-204 V7
<b>LI2/S3d4D</b> "D" Sparger Drain Stitch Welds (Left Side), 2 Welds 180 Deg Apt, 5 Plcs Ea Noz. (95 Az)	XI-BN-8 3/11/2005	N/A N/A	BL	VT-1	35%	NRI		GE-VT-204 V7

# Limerick IVVI Component Inspection Results Listing

## Unit 2

Interval: 2  
 Period: 2  
 Outage: 2R08

Component ID Description	Iso Number Insp. Date	Sect. XI Cat. Item	Inspection Reason(s)	Actual Exam	Coverage	Results	Summary Number	Procedure(s) Comments
L12/S3d62D "D" Sparger Drain Stitch Welds (Right Side), 2 Welds 180 Deg Apt, 5 Plcs Ea Noz. (263 Az)	XI-BN-8 3/11/2005	N/A N/A	BL	VT-1	55%	NRI		GE-VT-204 V7
L12/S3dXXD "D" Sparger Nozzle Stitch Welds, 2 Welds 180 Deg Apt, 5 Plcs Ea Noz. (93 - 267Az)	XI-BN-8 3/11/2005	N/A N/A	BL	VT-1	90%	NRI		GE-VT-204 V7
L12/S4aA "A" Sparger Pipe to End Cap Weld (Right Side) (88 Az)	XI-BN-8 3/3/2005	N/A N/A	RE	EVT-1	60%	NRI		GE-VT-204 V7
L12/S4aB "B" Sparger Pipe to End Cap Weld (Right Side) (88 Az)	XI-BN-8 3/3/2005	N/A N/A	RE	EVT-1	20%	NRI		GE-VT-204 V7
L12/S4aC "C" Sparger Pipe to End Cap Weld (Right Side) (267 Az)	XI-BN-8 3/11/2005	N/A N/A	BL	EVT-1	65%	NRI		GE-VT-204 V7
L12/S4aD "D" Sparger Pipe to End Cap Weld (Right Side) (267 Az)	XI-BN-8 3/11/2005	N/A N/A	BL	EVT-1	50%	NRI		GE-VT-204 V7
L12/S4bA "A" Sparger Pipe to End Cap Weld (Left Side) (273 Az)	XI-BN-8 3/10/2005	N/A N/A	RE	EVT-1	65%	NRI		GE-VT-204 V7
L12/S4bB "B" Sparger Pipe to End Cap Weld (Left Side) (273 Az)	XI-BN-8 3/10/2005	N/A N/A	RE	EVT-1	40%	NRI		GE-VT-204 V7
L12/S4bC "C" Sparger Pipe to End Cap Weld (Left Side) (93 Az)	XI-BN-8 3/9/2005	N/A N/A	BL	EVT-1	45%	NRI		GE-VT-204 V7
L12/S4bD "D" Sparger Pipe to End Cap Weld (Left Side) (93 Az)	XI-BN-8 3/9/2005	N/A N/A	BL	EVT-1	45%	NRI		GE-VT-204 V7
L12/SB07 "C and D" Sparger Bracket and Shroud Attachment Welds (187.5 Az)	XI-BN-8 3/10/2005	N/A N/A	RE	VT-1	95%	NRI		GE-VT-204 V7

## Limerick IVVI Component Inspection Results Listing Unit 2

Interval: 2  
Period: 2  
Outage: 2R08

Component ID Description	Iso Number Insp. Date	Sect. XI Cat. Item	Inspection Reason(s)	Actual Exam	Coverage	Results	Summary Number	Procedure(s) Comments
LI2/SB08 "C and D" Sparger Bracket and Shroud Attachment Welds (224 Az)	XI-BN-8 3/10/2005	N/A N/A	RE	VT-1	90%	RI		GE-VT-204 V7  Reference INR LI2R08-05-18; Scratch on piping evaluated in A1461233 E25
LI2/SB09 "C and D" Sparger Bracket and Shroud Attachment Welds (264 Az)	XI-BN-8 3/10/2005	N/A N/A	RE	VT-1	85%	NRI		GE-VT-204 V7
LI2/C-C-1 Top Guide C-Clamp 000 Deg Az	B11-D277 3/11/2005	B-N-2 B13.40	BL	VT-3	75%	NRI		GE-VT-204 V7
LI2/C-C-2 Top Guide C-Clamp 270 Deg Az	B11-D277 3/12/2005	B-N-2 B13.40	BL	VT-3	100%	NRI		GE-VT-204 V7
LI2/C-C-3 Top Guide C-Clamp 180 Deg Az	B11-D277 3/12/2005	B-N-2 B13.40	BL	VT-3	80%	NRI		GE-VT-204 V7
LI2/C-C-4 Top Guide C-Clamp 090 Deg Az	B11-D277 3/12/2005	B-N-2 B13.40	BL	VT-3	75%	NRI		GE-VT-204 V7
LI2/H08 Core Shroud Support Plate to Support Cylinder Weld	XI-BN-10 3/10/2005	B-N-2 B13.40	RE	EVT-1	10%	NRI		GE-VT-204 V7  Examined area between JP-20 and JP- 01 (Az. 348 deg to 22 deg) and between JP-10 and JP-11 (Az. 168 deg to 202 deg).
LI2/JP01 AS-1 Jet Pump Restrainer Bracket Adjusting Screw Tack Welds-Vessel Side	XI-BN-04 3/6/2005	N/A N/A	ES	VT-1	100%	RI		GE-VT-204 V7  Reference INR LI2R08-05-13; Vessel side gap = 0.029 inch; Installed auxiliary wedge; Expanded scope
LI2/JP01 AS-2 Jet Pump Restrainer Bracket Adjusting Screw Tack Welds-Shroud Side	XI-BN-04 3/7/2005	N/A N/A	ES	VT-1	100%	NRI		GE-VT-204 V7  Shroud side gap = 0.000 inch (in contact); Installed auxiliary wedge; Expanded scope
LI2/JP01 BB-1 Jet Pump Hold Down Beam Bolt Hole Region	XI-BN-04 3/3/2005	N/A N/A	RE	UT	100%	NRI		GE-UT-504 V9

# Limerick IVVI Component Inspection Results Listing

## Unit 2

Interval: 2  
 Period: 2  
 Outage: 2R08

Component ID Description	Iso Number Insp. Date	Sect. XI Cat. Item	Inspection Reason(s)	Actual Exam	Coverage	Results	Summary Number	Procedure(s) Comments
LI2/JP01 BB-2 Jet Pump Hold Down Beam Transition Arm Region	XI-BN-04 3/3/2005	N/A N/A	RE	UT	83%	NRI		GE-UT-504 V9 GE-VT-204 V7  Due to transducer positioning problems, only the middle 1/3rd of BB-2 was examined from the 90-degree (vessel side) with NRI. The full volume was examined by UT from the 270-degree (shroud side) with NRI. A supplemental EVT-1 of the BB-2 region was performed.
LI2/JP01 BB-2 Jet Pump Hold Down Beam Transition Arm Region	XI-BN-04 3/9/2005	N/A N/A	SP	EVT-1	100%	NRI		GE-UT-504 V9 GE-VT-204 V7  This exam was performed to supplement the beam UT exam.
LI2/JP01 BB-3 Jet Pump Hold Down Beam Transition Region	XI-BN-04 3/3/2005	N/A N/A	BL	UT	100%	NRI		GE-UT-504 V9
LI2/JP01 MX-7 Jet Pump Wedge Bracket to Inlet Mixer Welds	XI-BN-04 3/5/2005	N/A N/A	ES	VT-1	70%	NRI		GE-VT-204 V7  Expanded scope
LI2/JP01 WD-1 Jet Pump Wedge Bearing Surface	XI-BN-04 3/4/2005	N/A N/A	ES	VT-1	100%	RI		GE-VT-204 V7  Reference INR LI2R08-05-01; Damaged wedge / restrainer bracket; Reference INR LI2R08-05-14; Belly band wear on vessel side with contact; Installed slip joint clamp repair per ECR LG 04-00670; Expanded scope
LI2/JP01 WD-2a Jet Pump Wedge Adjusting Rod Tack Weld - Top	XI-BN-04 3/5/2005	N/A N/A	ES	VT-1	90%	NRI		GE-VT-204 V7  Expanded scope
LI2/JP01 WD-2b Jet Pump Wedge Adjusting Rod Tack Weld - Bottom	XI-BN-04 3/5/2005	N/A N/A	ES	VT-1	90%	NRI		GE-VT-204 V7  Expanded scope
LI2/JP01-02 RS-8 Jet Pump Riser Pipe to Riser Brace Circumferential Weld	XI-BN-04 3/5/2005	N/A N/A	ES	EVT-1	82.5%	NRI		GE-VT-204 V7  Expanded scope

## Limerick IVVI Component Inspection Results Listing Unit 2

Interval: 2  
Period: 2  
Outage: 2R08

Component ID Description	Iso Number Insp. Date	Sect. XI Cat. Item	Inspection Reason(s)	Actual Exam	Coverage	Results	Summary Number	Procedure(s) Comments
LI2/JP01-02 RS-9 Jet Pump Riser Pipe to Riser Brace Circumferential Weld	XI-BN-04 3/5/2005	N/A N/A	ES	EVT-1	80%	NRI		GE-VT-204 V7  Expanded scope
LI2/JP02 AS-1 Jet Pump Restrainer Bracket Adjusting Screw Tack Welds-Vessel Side	XI-BN-04 3/6/2005	N/A N/A	ES	VT-1	100%	RI		GE-VT-204 V7  Reference INR LI2R08-05-13; Vessel side gap = 0.020 inch; Expanded scope
LI2/JP02 AS-2 Jet Pump Restrainer Bracket Adjusting Screw Tack Welds-Shroud Side	XI-BN-04 3/6/2005	N/A N/A	ES	VT-1	100%	NRI		GE-VT-204 V7  Shroud side gap = 0.000 inch (in contact); Expanded scope
LI2/JP02 BB-1 Jet Pump Hold Down Beam Bolt Hole Region	XI-BN-04 3/3/2005	N/A N/A	RE	UT	100%	NRI		GE-UT-504 V9
LI2/JP02 BB-2 Jet Pump Hold Down Beam Transition Arm Region	XI-BN-04 3/3/2005	N/A N/A	RE	UT	83%	NRI		GE-UT-504 V9 GE-VT-204 V7  Due to transducer positioning problems, only the middle 1/3rd of BB-2 was examined from the 90-degree (vessel side) with NRI. The full volume was examined by UT from the 270-degree (shroud side) with NRI. A supplemental EVT-1 of the BB-2 region was performed.
LI2/JP02 BB-2 Jet Pump Hold Down Beam Transition Arm Region	XI-BN-04 3/9/2005	N/A N/A	SP	EVT-1	90%	NRI		GE-UT-504 V9 GE-VT-204 V7  This exam was performed to supplement the beam UT exam.
LI2/JP02 BB-3 Jet Pump Hold Down Beam Transition Region	XI-BN-04 3/3/2005	N/A N/A	BL	UT	100%	NRI		GE-UT-504 V9
LI2/JP02 MX-7 Jet Pump Wedge Bracket to Inlet Mixer Welds	XI-BN-04 3/5/2005	N/A N/A	ES	VT-1	60%	NRI		GE-VT-204 V7  Expanded scope

# Limerick IVI Component Inspection Results Listing

Unit 2

Interval: 2  
Period: 2  
Outage: 2R08

Component ID Description	Iso Number Insp. Date	Sect. XI Cat. Item	Inspection Reason(s)	Actual Exam	Coverage	Results	Summary Number	Procedure(s) Comments
L12/JP02 WD-1 Jet Pump Wedge Bearing Surface	XI-BN-04 3/5/2005	N/A N/A	BL	VT-1	100%	RI		GE-VT-204 V7  Reference INR L12R08-05-10; Damaged wedge / restrainer bracket; Installed slip joint clamp repair per ECR LG 04-00670
L12/JP02 WD-2a Jet Pump Wedge Adjusting Rod Tack Weld - Top	XI-BN-04 3/5/2005	N/A N/A	ES	VT-1	100%	NRI		GE-VT-204 V7  Expanded scope
L12/JP02 WD-2b Jet Pump Wedge Adjusting Rod Tack Weld - Bottom	XI-BN-04 3/5/2005	N/A N/A	ES	VT-1	100%	NRI		GE-VT-204 V7  Expanded scope
L12/JP03 AS-1 Jet Pump Restrainer Bracket Adjusting Screw Tack Welds-Vessel Side	XI-BN-04 3/9/2005	N/A N/A	ES	VT-1	100%	NRI		GE-VT-204 V7  Vessel side gap = 0.000 inch (in contact); Expanded scope
L12/JP03 AS-2 Jet Pump Restrainer Bracket Adjusting Screw Tack Welds-Shroud Side	XI-BN-04 3/8/2005	N/A N/A	ES	VT-1	100%	NRI		GE-VT-204 V7  Shroud side gap = 0.000 inch (in contact); Expanded scope
L12/JP03 BB-1 Jet Pump Hold Down Beam Bolt Hole Region	XI-BN-04 3/3/2005	N/A N/A	RE	UT	100%	NRI		GE-UT-504 V9
L12/JP03 BB-2 Jet Pump Hold Down Beam Transition Arm Region	XI-BN-04 3/3/2005	N/A N/A	RE	UT	100%	NRI		GE-UT-504 V9
L12/JP03 BB-3 Jet Pump Hold Down Beam Transition Region	XI-BN-04 3/3/2005	N/A N/A	BL	UT	100%	NRI		GE-UT-504 V9
L12/JP03 WD-1 Jet Pump Wedge Bearing Surface	XI-BN-04 3/4/2005	N/A N/A	ES	VT-1	95%	NRI		GE-VT-204 V7  Expanded scope
L12/JP03-04 RS-8 Jet Pump Riser Pipe to Riser Brace Circumferential Weld	XI-BN-04 3/6/2005	N/A N/A	ES	EVT-1	60%	NRI		GE-VT-204 V7  Expanded scope

## Limerick IVVI Component Inspection Results Listing Unit 2

Interval: 2  
Period: 2  
Outage: 2R06

Component ID Description	Iso Number Insp. Date	Sect. XI Cat. Item	Inspection Reason(s)	Actual Exam	Coverage	Results	Summary Number	Procedure(s) Comments
L12/JP03-04 RS-9 Jet Pump Riser Pipe to Riser Brace Circumferential Weld	XI-BN-04 3/6/2005	N/A N/A	ES	EVT-1	65%	NRI		GE-VT-204 V7  Expanded scope
L12/JP04 AS-1 Jet Pump Restrainer Bracket Adjusting Screw Tack Welds-Vessel Side	XI-BN-04 3/5/2005	N/A N/A	ES	VT-1	100%	RI		GE-VT-204 V7  Reference INR L12R08-05-13; Vessel side gap = 0.022 inch; Expanded scope
L12/JP04 AS-2 Jet Pump Restrainer Bracket Adjusting Screw Tack Welds-Shroud Side	XI-BN-04 3/5/2005	N/A N/A	ES	VT-1	100%	NRI		GE-VT-204 V7  Shroud side gap = 0.000 inch (in contact); Expanded scope
L12/JP04 BB-1 Jet Pump Hold Down Beam Bolt Hole Region	XI-BN-04 3/3/2005	N/A N/A	RE	UT	100%	NRI		GE-UT-504 V9
L12/JP04 BB-2 Jet Pump Hold Down Beam Transition Arm Region	XI-BN-04 3/3/2005	N/A N/A	RE	UT	100%	NRI		GE-UT-504 V9
L12/JP04 BB-3 Jet Pump Hold Down Beam Transition Region	XI-BN-04 3/3/2005	N/A N/A	BL	UT	100%	NRI		GE-UT-504 V9
L12/JP04 MX-7 Jet Pump Wedge Bracket to Inlet Mixer Welds	XI-BN-04 3/6/2005	N/A N/A	ES	VT-1	100%	NRI		GE-VT-204 V7  Expanded scope
L12/JP04 WD-1 Jet Pump Wedge Bearing Surface	XI-BN-04 3/4/2005	N/A N/A	ES	VT-1	100%	RI		GE-VT-204 V7  Reference INR L12R08-05-04; Damaged wedge / restrainer bracket; Installed slip joint clamp repair per ECR LG 04-00670; Expanded scope
L12/JP04 WD-2a Jet Pump Wedge Adjusting Rod Tack Weld - Top	XI-BN-04 3/5/2005	N/A N/A	ES	VT-1	90%	NRI		GE-VT-204 V7  Expanded scope
L12/JP04 WD-2b Jet Pump Wedge Adjusting Rod Tack Weld - Bottom	XI-BN-04 3/5/2005	N/A N/A	ES	VT-1	90%	NRI		GE-VT-204 V7  Expanded scope

# Limerick IVVI Component Inspection Results Listing

## Unit 2

Interval: 2  
Period: 2  
Outage: 2R08

Component ID Description	Iso Number Insp. Date	Sect. XI Cat. Item	Inspection Reason(s)	Actual Exam	Coverage	Results	Summary Number	Procedure(s) Comments
L12/JP05 AS-1 Jet Pump Restrainer Bracket Adjusting Screw Tack Welds-Vessel Side	XI-BN-04 3/8/2005	N/A N/A	ES	VT-1	100%	RI		GE-VT-204 V7  Reference INR L12R08-05-13; Vessel side gap = 0.009 inch; Expanded scope
L12/JP05 AS-2 Jet Pump Restrainer Bracket Adjusting Screw Tack Welds-Shroud Side	XI-BN-04 3/8/2005	N/A N/A	ES	VT-1	100%	NRI		GE-VT-204 V7  Shroud side gap = 0.000 inch (in contact); Expanded scope
L12/JP05 BB-1 Jet Pump Hold Down Beam Bolt Hole Region	XI-BN-04 3/4/2005	N/A N/A	RE	UT	100%	NRI		GE-UT-504 V9
L12/JP05 BB-2 Jet Pump Hold Down Beam Transition Arm Region	XI-BN-04 3/4/2005	N/A N/A	RE	UT	100%	NRI		GE-UT-504 V9
L12/JP05 BB-3 Jet Pump Hold Down Beam Transition Region	XI-BN-04 3/4/2005	N/A N/A	BL	UT	100%	NRI		GE-UT-504 V9
L12/JP05 WD-1 Jet Pump Wedge Bearing Surface	XI-BN-04 3/4/2005	N/A N/A	ES	VT-1	100%	NRI		GE-VT-204 V7  Expanded scope
L12/JP06 AS-1 Jet Pump Restrainer Bracket Adjusting Screw Tack Welds-Vessel Side	XI-BN-04 3/8/2005	N/A N/A	ES	VT-1	100%	NRI		GE-VT-204 V7  Vessel side gap = 0.000 inch (in contact); Expanded scope
L12/JP06 AS-2 Jet Pump Restrainer Bracket Adjusting Screw Tack Welds-Shroud Side	XI-BN-04 3/8/2005	N/A N/A	ES	VT-1	100%	NRI		GE-VT-204 V7  Shroud side gap = 0.000 inch (in contact); Expanded scope
L12/JP06 BB-1 Jet Pump Hold Down Beam Bolt Hole Region	XI-BN-04 3/4/2005	N/A N/A	RE	UT	100%	NRI		GE-UT-504 V9
L12/JP06 BB-2 Jet Pump Hold Down Beam Transition Arm Region	XI-BN-04 3/4/2005	N/A N/A	RE	UT	100%	NRI		GE-UT-504 V9
L12/JP06 BB-3 Jet Pump Hold Down Beam Transition Region	XI-BN-04 3/4/2005	N/A N/A	BL	UT	100%	NRI		GE-UT-504 V9

## Limerick IVVI Component Inspection Results Listing Unit 2

Interval: 2  
Period: 2  
Outage: 2R06

Component ID Description	Iso Number Insp. Date	Sect. XI Cat. Item	Inspection Reason(s)	Actual Exam	Coverage	Results	Summary Number	Procedure(s) Comments
L12/JP06 WD-1 Jet Pump Wedge Bearing Surface	XI-BN-04 3/4/2005	N/A N/A	BL	VT-1	90%	NRI		GE-VT-204 V7
L12/JP07 AD-1 Jet Pump Adapter Top to Adapter Bottom Weld - Bimetallic Weld	XI-BN-04 3/9/2005	N/A N/A	BL	EVT-1	20%	NRI		GE-VT-204 V7
L12/JP07 AD-2 Jet Pump Adapter Bottom (Lower Ring) to Shroud Support Plate Weld	XI-BN-04 3/9/2005	N/A N/A	BL	EVT-1	20%	NRI		GE-VT-204 V7
L12/JP07 AS-1 Jet Pump Restrainer Bracket Adjusting Screw Tack Welds-Vessel Side	XI-BN-04 3/8/2005	N/A N/A	ES	VT-1	100%	NRI		GE-VT-204 V7  Vessel side gap = 0.000 inch (in contact); Expanded scope
L12/JP07 AS-2 Jet Pump Restrainer Bracket Adjusting Screw Tack Welds-Shroud Side	XI-BN-04 3/8/2005	N/A N/A	ES	VT-1	100%	NRI		GE-VT-204 V7  Shroud side gap = 0.000 inch (in contact); Expanded scope
L12/JP07 BB-1 Jet Pump Hold Down Beam Bolt Hole Region	XI-BN-04 3/4/2005	N/A N/A	RE	UT	100%	NRI		GE-UT-504 V9
L12/JP07 BB-2 Jet Pump Hold Down Beam Transition Arm Region	XI-BN-04 3/4/2005	N/A N/A	RE	UT	100%	NRI		GE-UT-504 V9
L12/JP07 BB-3 Jet Pump Hold Down Beam Transition Region	XI-BN-04 3/4/2005	N/A N/A	BL	UT	100%	NRI		GE-UT-504 V9
L12/JP07 DF-1 Jet Pump Diffuser Collar to Diffuser Shell Weld	XI-BN-04 3/9/2005	N/A N/A	BL	EVT-1	20%	NRI		GE-VT-204 V7
L12/JP07 DF-2 Jet Pump Diffuser Shell to Tailpipe Weld	XI-BN-04 3/11/2005	N/A N/A	BL	EVT-1	27.5%	NRI		GE-VT-204 V7
L12/JP07 IN-4 Jet Pump Inlet to Mixer Weld	XI-BN-04 3/9/2005	N/A N/A	BL	EVT-1	45%	NRI		GE-VT-204 V7
L12/JP07 MX-2 Jet Pump Barrel to Adapter Weld	XI-BN-04 3/9/2005	N/A N/A	BL	EVT-1	20%	NRI		GE-VT-204 V7
L12/JP07 WD-1 Jet Pump Wedge Bearing Surface	XI-BN-04 3/4/2005	N/A N/A	BL	VT-1	95%	NRI		GE-VT-204 V7

# Limerick IVVI Component Inspection Results Listing

## Unit 2

Interval: 2  
 Period: 2  
 Outage: 2R08

Component ID Description	Iso Number Insp. Date	Sect. XI Cat. Item	Inspection Reason(s)	Actual Exam	Coverage	Results	Summary Number	Procedure(s) Comments
L12/JP07-08 RB-1a Jet Pump Riser Brace Leaf to RPV Pad Weld	XI-BN-04 3/10/2005	N/A N/A	BL	EVT-1	90%	NRI		GE-VT-204 V7
L12/JP07-08 RB-1b Jet Pump Riser Brace Leaf to RPV Pad Weld	XI-BN-04 3/9/2005	N/A N/A	BL	EVT-1	100%	NRI		GE-VT-204 V7
L12/JP07-08 RB-1c Jet Pump Riser Brace Leaf to RPV Pad Weld	XI-BN-04 3/10/2005	N/A N/A	BL	EVT-1	90%	NRI		GE-VT-204 V7
L12/JP07-08 RB-1d Jet Pump Riser Brace Leaf to RPV Pad Weld	XI-BN-04 3/9/2005	N/A N/A	BL	EVT-1	100%	NRI		GE-VT-204 V7
L12/JP07-08 RB-2a Jet Pump Riser Brace Leaf to Yoke Weld	XI-BN-04 3/10/2005	N/A N/A	BL	EVT-1	45%	NRI		GE-VT-204 V7
L12/JP07-08 RB-2b Jet Pump Riser Brace Leaf to Yoke Weld	XI-BN-04 3/11/2005	N/A N/A	BL	EVT-1	50%	NRI		GE-VT-204 V7
L12/JP07-08 RB-2c Jet Pump Riser Brace Leaf to Yoke Weld	XI-BN-04 3/10/2005	N/A N/A	BL	EVT-1	45%	NRI		GE-VT-204 V7
L12/JP07-08 RB-2d Jet Pump Riser Brace Leaf to Yoke Weld	XI-BN-04 3/11/2005	N/A N/A	BL	EVT-1	45%	NRI		GE-VT-204 V7
L12/JP07-08 RS-1 Jet Pump Riser Elbow to Thermal Sleeve Weld	XI-BN-04 3/9/2005	N/A N/A	BL	EVT-1	100%	NRI		GE-VT-204 V7
L12/JP07-08 RS-2 Jet Pump Riser Elbow to Riser Pipe Weld	XI-BN-04 3/9/2005	N/A N/A	BL	EVT-1	42.5%	NRI		GE-VT-204 V7
L12/JP07-08 RS-6 Jet Pump Riser Pipe to Restrainer Bracket Circumferential Weld	XI-BN-04 3/11/2005	N/A N/A	BL	EVT-1	50%	NRI		GE-VT-204 V7
L12/JP07-08 RS-7 Jet Pump Riser Pipe to Restrainer Bracket Circumferential Weld	XI-BN-04 3/10/2005	N/A N/A	BL	EVT-1	50%	NRI		GE-VT-204 V7
L12/JP07-08 RS-8 Jet Pump Riser Pipe to Riser Brace Circumferential Weld	XI-BN-04 3/6/2005	N/A N/A	BL	EVT-1	55%	NRI		GE-VT-204 V7
L12/JP07-08 RS-9 Jet Pump Riser Pipe to Riser Brace Circumferential Weld	XI-BN-04 3/6/2005	N/A N/A	BL	EVT-1	60%	NRI		GE-VT-204 V7

## Limerick IVVI Component Inspection Results Listing Unit 2

Interval: 2  
Period: 2  
Outage: 2R08

Component ID Description	Iso Number Insp. Date	Sect. XI Cat. Item	Inspection Reason(s)	Actual Exam	Coverage	Results	Summary Number	Procedure(s) Comments
LI2/JP08 AD-1 Jet Pump Adapter Top to Adapter Bottom Weld - Bimetallic Weld	XI-BN-04 3/11/2005	N/A N/A	BL	EVT-1	20%	NRI		GE-VT-204 V7
LI2/JP08 AD-2 Jet Pump Adapter Bottom (Lower Ring) to Shroud Support Plate Weld	XI-BN-04 3/10/2005	N/A N/A	BL	EVT-1	22.5%	NRI		GE-VT-204 V7
LI2/JP08 AS-1 Jet Pump Restrainer Bracket Adjusting Screw Tack Welds-Vessel Side	XI-BN-04 3/6/2005	N/A N/A	ES	VT-1	100%	RI		GE-VT-204 V7  Reference INR LI2R08-05-13; Vessel side gap = 0.011 inch; Installed auxiliary wedge; Expanded scope
LI2/JP08 AS-2 Jet Pump Restrainer Bracket Adjusting Screw Tack Welds-Shroud Side	XI-BN-04 3/6/2005	N/A N/A	ES	VT-1	100%	NRI		GE-VT-204 V7  Shroud side gap = 0.000 inch (in contact); Installed auxiliary wedge; Expanded scope
LI2/JP08 BB-1 Jet Pump Hold Down Beam Bolt Hole Region	XI-BN-04 3/4/2005	N/A N/A	RE	UT	100%	NRI		GE-UT-504 V9
LI2/JP08 BB-2 Jet Pump Hold Down Beam Transition Arm Region	XI-BN-04 3/4/2005	N/A N/A	RE	UT	100%	NRI		GE-UT-504 V9
LI2/JP08 BB-3 Jet Pump Hold Down Beam Transition Region	XI-BN-04 3/4/2005	N/A N/A	BL	UT	100%	NRI		GE-UT-504 V9
LI2/JP08 DF-1 Jet Pump Diffuser Collar to Diffuser Shell Weld	XI-BN-04 3/10/2005	N/A N/A	BL	EVT-1	20%	NRI		GE-VT-204 V7
LI2/JP08 DF-2 Jet Pump Diffuser Shell to Tailpipe Weld	XI-BN-04 3/10/2005	N/A N/A	BL	EVT-1	22.5%	NRI		GE-VT-204 V7
LI2/JP08 IN-4 Jet Pump Inlet to Mixer Weld	XI-BN-04 3/10/2005	N/A N/A	BL	EVT-1	40%	NRI		GE-VT-204 V7
LI2/JP08 MX-2 Jet Pump Barrel to Adapter Weld	XI-BN-04 3/10/2005	N/A N/A	BL	EVT-1	20%	NRI		GE-VT-204 V7
LI2/JP08 MX-7 Jet Pump Wedge Bracket to Inlet Mixer Welds	XI-BN-04 3/5/2005	N/A N/A	ES	VT-1	75%	NRI		GE-VT-204 V7  Expanded scope

# Limerick IVVI Component Inspection Results Listing

## Unit 2

Interval: 2  
Period: 2  
Outage: 2R08

Component ID Description	Iso Number Insp. Date	Sect. XI Cat. Item	Inspection Reason(s)	Actual Exam	Coverage	Results	Summary Number	Procedure(s) Comments
LI2/JP08 WD-1 Jet Pump Wedge Bearing Surface	XI-BN-04 3/4/2005	N/A N/A	BL	VT-1	90%	RI		GE-VT-204 V7  Reference INR LI2R08-05-02; Damaged wedge / restrainer bracket; Reference INR LI2R08-05-14; Belly band wear on vessel side with contact; Installed slip joint clamp repair per ECR LG 04-00670
LI2/JP08 WD-2a Jet Pump Wedge Adjusting Rod Tack Weld - Top	XI-BN-04 3/5/2005	N/A N/A	ES	VT-1	100%	NRI		GE-VT-204 V7  Expanded scope
LI2/JP08 WD-2b Jet Pump Wedge Adjusting Rod Tack Weld - Bottom	XI-BN-04 3/5/2005	N/A N/A	ES	VT-1	100%	NRI		GE-VT-204 V7  Expanded scope
LI2/JP09 AS-1 Jet Pump Restrainer Bracket Adjusting Screw Tack Welds-Vessel Side	XI-BN-04 3/8/2005	N/A N/A	ES	VT-1	100%	RI		GE-VT-204 V7  Reference INR LI2R08-05-13; Vessel Side gap = 0.011 inch; Expanded Scope
LI2/JP09 AS-2 Jet Pump Restrainer Bracket Adjusting Screw Tack Welds-Shroud Side	XI-BN-04 3/8/2005	N/A N/A	ES	VT-1	100%	NRI		GE-VT-204 V7  Shroud side gap = 0.000 inch (in contact); Expanded scope
LI2/JP09 BB-1 Jet Pump Hold Down Beam Bolt Hole Region	XI-BN-04 3/4/2005	N/A N/A	RE	UT	100%	NRI		GE-UT-504 V9
LI2/JP09 BB-2 Jet Pump Hold Down Beam Transition Arm Region	XI-BN-04 3/4/2005	N/A N/A	RE	UT	100%	NRI		GE-UT-504 V9
LI2/JP09 BB-3 Jet Pump Hold Down Beam Transition Region	XI-BN-04 3/4/2005	N/A N/A	BL	UT	100%	NRI		GE-UT-504 V9
LI2/JP09 WD-1 Jet Pump Wedge Bearing Surface	XI-BN-04 3/4/2005	N/A N/A	BL	VT-1	90%	NRI		GE-VT-204 V7
LI2/JP09-10 RB-1a Jet Pump Riser Brace Leaf to RPV Pad Weld	XI-BN-04 3/11/2005	N/A N/A	BL	EVT-1	100%	NRI		GE-VT-204 V7
LI2/JP09-10 RB-1b Jet Pump Riser Brace Leaf to RPV Pad Weld	XI-BN-04 3/10/2005	N/A N/A	BL	EVT-1	100%	NRI		GE-VT-204 V7

## Limerick IVVI Component Inspection Results Listing Unit 2

Interval: 2  
Period: 2  
Outage: 2R06

Component ID Description	Iso Number Insp. Date	Sect. XI Cat. Item	Inspection Reason(s)	Actual Exam	Coverage	Results	Summary Number	Procedure(s) Comments
LI2/JP09-10 RB-1c Jet Pump Riser Brace Leaf to RPV Pad Weld	XI-BN-04 3/11/2005	N/A N/A	BL	EVT-1	100%	NRI		GE-VT-204 V7
LI2/JP09-10 RB-1d Jet Pump Riser Brace Leaf to RPV Pad Weld	XI-BN-04 3/10/2005	N/A N/A	BL	EVT-1	100%	NRI		GE-VT-204 V7
LI2/JP09-10 RS-1 Jet Pump Riser Elbow to Thermal Sleeve Weld	XI-BN-04 3/10/2005	N/A N/A	BL	EVT-1	100%	NRI		GE-VT-204 V7
LI2/JP09-10 RS-2 Jet Pump Riser Elbow to Riser Pipe Weld	XI-BN-04 3/10/2005	N/A N/A	BL	EVT-1	40%	NRI		GE-VT-204 V7
LI2/JP09-10 RS-6 Jet Pump Riser Pipe to Restrainer Bracket Circumferential Weld	XI-BN-04 3/11/2005	N/A N/A	BL	EVT-1	50%	NRI		GE-VT-204 V7
LI2/JP09-10 RS-7 Jet Pump Riser Pipe to Restrainer Bracket Circumferential Weld	XI-BN-04 3/11/2005	N/A N/A	BL	EVT-1	50%	NRI		GE-VT-204 V7
LI2/JP09-10 RS-8 Jet Pump Riser Pipe to Riser Brace Circumferential Weld	XI-BN-04 3/8/2005	N/A N/A	BL	EVT-1	60%	NRI		GE-VT-204 V7
LI2/JP09-10 RS-9 Jet Pump Riser Pipe to Riser Brace Circumferential Weld	XI-BN-04 3/8/2005	N/A N/A	BL	EVT-1	62.5%	NRI		GE-VT-204 V7
LI2/JP10 AS-1 Jet Pump Restrainer Bracket Adjusting Screw Tack Welds-Vessel Side	XI-BN-04 3/6/2005	N/A N/A	ES	VT-1	100%	RI		GE-VT-204 V7  Reference INR LI2R08-05-13; Vessel side gap = 0.024 inch; Installed auxiliary wedge; Expanded scope
LI2/JP10 AS-2 Jet Pump Restrainer Bracket Adjusting Screw Tack Welds-Shroud Side	XI-BN-04 3/6/2005	N/A N/A	ES	VT-1	50%	NRI		GE-VT-204 V7  Shroud side gap = 0.000 inch (in contact); Expanded scope
LI2/JP10 BB-1 Jet Pump Hold Down Beam Bolt Hole Region	XI-BN-04 3/4/2005	N/A N/A	RE	UT	100%	NRI		GE-UT-504 V9
LI2/JP10 BB-2 Jet Pump Hold Down Beam Transition Arm Region	XI-BN-04 3/4/2005	N/A N/A	RE	UT	100%	NRI		GE-UT-504 V9

# Limerick IVVI Component Inspection Results Listing

## Unit 2

Interval: 2  
 Period: 2  
 Outage: 2R08

Component ID Description	Iso Number Insp. Date	Sect. XI Cat. Item	Inspection Reason(s)	Actual Exam	Coverage	Results	Summary Number	Procedure(s) Comments
LI2/JP10 BB-3 Jet Pump Hold Down Beam Transition Region	XI-BN-04 3/4/2005	N/A N/A	BL	UT	100%	NRI		GE-UT-504 V9
LI2/JP10 MX-7 Jet Pump Wedge Bracket to Inlet Mixer Welds	XI-BN-04 3/6/2005	N/A N/A	ES	VT-1	80%	NRI		GE-VT-204 V7  Expanded scope
LI2/JP10 WD-1 Jet Pump Wedge Bearing Surface	XI-BN-04 3/4/2005	N/A N/A	BL	VT-1	100%	RI		GE-VT-204 V7  Reference INR LI2R08-05-03; Damaged wedge / restrainer bracket; Installed slip joint clamp repair per ECR LG 04-00670
LI2/JP10 WD-2a Jet Pump Wedge Adjusting Rod Tack Weld - Top	XI-BN-04 3/6/2005	N/A N/A	ES	VT-1	100%	NRI		GE-VT-204 V7  Expanded scope
LI2/JP10 WD-2b Jet Pump Wedge Adjusting Rod Tack Weld - Bottom	XI-BN-04 3/6/2005	N/A N/A	ES	VT-1	100%	NRI		GE-VT-204 V7  Expanded scope
LI2/JP11 AS-1 Jet Pump Restrainer Bracket Adjusting Screw Tack Welds-Vessel Side	XI-BN-04 3/7/2005	N/A N/A	ES	VT-1	100%	RI		GE-VT-204 V7  Reference INR LI2R08-05-13; Vessel side gap = 0.015 inch; installed auxiliary wedge; Expanded scope
LI2/JP11 AS-2 Jet Pump Restrainer Bracket Adjusting Screw Tack Welds-Shroud Side	XI-BN-04 3/7/2005	N/A N/A	ES	VT-1	100%	RI		GE-VT-204 V7  Reference INR LI2R08-05-13; Shroud side gap = 0.015 inch; Expanded scope
LI2/JP11 BB-1 Jet Pump Hold Down Beam Bolt Hole Region	XI-BN-04 3/4/2005	N/A N/A	RE	UT	100%	NRI		GE-UT-504 V9
LI2/JP11 BB-2 Jet Pump Hold Down Beam Transition Arm Region	XI-BN-04 3/4/2005	N/A N/A	RE	UT	100%	NRI		GE-UT-504 V9
LI2/JP11 BB-3 Jet Pump Hold Down Beam Transition Region	XI-BN-04 3/4/2005	N/A N/A	BL	UT	100%	NRI		GE-UT-504 V9

## Limerick IVVI Component Inspection Results Listing Unit 2

Interval: 2  
Period: 2  
Outage: 2R0b

Component ID Description	Iso Number Insp. Date	Sect. XI Cat. Item	Inspection Reason(s)	Actual Exam	Coverage	Results	Summary Number	Procedure(s) Comments
LI2/JP11 MX-7 Jet Pump Wedge Bracket to Inlet Mixer Welds	XI-BN-04 3/7/2005	N/A N/A	ES	VT-1	95%	NRI		GE-VT-204 V7  Expanded scope
LI2/JP11 WD-1 Jet Pump Wedge Bearing Surface	XI-BN-04 3/5/2005	N/A N/A	ES	VT-1	100%	RI		GE-VT-204 V7  Reference INR LI2R08-05-12; Damaged wedge / restrainer bracket; Installed slip joint clamp repair per ECR LG 04-00670; Expanded scope
LI2/JP11 WD-2a Jet Pump Wedge Adjusting Rod Tack Weld - Top	XI-BN-04 3/8/2005	N/A N/A	ES	VT-1	100%	RI		GE-VT-204 V7  Reference INR LI2R08-05-12; Rod wear noted; Nut tack welds are intact; Expanded scope
LI2/JP11 WD-2b Jet Pump Wedge Adjusting Rod Tack Weld - Bottom	XI-BN-04 3/8/2005	N/A N/A	ES	VT-1	100%	RI		GE-VT-204 V7  Reference INR LI2R08-05-12; Rod wear noted; Nut tack welds are intact; Expanded scope
LI2/JP11-12 RS-3 Jet Pump Riser Pipe to Transition Piece Weld	XI-BN-04 3/8/2005	N/A N/A	RE	EVT-1	45%	NRI		GE-VT-204 V7
LI2/JP11-12 RS-8 Jet Pump Riser Pipe to Riser Brace Circumferential Weld	XI-BN-04 3/8/2005	N/A N/A	ES	EVT-1	60%	NRI		GE-VT-204 V7  Expanded scope
LI2/JP11-12 RS-9 Jet Pump Riser Pipe to Riser Brace Circumferential Weld	XI-BN-04 3/8/2005	N/A N/A	ES	EVT-1	52.5%	NRI		GE-VT-204 V7  Expanded scope
LI2/JP12 AS-1 Jet Pump Restrainer Bracket Adjusting Screw Tack Welds-Vessel Side	XI-BN-04 3/6/2005	N/A N/A	ES	VT-1	100%	RI		GE-VT-204 V7  Reference INR LI2R08-05-13; Initial vessel side gap = 0.033 inch; Final vessel side gap = 0.029 inch after re- installation of the pump; Installed auxiliary wedge; Expanded scope

# Limerick IVVI Component Inspection Results Listing

Interval: 2  
Period: 2  
Outage: 2R08

## Unit 2

Component ID Description	Iso Number Insp. Date	Sect. XI Cat. Item	Inspection Reason(s)	Actual Exam	Coverage	Results	Summary Number	Procedure(s) Comments
L12/JP12 AS-2 Jet Pump Restrainer Bracket Adjusting Screw Tack Welds-Shroud Side	XI-BN-04 3/6/2005	N/A N/A	ES	VT-1	100%	RI		GE-VT-204 V7  Reference INR LI2R08-05-13; Initial shroud side gap = 0.012 inch; Final Shroud side gap = 0.000 inch after re-installation of the pump; Upper setscrew tack weld is cracked; Expanded scope
L12/JP12 BB-1 Jet Pump Hold Down Beam Bolt Hole Region	XI-BN-04 3/4/2005	N/A N/A	RE	UT	100%	NRI		GE-UT-504 V9
L12/JP12 BB-2 Jet Pump Hold Down Beam Transition Arm Region	XI-BN-04 3/4/2005	N/A N/A	RE	UT	100%	NRI		GE-UT-504 V9
L12/JP12 BB-3 Jet Pump Hold Down Beam Transition Region	XI-BN-04 3/4/2005	N/A N/A	BL	UT	100%	NRI		GE-UT-504 V9
L12/JP12 MX-7 Jet Pump Wedge Bracket to Inlet Mixer Welds	XI-BN-04 3/8/2005	N/A N/A	ES	VT-1	95%	NRI		GE-VT-204 V7  Expanded scope
L12/JP12 WD-1 Jet Pump Wedge Bearing Surface	XI-BN-04 3/5/2005	N/A N/A	ES	VT-1	95%	RI		GE-VT-204 V7  Reference INR LI2R08-05-11; Damaged wedge / restrainer bracket; Reference INR LI2R08-05-14; Main wedge replaced due to no contact at the belly band and the wedge was bottomed out (i.e. not able to self adjust); Installed slip joint clamp repair per ECR LG 04-00670; Expanded scope
L12/JP12 WD-2a Jet Pump Wedge Adjusting Rod Tack Weld - Top	XI-BN-04 3/7/2005	N/A N/A	ES	VT-1	80%	RI		GE-VT-204 V7  Reference INR LI2R08-05-11; Rod wear noted; Nut tack welds are intact; Rod replaced during main wedge replacement; Expanded scope
L12/JP12 WD-2b Jet Pump Wedge Adjusting Rod Tack Weld - Bottom	XI-BN-04 3/7/2005	N/A N/A	ES	VT-1	80%	RI		GE-VT-204 V7  Reference INR LI2R08-05-11; Rod wear noted; Nut tack welds are intact; Rod replaced during main wedge replacement; Expanded scope

## Limerick IVVI Component Inspection Results Listing Unit 2

Interval: 2  
Period: 2  
Outage: 2R06

Component ID Description	Iso Number Insp. Date	Sect. XI Cat. Item	Inspection Reason(s)	Actual Exam	Coverage	Results	Summary Number	Procedure(s) Comments
<b>LI2/JP13 AS-1</b> Jet Pump Restrainer Bracket Adjusting Screw Tack Welds-Vessel Side	XI-BN-04 3/7/2005	N/A N/A	ES	VT-1	100%	RI		GE-VT-204 V7  Reference INR LI2R08-05-13; Vessel side gap = 0.023 inch; Installed auxiliary wedge; Expanded scope
<b>LI2/JP13 AS-2</b> Jet Pump Restrainer Bracket Adjusting Screw Tack Welds-Shroud Side	XI-BN-04 3/7/2005	N/A N/A	ES	VT-1	100%	NRI		GE-VT-204 V7  Shroud side gap = 0.000 inch (in contact); Expanded scope
<b>LI2/JP13 BB-1</b> Jet Pump Hold Down Beam Bolt Hole Region	XI-BN-04 3/4/2005	N/A N/A	RE	UT	100%	NRI		GE-UT-504 V9
<b>LI2/JP13 BB-2</b> Jet Pump Hold Down Beam Transition Arm Region	XI-BN-04 3/4/2005	N/A N/A	RE	UT	100%	NRI		GE-UT-504 V9
<b>LI2/JP13 BB-3</b> Jet Pump Hold Down Beam Transition Region	XI-BN-04 3/4/2005	N/A N/A	BL	UT	100%	NRI		GE-UT-504 V9
<b>LI2/JP13 MX-7</b> Jet Pump Wedge Bracket to Inlet Mixer Welds	XI-BN-04 3/6/2005	N/A N/A	ES	VT-1	80%	NRI		GE-VT-204 V7  Expanded scope
<b>LI2/JP13 WD-1</b> Jet Pump Wedge Bearing Surface	XI-BN-04 3/5/2005	N/A N/A	ES	VT-1	80%	RI		GE-VT-204 V7  Reference INR LI2R08-05-08; Damaged wedge / restrainer bracket; Installed slip joint clamp repair per ECR LG 04-00670; Expanded scope
<b>LI2/JP13 WD-2a</b> Jet Pump Wedge Adjusting Rod Tack Weld - Top	XI-BN-04 3/8/2005	N/A N/A	ES	VT-1	100%	RI		GE-VT-204 V7  Reference INR LI2R08-05-08; Rod wear noted; Nut tack welds are intact; Expanded Scope
<b>LI2/JP13 WD-2b</b> Jet Pump Wedge Adjusting Rod Tack Weld - Bottom	XI-BN-04 3/8/2005	N/A N/A	ES	VT-1	100%	RI		GE-VT-204 V7  Reference INR LI2R08-05-08; Rod wear noted; Nut tack welds are intact; Expanded Scope

# Limerick IVVI Component Inspection Results Listing

## Unit 2

Interval: 2  
 Period: 2  
 Outage: 2R08

Component ID Description	Iso Number Insp. Date	Sect. XI Cat. Item	Inspection Reason(s)	Actual Exam	Coverage	Results	Summary Number	Procedure(s) Comments
L12/JP13-14 RS-3 Jet Pump Riser Pipe to Transition Piece Weld	XI-BN-04 3/8/2005	N/A N/A	RE	EVT-1	45%	NRI		GE-VT-204 V7
L12/JP13-14 RS-8 Jet Pump Riser Pipe to Riser Brace Circumferential Weld	XI-BN-04 3/8/2005	N/A N/A	ES	EVT-1	65%	NRI		GE-VT-204 V7  Expanded scope
L12/JP13-14 RS-9 Jet Pump Riser Pipe to Riser Brace Circumferential Weld	XI-BN-04 3/8/2005	N/A N/A	ES	EVT-1	67.5%	NRI		GE-VT-204 V7  Expanded scope
L12/JP14 AS-1 Jet Pump Restrainer Bracket Adjusting Screw Tack Welds-Vessel Side	XI-BN-04 3/7/2005	N/A N/A	ES	VT-1	50%	RI		GE-VT-204 V7  Reference INR L12R08-05-13; Vessel side gap = 0.017 inch; Expanded scope
L12/JP14 AS-2 Jet Pump Restrainer Bracket Adjusting Screw Tack Welds-Shroud Side	XI-BN-04 3/7/2005	N/A N/A	ES	VT-1	100%	NRI		GE-VT-204 V7  Shroud side gap = 0.000 inch (in contact); Expanded scope
L12/JP14 BB-1 Jet Pump Hold Down Beam Bolt Hole Region	XI-BN-04 3/4/2005	N/A N/A	RE	UT	100%	NRI		GE-UT-504 V9
L12/JP14 BB-2 Jet Pump Hold Down Beam Transition Arm Region	XI-BN-04 3/4/2005	N/A N/A	RE	UT	100%	NRI		GE-UT-504 V9
L12/JP14 BB-3 Jet Pump Hold Down Beam Transition Region	XI-BN-04 3/4/2005	N/A N/A	BL	UT	100%	NRI		GE-UT-504 V9
L12/JP14 MX-7 Jet Pump Wedge Bracket to Inlet Mixer Welds	XI-BN-04 3/8/2005	N/A N/A	ES	VT-1	95%	NRI		GE-VT-204 V7  Expanded scope
L12/JP14 WD-1 Jet Pump Wedge Bearing Surface	XI-BN-04 3/5/2005	N/A N/A	ES	VT-1	100%	RI		GE-VT-204 V7  Reference INR L12R08-05-06; Damaged wedge / restrainer bracket; Installed slip joint clamp repair per ECR LG 04-00670; Expanded scope

## Limerick IVVI Component Inspection Results Listing Unit 2

Interval: 2  
Period: 2  
Outage: 2R08

Component ID Description	Iso Number Insp. Date	Sect. XI Cat. Item	Inspection Reason(s)	Actual Exam	Coverage	Results	Summary Number	Procedure(s) Comments
LI2/JP14 WD-2a Jet Pump Wedge Adjusting Rod Tack Weld - Top	XI-BN-04 3/8/2005	N/A N/A	ES	VT-1	100%	NRI		GE-VT-204 V7  Expanded scope
LI2/JP14 WD-2b Jet Pump Wedge Adjusting Rod Tack Weld - Bottom	XI-BN-04 3/8/2005	N/A N/A	ES	VT-1	100%	NRI		GE-VT-204 V7  Expanded scope
LI2/JP15 AS-1 Jet Pump Restrainer Bracket Adjusting Screw Tack Welds-Vessel Side	XI-BN-04 3/8/2005	N/A N/A	ES	VT-1	50%	RI		GE-VT-204 V7  Reference INR Li2R08-05-13; Vessel side gap = 0.024 inch; Installed auxiliary wedge; Expanded scope
LI2/JP15 AS-2 Jet Pump Restrainer Bracket Adjusting Screw Tack Welds-Shroud Side	XI-BN-04 3/8/2005	N/A N/A	ES	VT-1	100%	NRI		GE-VT-204 V7  Shroud side gap = 0.000 inch (in contact); Expanded scope
LI2/JP15 BB-1 Jet Pump Hold Down Beam Bolt Hole Region	XI-BN-04 3/2/2005	N/A N/A	RE	UT	100%	NRI		GE-UT-504 V9
LI2/JP15 BB-2 Jet Pump Hold Down Beam Transition Arm Region	XI-BN-04 3/2/2005	N/A N/A	RE	UT	100%	NRI		GE-UT-504 V9
LI2/JP15 BB-3 Jet Pump Hold Down Beam Transition Region	XI-BN-04 3/2/2005	N/A N/A	BL	UT	100%	NRI		GE-UT-504 V9
LI2/JP15 WD-1 Jet Pump Wedge Bearing Surface	XI-BN-04 3/5/2005	N/A N/A	ES	VT-1	100%	NRI		GE-VT-204 V7  Expanded scope
LI2/JP16 AS-1 Jet Pump Restrainer Bracket Adjusting Screw Tack Welds-Vessel Side	XI-BN-04 3/8/2005	N/A N/A	ES	VT-1	100%	RI		GE-VT-204 V7  Reference INR Li2R08-05-13; Vessel side gap = 0.012 inch; Installed auxiliary wedge; Expanded scope
LI2/JP16 AS-2 Jet Pump Restrainer Bracket Adjusting Screw Tack Welds-Shroud Side	XI-BN-04 3/8/2005	N/A N/A	ES	VT-1	100%	NRI		GE-VT-204 V7  Shroud side gap = 0.000 inch (in contact); Expanded scope

# Limerick IVVI Component Inspection Results Listing

## Unit 2

Interval: 2  
 Period: 2  
 Outage: 2R08

Component ID Description	Iso Number Insp. Date	Sect. XI Cat. Item	Inspection Reason(s)	Actual Exam	Coverage	Results	Summary Number	Procedure(s) Comments
L12/JP16 BB-1 Jet Pump Hold Down Beam Bolt Hole Region	XI-BN-04 3/2/2005	N/A N/A	RE	UT	100%	NRI		GE-UT-504 V9
L12/JP16 BB-2 Jet Pump Hold Down Beam Transition Arm Region	XI-BN-04 3/2/2005	N/A N/A	RE	UT	100%	NRI		GE-UT-504 V9
L12/JP16 BB-3 Jet Pump Hold Down Beam Transition Region	XI-BN-04 3/2/2005	N/A N/A	BL	UT	100%	NRI		GE-UT-504 V9
L12/JP16 WD-1 Jet Pump Wedge Bearing Surface	XI-BN-04 3/3/2005	N/A N/A	BL	VT-1	100%	NRI		GE-VT-204 V7
L12/JP17 AS-1 Jet Pump Restrainer Bracket Adjusting Screw Tack Welds-Vessel Side	XI-BN-04 3/6/2005	N/A N/A	ES	VT-1	100%	RI		GE-VT-204 V7  Reference INR LI2R08-05-13; Vessel side gap = 0.010 Inch; Installed auxiliary wedge; Expanded scope
L12/JP17 AS-2 Jet Pump Restrainer Bracket Adjusting Screw Tack Welds-Shroud Side	XI-BN-04 3/6/2005	N/A N/A	ES	VT-1	50%	NRI		GE-VT-204 V7  Shroud side gap = 0.000 Inch (in contact); Installed auxiliary wedge; Expanded scope
L12/JP17 BB-1 Jet Pump Hold Down Beam Bolt Hole Region	XI-BN-04 3/2/2005	N/A N/A	RE	UT	100%	NRI		GE-UT-504 V9
L12/JP17 BB-2 Jet Pump Hold Down Beam Transition Arm Region	XI-BN-04 3/2/2005	N/A N/A	RE	UT	100%	NRI		GE-UT-504 V9
L12/JP17 BB-3 Jet Pump Hold Down Beam Transition Region	XI-BN-04 3/2/2005	N/A N/A	BL	UT	100%	NRI		GE-UT-504 V9
L12/JP17 MX-7 Jet Pump Wedge Bracket to Inlet Mixer Welds	XI-BN-04 3/6/2005	N/A N/A	ES	VT-1	95%	NRI		GE-VT-204 V7  Expanded scope
L12/JP17 WD-1 Jet Pump Wedge Bearing Surface	XI-BN-04 3/5/2005	N/A N/A	ES	VT-1	100%	RI		GE-VT-204 V7  Reference INR LI2R08-05-09; Damaged wedge / restrainer bracket; Reference INR LI2R08-05-14; Belly band wear on shroud side with contact; Installed slip joint clamp repair per ECR LG 04-00670; Expanded scope

## Limerick IVVI Component Inspection Results Listing Unit 2

Interval: 2  
Period: 2  
Outage: 2R06

Component ID Description	Iso Number Insp. Date	Sect. XI Cat. Item	Inspection Reason(s)	Actual Exam	Coverage	Results	Summary Number	Procedure(s) Comments
LI2/JP17 WD-2a Jet Pump Wedge Adjusting Rod Tack Weld - Top	XI-BN-04 3/5/2005	N/A N/A	ES	VT-1	100%	NRI		GE-VT-204 V7  Expanded scope
LI2/JP17 WD-2b Jet Pump Wedge Adjusting Rod Tack Weld - Bottom	XI-BN-04 3/5/2005	N/A N/A	ES	VT-1	100%	NRI		GE-VT-204 V7  Expanded scope
LI2/JP17-18 RS-8 Jet Pump Riser Pipe to Riser Brace Circumferential Weld	XI-BN-04 3/6/2005	N/A N/A	ES	EVT-1	80%	NRI		GE-VT-204 V7  Expanded scope
LI2/JP17-18 RS-9 Jet Pump Riser Pipe to Riser Brace Circumferential Weld	XI-BN-04 3/6/2005	N/A N/A	ES	EVT-1	80%	NRI		GE-VT-204 V7  Expanded scope
LI2/JP18 AS-1 Jet Pump Restrainer Bracket Adjusting Screw Tack Welds-Vessel Side	XI-BN-04 3/8/2005	N/A N/A	ES	VT-1	100%	RI		GE-VT-204 V7  Reference INR LI2R08-05-13; Vessel side gap = 0.031 inch; Installed auxiliary wedge; Expanded scope
LI2/JP18 AS-2 Jet Pump Restrainer Bracket Adjusting Screw Tack Welds-Shroud Side	XI-BN-04 3/8/2005	N/A N/A	ES	VT-1	100%	NRI		GE-VT-204 V7  Shroud side gap = 0.000 inch (in contact); Expanded scope
LI2/JP18 BB-1 Jet Pump Hold Down Beam Bolt Hole Region	XI-BN-04 3/3/2005	N/A N/A	RE	UT	100%	NRI		GE-UT-504 V9
LI2/JP18 BB-2 Jet Pump Hold Down Beam Transition Arm Region	XI-BN-04 3/3/2005	N/A N/A	RE	UT	100%	NRI		GE-UT-504 V9
LI2/JP18 BB-3 Jet Pump Hold Down Beam Transition Region	XI-BN-04 3/3/2005	N/A N/A	BL	UT	100%	NRI		GE-UT-504 V9
LI2/JP18 WD-1 Jet Pump Wedge Bearing Surface	XI-BN-04 3/5/2005	N/A N/A	BL	VT-1	95%	NRI		GE-VT-204 V7

# Limerick IVVI Component Inspection Results Listing

## Unit 2

Interval: 2  
 Period: 2  
 Outage: 2R08

Component ID Description	Iso Number Insp. Date	Sect. XI Cat. Item	Inspection Reason(s)	Actual Exam	Coverage	Results	Summary Number	Procedure(s) Comments
LI2/JP19 AS-1 Jet Pump Restrainer Bracket Adjusting Screw Tack Welds-Vessel Side	XI-BN-04 3/7/2005	N/A N/A	ES	VT-1	55%	RI		GE-VT-204 V7  Reference INR LI2R08-05-13; Vessel side gap = 0.011 inch; Expanded scope
LI2/JP19 AS-2 Jet Pump Restrainer Bracket Adjusting Screw Tack Welds-Shroud Side	XI-BN-04 3/7/2005	N/A N/A	ES	VT-1	90%	NRI		GE-VT-204 V7  Shroud side gap = 0.000 inch (in contact); Expanded scope
LI2/JP19 BB-1 Jet Pump Hold Down Beam Bolt Hole Region	XI-BN-04 3/3/2005	N/A N/A	RE	UT	100%	NRI		GE-UT-504 V9
LI2/JP19 BB-2 Jet Pump Hold Down Beam Transition Arm Region	XI-BN-04 3/3/2005	N/A N/A	RE	UT	100%	NRI		GE-UT-504 V9
LI2/JP19 BB-3 Jet Pump Hold Down Beam Transition Region	XI-BN-04 3/3/2005	N/A N/A	BL	UT	100%	NRI		GE-UT-504 V9
LI2/JP19 MX-7 Jet Pump Wedge Bracket to Inlet Mixer Welds	XI-BN-04 3/6/2005	N/A N/A	ES	VT-1	100%	NRI		GE-VT-204 V7  Expanded scope
LI2/JP19 WD-1 Jet Pump Wedge Bearing Surface	XI-BN-04 3/5/2005	N/A N/A	ES	VT-1	95%	RI		GE-VT-204 V7  Reference INR LI2R08-05-07; Damaged wedge / restrainer bracket; Installed slip joint clamp repair per ECR LG 04-00670; Expanded scope
LI2/JP19 WD-2a Jet Pump Wedge Adjusting Rod Tack Weld - Top	XI-BN-04 3/7/2005	N/A N/A	ES	VT-1	100%	NRI		GE-VT-204 V7  Expanded scope
LI2/JP19 WD-2b Jet Pump Wedge Adjusting Rod Tack Weld - Bottom	XI-BN-04 3/7/2005	N/A N/A	ES	VT-1	100%	NRI		GE-VT-204 V7  Expanded scope
LI2/JP19-20 RS-8 Jet Pump Riser Pipe to Riser Brace Circumferential Weld	XI-BN-04 3/8/2005	N/A N/A	ES	EVT-1	82.5%	NRI		GE-VT-204 V7  Expanded scope

## Limerick IVVI Component Inspection Results Listing Unit 2

Interval: 2  
Period: 2  
Outage: 2R0L

Component ID Description	Iso Number Insp. Date	Sect. XI Cat. Item	Inspection Reason(s)	Actual Exam	Coverage	Results	Summary Number	Procedure(s) Comments
<b>LI2/JP19-20 RS-9</b> Jet Pump Riser Pipe to Riser Brace Circumferential Weld	XI-BN-04 3/8/2005	N/A N/A	ES	EVT-1	80%	NRI		GE-VT-204 V7  Expanded scope
<b>LI2/JP20 AS-1</b> Jet Pump Restrainer Bracket Adjusting Screw Tack Welds-Vessel Side	XI-BN-04 3/6/2005	N/A N/A	ES	VT-1	100%	RI		GE-VT-204 V7  Reference INR LI2R08-05-13; Vessel side gap = 0.014 inch; Expanded scope
<b>LI2/JP20 AS-2</b> Jet Pump Restrainer Bracket Adjusting Screw Tack Welds-Shroud Side	XI-BN-04 3/6/2005	N/A N/A	ES	VT-1	100%	NRI		GE-VT-204 V7  Shroud side gap = 0.000 inch (in contact); Expanded scope
<b>LI2/JP20 BB-1</b> Jet Pump Hold Down Beam Bolt Hole Region	XI-BN-04 3/3/2005	N/A N/A	RE	UT	100%	NRI		GE-UT-504 V9
<b>LI2/JP20 BB-2</b> Jet Pump Hold Down Beam Transition Arm Region	XI-BN-04 3/3/2005	N/A N/A	RE	UT	100%	NRI		GE-UT-504 V9
<b>LI2/JP20 BB-3</b> Jet Pump Hold Down Beam Transition Region	XI-BN-04 3/3/2005	N/A N/A	BL	UT	100%	NRI		GE-UT-504 V9
<b>LI2/JP20 MX-7</b> Jet Pump Wedge Bracket to Inlet Mixer Welds	XI-BN-04 3/6/2005	N/A N/A	ES	VT-1	95%	NRI		GE-VT-204 V7  Expanded scope
<b>LI2/JP20 WD-1</b> Jet Pump Wedge Bearing Surface	XI-BN-04 3/4/2005	N/A N/A	ES	VT-1	100%	RI		GE-VT-204 V7  Reference INR LI2R08-05-05; Damaged wedge / restrainer bracket; Installed slip joint clamp repair per ECR LG 04-00670; Expanded scope
<b>LI2/JP20 WD-2a</b> Jet Pump Wedge Adjusting Rod Tack Weld - Top	XI-BN-04 3/6/2005	N/A N/A	ES	VT-1	100%	NRI		GE-VT-204 V7  Expanded scope
<b>LI2/JP20 WD-2b</b> Jet Pump Wedge Adjusting Rod Tack Weld - Bottom	XI-BN-04 3/6/2005	N/A N/A	ES	VT-1	100%	NRI		GE-VT-204 V7  Expanded scope

## Limerick IVVI Component Inspection Results Listing Unit 2

Interval: 2  
Period: 2  
Outage: 2R08

Component ID Description	Iso Number Insp. Date	Sect. XI Cat. Item	Inspection Reason(s)	Actual Exam	Coverage	Results	Summary Number	Procedure(s) Comments
L12/45-03b N17A LPCI Coupling Shroud Attachment Ring to Shroud Weld (045 Az)	XI-BN-14 3/3/2005	N/A N/A	BL	EVT-1	95%	NRI		GE-VT-204 V7
L12/45-03b N17B LPCI Coupling Shroud Attachment Ring to Shroud Weld (135 Az)	XI-BN-14 3/9/2005	N/A N/A	BL	EVT-1	95%	NRI		GE-VT-204 V7
L12/45-03b N17C LPCI Coupling Shroud Attachment Ring to Shroud Weld (225 Az)	XI-BN-14 3/10/2005	N/A N/A	BL	EVT-1	95%	NRI		GE-VT-204 V7
L12/45-03b N17D LPCI Coupling Shroud Attachment Ring to Shroud Weld (315 Az)	XI-BN-14 3/3/2005	N/A N/A	BL	EVT-1	100%	NRI		GE-VT-204 V7
L12/45-06a N17D LPCI Coupling Clamp / Bolt RPV (315 Az)	XI-BN-14 3/3/2005	N/A N/A	RE	VT-3	80%	NRI		GE-VT-204 V7
L12/45-06b N17D LPCI Coupling Clamp / Bolt Shroud (315 Az)	XI-BN-14 3/3/2005	N/A N/A	RE	VT-3	90%	NRI		GE-VT-204 V7
L12/45-06c N17D LPCI Coupling Clamp / Bolt RPV (315 Az)	XI-BN-14 3/3/2005	N/A N/A	RE	VT-3	90%	NRI		GE-VT-204 V7
L12/45-06d N17D LPCI Coupling Clamp / Bolt Shroud (315 Az)	XI-BN-14 3/3/2005	N/A N/A	RE	VT-3	90%	NRI		GE-VT-204 V7
L12/45-08a N17D LPCI Coupling Eye Bolt Nut to Clamp Weld (315 Az)	XI-BN-14 3/3/2005	N/A N/A	RE	VT-1	95%	NRI		GE-VT-204 V7
L12/45-08b N17D LPCI Coupling Eye Bolt Nut to Clamp Weld (315 Az)	XI-BN-14 3/3/2005	N/A N/A	RE	VT-1	100%	NRI		GE-VT-204 V7
L12/45-08c N17D LPCI Coupling Eye Bolt Nut to Clamp Weld (315 Az)	XI-BN-14 3/3/2005	N/A N/A	RE	VT-1	100%	NRI		GE-VT-204 V7
L12/45-08d N17D LPCI Coupling Eye Bolt Nut to Clamp Weld (315 Az)	XI-BN-14 3/3/2005	N/A N/A	RE	VT-1	100%	NRI		GE-VT-204 V7
L12/45-12 N17A LPCI Coupling Sleeve Flange to Thermal Sleeve Weld at RPV (045 Az)	XI-BN-14 3/9/2005	N/A N/A	BL	EVT-1	25%	NRI		GE-VT-204 V7

## Limerick IVVI Component Inspection Results Listing Unit 2

Interval: 2  
Period: 2  
Outage: 2R06

Component ID Description	Iso Number Insp. Date	Sect. XI Cat. Item	Inspection Reason(s)	Actual Exam	Coverage	Results	Summary Number	Procedure(s) Comments
LI2/45-12 N17B LPCI Coupling Sleeve Flange to Thermal Sleeve Weld at RPV (135 Az)	XI-BN-14 3/9/2005	N/A N/A	BL	EVT-1	25%	NRI		GE-VT-204 V7
LI2/45-12 N17C LPCI Coupling Sleeve Flange to Thermal Sleeve Weld at RPV (225 Az)	XI-BN-14 3/10/2005	N/A N/A	BL	EVT-1	15%	NRI		GE-VT-204 V7
LI2/45-12 N17D LPCI Coupling Sleeve Flange to Thermal Sleeve Weld at RPV (315 Az)	XI-BN-14 3/3/2005	N/A N/A	BL	EVT-1	15%	NRI		GE-VT-204 V7
LI2/CR/OFS/OF-1 14-23 Fuel Support Casting and Fuel Support Orifice to Orifice Plate Weld	XI-BN-07-4 3/6/2005	B-N-2 B13.40	BL	VT-3	80%	NRI		GE-VT-204 V7
LI2/CR/OFS/OF-1 38-47 Fuel Support Casting and Fuel Support Orifice to Orifice Plate Weld	XI-BN-07-4 3/6/2005	B-N-2 B13.40	BL	VT-3	80%	NRI		GE-VT-204 V7
LI2/CR/OFS/OF-1 46-39 Fuel Support Casting and Fuel Support Orifice to Orifice Plate Weld	XI-BN-07-4 3/6/2005	B-N-2 B13.40	BL	VT-3	80%	NRI		GE-VT-204 V7
LI2/CR/OFS/OF-1 46-47 Fuel Support Casting and Fuel Support Orifice to Orifice Plate Weld	XI-BN-07-4 3/6/2005	B-N-2 B13.40	BL	VT-3	80%	NRI		GE-VT-204 V7
LI2/CRGT-1 14-23 Control Rod Drive Guide Tube Sleeve to Alignment Lug Weld	XI-BN-07-4 3/6/2005	B-N-2 B13.40	BL	VT-3	55%	NRI		GE-VT-204 V7
LI2/JP07-08 RBSP Jet Pump Nos. 07 and 08 Riser Brace Support Pad Welds to RPV (2 Weld Buildup Locations 113 and 128 Az)	XI-BNN 3/9/2005	B-N-2 B13.20	BL	EVT-1	85%	NRI		GE-VT-204 V7
LI2/JP09-10 RBSP Jet Pump Nos. 09 and 10 Riser Brace Support Pad Welds to RPV (2 Weld Buildup Locations 143 and 157 Az)	XI-BNN 3/9/2005	B-N-2 B13.20	BL	EVT-1	100%	NRI		GE-VT-204 V7
LI2/CSB 015 Az Core Spray "B and D" Header Bracket (PB1) Attachment Weld to RPV	XI-BNN 3/3/2005	B-N-2 B13.30	BL	EVT-1	100%	NRI		GE-VT-204 V7

# Limerick IVVI Component Inspection Results Listing

## Unit 2

Interval: 2  
 Period: 2  
 Outage: 2R08

Component ID Description	Iso Number Insp. Date	Sect. XI Cat. Item	Inspection Reason(s)	Actual Exam	Coverage	Results	Summary Number	Procedure(s) Comments
L12/CSB 085.5 Az Core Spray "B and D" Header Vertical Bracket (PB2) Attachment Weld to RPV	XI-BNN 3/3/2005	B-N-2 B13.30	BL	EVT-1	75%	NRI		GE-VT-204 V7
L12/CSB 112.5 Az Core Spray "B and D" Header Radial Bracket (PB3) Attachment Weld to RPV	XI-BNN 3/9/2005	B-N-2 B13.30	BL	EVT-1	75%	NRI		GE-VT-204 V7
L12/FWSB 055 Az N4A Feedwater Sparger Bracket Attachment Weld to RPV	XI-BNN 3/3/2005	B-N-2 B13.30	BL	EVT-1	75%	NRI		GE-VT-204 V7
L12/FWSB 125 Az N4C Feedwater Sparger Bracket Attachment Weld to RPV	XI-BNN 3/4/2005	B-N-2 B13.30	BL	EVT-1	65%	NRI		GE-VT-204 V7
L12/GRB 000 Deg Guide Rod Bracket Attachment Weld to RPV	XI-BNN 3/3/2005	B-N-2 B13.30	BL	VT-3	100%	NRI		GE-VT-204 V7
L12/GRB 180 Deg Guide Rod Bracket Attachment Weld to RPV	XI-BNN 3/10/2005	B-N-2 B13.30	BL	VT-3	100%	NRI		GE-VT-204 V7
L12/H01 Core Shroud Plate to Dryer / Separator Support Ring Weld	XI-BN-10 3/7/2005	B-N-2 B13.40	RE	UT	60.4%	RI		GE-UT-503 V13  Examined with MicroTomo Acquisition & TomoView Data Analysis systems. Total accessible weld length scanned = 60.4% on plate side of which 46.6% of weld length was found flawed. Disposition, "Use-As-Is" per ECR LG 05-00114.
L12/H02 Core Shroud Plate to top Guide Support Ring	XI-BN-10 3/13/2005	B-N-2 B13.40	RE	UT	59.3%	RI		GE-UT-503 V13 GE-UT-542 V0  Examined with MicroTomo Acquisition & TomoView Data Analysis systems. Total accessible weld length scanned = 59.3% on plate side of which 28.2% of weld length was found flawed. Total accessible weld length scanned = 21.5% on ring side of which 0.0% of weld length was found flawed. Disposition, "Use-As-Is" per ECR LG 05-00114.

## Limerick IVVI Component Inspection Results Listing

### Unit 2

Interval: 2  
 Period: 2  
 Outage: 2R06

Component ID Description	Iso Number Insp. Date	Sect. XI Cat. Item	Inspection Reason(s)	Actual Exam	Coverage	Results	Summary Number	Procedure(s) Comments
L12/H03 Core Shroud top Guide Support Ring to Shroud Plate Weld	XI-BN-10 3/12/2005	B-N-2 B13.40	RE	UT	63.8%	RI		GE-UT-503 V13 GE-UT-542 V0  Examined with MicroTomo Acquisition & TomoView Data Analysis systems. Total accessible weld length scanned = 63.8% on plate side of which 79.2% of weld length was found flawed. Total accessible weld length scanned = 21.5% on ring side of which 0.4% of weld length was found flawed. Disposition, "Use-As-Is" per ECR LG 05-00114.
L12/H04 Core Shroud Plate to Core Shroud Plate Weld	XI-BN-10 3/12/2005	B-N-2 B13.40	RE	UT	62.9%	RI		GE-UT-503 V13  Examined with MicroTomo Acquisition & TomoView Data Analysis systems. Total accessible weld length scanned = 59.4% on upper plate side of which 47.1% of weld length was found flawed. Total accessible weld length scanned = 62.9% on lower plate side of which 27.3% of weld length was found flawed. Disposition, "Use-As-Is" per ECR LG 05-00114.
L12/H06 Core Shroud Core Support Plate Ring to Shroud Plate Weld	XI-BN-10 3/14/2005	B-N-2 B13.40	RE	UT	63.7%	RI		GE-UT-503 V13  Examined with MicroTomo Acquisition & TomoView Data Analysis systems. Total accessible weld length scanned = 63.7% on plate side of which 58.5% of weld length was found flawed. Disposition, "Use-As-Is" per ECR LG 05-00114.
L12/V07 Core Shroud Vertical Weld - Plate to Plate Welds Between H01 And H02 - 45 Deg Az.	XI-BN-10 3/9/2005	B-N-2 B13.40	BL	EVT-1	100%	NRI		GE-VT-204 V7  OD exam only
L12/V08 Core Shroud Vertical Weld - Plate to Plate Welds Between H01 And H02 - 225 Deg Az.	XI-BN-10 3/10/2005	B-N-2 B13.40	BL	EVT-1	100%	NRI		GE-VT-204 V7  OD exam only

# Limerick IVVI Component Inspection Results Listing

## Unit 2

Interval: 2  
 Period: 2  
 Outage: 2R08

Component ID Description	Iso Number Insp. Date	Sect. XI Cat. Item	Inspection Reason(s)	Actual Exam	Coverage	Results	Summary Number	Procedure(s) Comments
L12/V15 Core Shroud Vertical Weld - Plate to Plate Welds Between H03 And H04 - 135 Deg Az.	XI-BN-10 3/12/2005	B-N-2 B13.40	BL	EVT-1	100%	NRI		GE-VT-204 V7  OD exam only
L12/V16 Core Shroud Vertical Weld - Plate to Plate Welds Between H03 And H04 - 315 Deg Az.	XI-BN-10 3/10/2005	B-N-2 B13.40	BL	EVT-1	90%	NRI		GE-VT-204 V7  OD exam only
L12/V17 Core Shroud Vertical Weld - Plate to Plate Welds Between H04 And H05 - 45 Deg Az.	XI-BN-10 3/12/2005	B-N-2 B13.40	BL	EVT-1	90%	NRI		GE-VT-204 V7  OD exam only
L12/V18 Core Shroud Vertical Weld - Plate to Plate Welds Between H04 And H05 - 225 Deg Az.	XI-BN-10 3/10/2005	B-N-2 B13.40	BL	EVT-1	100%	NRI		GE-VT-204 V7  OD exam only
L12/V25 Core Shroud Vertical Weld - Plate to Plate Welds Between H06 And H07 - 135 Deg Az.	XI-BN-10 3/12/2005	B-N-2 B13.40	BL	EVT-1	85%	NRI		GE-VT-204 V7  OD exam only
L12/V26 Core Shroud Vertical Weld - Plate to Plate Welds Between H06 And H07 - 315 Deg Az.	XI-BN-10 3/10/2005	B-N-2 B13.40	BL	EVT-1	100%	NRI		GE-VT-204 V7  OD exam only
L12/SDCP1 Steam Dryer Cover Plate No. 1 - Support Ring (90 Az) to Hood No. 1	XI-BN-01 3/11/2005	N/A N/A	BL	VT-1	100%	RI		GE-VT-204 V7  Reference INR LI2R08-05-15; Indications noted on the top side of support ring around the 90 deg area were evaluated in A1461223 E26
L12/SDCP7 Steam Dryer Cover Plate No. 7 - Hood No. 6 to Hsupport Ring (270 Az)	XI-BN-01 3/10/2005	N/A N/A	BL	VT-1	100%	NRI		GE-VT-204 V7

## Limerick IVVI Component Inspection Results Listing Unit 2

Interval: 2  
Period: 2  
Outage: 2R08

Component ID Description	Iso Number Insp. Date	Sect. XI Cat. Item	Inspection Reason(s)	Actual Exam	Coverage	Results	Summary Number	Procedure(s) Comments
LI2/SDDC Steam Dryer Drain Channel Welds, Vertical & Horizontal	XI-BN-01 3/12/2005	N/A N/A	RE	VT-1	100%	NRI		GE-VT-204 V7
LI2/SDDC1a Steam Dryer Drain Channel No. 1 Vertical Weld to Skirt (4 Az)	XI-BN-01 3/12/2005	N/A N/A	RE	VT-1	100%	NRI		GE-VT-204 V7
LI2/SDDC1b Steam Dryer Drain Channel No. 1 Vertical Weld to Skirt (49 Az)	XI-BN-01 3/12/2005	N/A N/A	RE	VT-1	100%	NRI		GE-VT-204 V7
LI2/SDDC1c Steam Dryer Drain Channel No. 1 Horizontal Weld to Support Ring (4 - 49 Az)	XI-BN-01 3/12/2005	N/A N/A	RE	VT-1	100%	RI		GE-VT-204 V7  Reference INR LI2R08-05-15; Indications observed in the support ring above this drain channel weld were evaluated in A1461223 E26
LI2/SDDC2a Steam Dryer Drain Channel No. 2 Vertical Weld to Skirt (129 Az)	XI-BN-01 3/11/2005	N/A N/A	RE	VT-1	100%	NRI		GE-VT-204 V7
LI2/SDDC2b Steam Dryer Drain Channel No. 2 Vertical Weld to Skirt (174 Az)	XI-BN-01 3/10/2005	N/A N/A	RE	VT-1	100%	NRI		GE-VT-204 V7
LI2/SDDC2c Steam Dryer Drain Channel No. 2 Horizontal Weld to Support Ring (129 - 174 Az)	XI-BN-01 3/11/2005	N/A N/A	RE	VT-1	100%	RI		GE-VT-204 V7  Reference INR LI2R08-05-15; Indications observed in the support ring above this drain channel weld were evaluated in A1461223 E26
LI2/SDDC3a Steam Dryer Drain Channel No. 3 Vertical Weld to Skirt (184 Az)	XI-BN-01 3/7/2005	N/A N/A	RE	VT-1	100%	NRI		GE-VT-204 V7
LI2/SDDC3b Steam Dryer Drain Channel No. 3 Vertical Weld to Skirt (229 Az)	XI-BN-01 3/10/2005	N/A N/A	RE	VT-1	100%	NRI		GE-VT-204 V7
LI2/SDDC3c Steam Dryer Drain Channel No. 3 Horizontal Weld to Support Ring (184 - 229 Az)	XI-BN-01 3/10/2005	N/A N/A	RE	VT-1	100%	NRI		GE-VT-204 V7

# Limerick IVVI Component Inspection Results Listing

Interval: 2  
Period: 2  
Outage: 2R08

## Unit 2

Component ID Description	Iso Number Insp. Date	Sect. XI Cat. Item	Inspection Reason(s)	Actual Exam	Coverage	Results	Summary Number	Procedure(s) Comments
L12/SDDC4a Steam Dryer Drain Channel No. 4 Vertical Weld to Skirt (311 Az)	XI-BN-01 3/12/2005	N/A N/A	RE	VT-1	100%	NRI		GE-VT-204 V7
L12/SDDC4b Steam Dryer Drain Channel No. 4 Vertical Weld to Skirt (356 Az)	XI-BN-01 3/12/2005	N/A N/A	RE	VT-1	100%	NRI		GE-VT-204 V7
L12/SDDC4c Steam Dryer Drain Channel No. 4 Horizontal Weld to Support Ring (311 - 356 Az)	XI-BN-01 3/12/2005	N/A N/A	RE	VT-1	100%	NRI		GE-VT-204 V7
L12/SDHS1a Steam Dryer Hood Seam Weld 1a	XI-BN-01 3/11/2005	N/A N/A	BL	VT-1	100%	NRI		GE-VT-204 V7
L12/SDHS1b Steam Dryer Hood Seam Weld 1b	XI-BN-01 3/11/2005	N/A N/A	BL	VT-1	100%	NRI		GE-VT-204 V7
L12/SDHS1c Steam Dryer Hood Seam Weld 1c	XI-BN-01 3/11/2005	N/A N/A	BL	VT-1	100%	NRI		GE-VT-204 V7
L12/SDHS1d Steam Dryer Hood Seam Weld 1d	XI-BN-01 3/12/2005	N/A N/A	BL	VT-1	100%	NRI		GE-VT-204 V7
L12/SDHS6a Steam Dryer Hood Seam Weld 6a	XI-BN-01 3/7/2005	N/A N/A	BL	VT-1	100%	NRI		GE-VT-204 V7
L12/SDHS6b Steam Dryer Hood Seam Weld 6b	XI-BN-01 3/7/2005	N/A N/A	BL	VT-1	100%	NRI		GE-VT-204 V7
L12/SDHS6c Steam Dryer Hood Seam Weld 6c	XI-BN-01 3/7/2005	N/A N/A	BL	VT-1	95%	NRI		GE-VT-204 V7
L12/SDHS6d Steam Dryer Hood Seam Weld 6d	XI-BN-01 3/7/2005	N/A N/A	BL	VT-1	100%	NRI		GE-VT-204 V7
L12/IRM 16-13 IRM Dry Tube Assembly	XI-BN-5 3/7/2005	B-N-1 B13.10	BL	VT-1	50%	NRI		GE-VT-204 V7
L12/IRM 24-29 IRM Dry Tube Assembly	XI-BN-5 3/7/2005	B-N-1 B13.10	BL	VT-1	50%	NRI		GE-VT-204 V7
L12/IRM 48-13 IRM Dry Tube Assembly	XI-BN-5 3/7/2005	B-N-1 B13.10	BL	VT-1	50%	NRI		GE-VT-204 V7
L12/SRM 16-21 SRM Dry Tube Assembly	XI-BN-5 3/7/2005	B-N-1 B13.10	BL	VT-1	50%	NRI		GE-VT-204 V7

## Limerick IVVI Component Inspection Results Listing Unit 2

Interval: 2  
Period: 2  
Outage: 2R06

Component ID Description	Iso Number Insp. Date	Sect. XI Cat. Item	Inspection Reason(s)	Actual Exam	Coverage	Results	Summary Number	Procedure(s) Comments
L12/SRM 16-45 SRM Dry Tube Assembly	XI-BN-5 3/7/2005	B-N-1 B13.10	BL	VT-1	50%	NRI		GE-VT-204 V7
L12/SRM 40-21 SRM Dry Tube Assembly	XI-BN-5 3/7/2005	B-N-1 B13.10	BL	VT-1	50%	NRI		GE-VT-204 V7

**Section 2**

**Summary of Conditions Observed**

**Limerick Generating Station, Unit 2**

**Cycle 8**

**March 24, 2003 to March 18, 2005**

## Summary of Conditions Observed

As a result of the examinations performed during the Limerick Generating Station Unit 2, 8<sup>th</sup> fuel cycle, there were no new indications requiring flaw evaluations that are reportable to the NRC, either by ASME Section XI requirements or BWRVIP protocol. Numerous other conditions were recorded and subsequent examinations and evaluations determined all conditions to be within design margins.

The following is a summary of the significant indications identified during the inspection.

One support, EBB-231-H003(A)(B) required maintenance to tighten pipe clamp bolting. Additional examinations were performed and successive examinations were scheduled in accordance with ASME Section XI, IWA-2400. Work was performed per A/R A1472680.

UT inspections were performed on the core shroud horizontal welds H1, H2, H3, H4, and H6. Although originally planned for UT, equipment problems required EVT-1 be performed on vertical welds V7, V8, V15, V16, V17, V18, V25, and V26 (IR# 00308893). There were no significant changes to the indications in the horizontal welds last inspected in 1999 and there were no recordable indications in the vertical welds. Structural margin evaluations were performed and documented in ECR LG-05-00114. The evaluation is attached to this report as required by the BWRVIP.

During the IVVI of the jet pumps unusual wear was identified at the inlet mixer main wedge (WD-1) on 12 jet pumps (IR#308792). The scope of the IVVI was expanded as required by BWRVIP-41. Structural margin evaluations were performed along with the development of repair plans and are documented in ECRs LG-03-00370, LG 04-00670 and LG-05-00129. Repairs were made in accordance with Work Order C0209804. The evaluation is attached to this report as required by the BWRVIP.

Snubber functional testing and VT-3 visual inspections were performed in accordance with Limerick Unit 2 Technical Specification 3/4.7.4. A random selection of 56 snubbers were functionally tested and a 100% visual examination was performed – population of 739 snubbers. 40 snubbers were re-greased and functionally tested per the mechanical snubber PM program and 3 snubbers from Li2R07 were re-tested. The results of the functional testing found all mechanical and hydraulic snubbers passed – no expanded scope. However, 1 compensating strut failed, requiring one more to be tested. Out of the 739 VT-3 visual examinations performed, 63 "Discrepancies" were identified. 34 were component identification issues; 13 were miscellaneous minor hardware issues and; 16 were cold set issues that required field work or analysis to resolve.



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March 12, 2005

Mr. E. Callan  
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**Subject:** Limerick 2R08, Evaluation of Jet Pump Indications and Repair Recommendations

- References:**
- 1) BWR Vessel and Internals Project, BWR Jet Pump Assembly Inspection and Flaw Evaluation Guidelines (BWRVIP-41), EPRI Report TR-108728, October 1997
  - 2) INR Li2R08-05-01, Jet Pump #1 Wedge, 3-4-05,
  - 3) INR Li2R08-05-02, Jet Pump #8 Wedge, 3-4-05
  - 4) INR Li2R08-05-03, Jet Pump #10 Wedge, 3-4-05
  - 5) INR Li2R08-05-04, Jet Pump #4 Wedge, 3-4-05
  - 6) INR Li2R08-05-05, Jet Pump #20 Wedge, 3-5-05
  - 7) INR Li2R08-05-06, Jet Pump #14 Wedge, 3-5-05
  - 8) INR Li2R08-05-07, Jet Pump #19 Wedge, 3-5-05
  - 9) INR Li2R08-05-08 Rev. 1, Jet Pump #13 Wedge, 3-8-05
  - 10) INR Li2R08-05-09, Jet Pump #17 Wedge, 3-5-05
  - 11) INR Li2R08-05-10, Jet Pump #2 Wedge, 3-5-05
  - 12) INR Li2R08-05-11, Jet Pump #12 Wedge, 3-8-05
  - 13) INR Li2R08-05-12 Rev. 1, Jet Pump #11 Wedge, 3-8-05
  - 14) INR Li2R08-05-13, Jet Pump Set Screws, 3-9-05
  - 15) INR Li2R08-05-14, Wedge to Belly Band, 3-8-05
  - 16) BWR Vessel and Internals Project, Safety Assessment of BWR Reactor Internals (BWRVIP-06-A), EPRI Technical Report 1006598, March 2002
  - 17) Limerick Generating Station Unit 2, Jet Pump Vibration Assessment Draft Report, GE-NE-0000-0036-7622-01, eDRF 0000-0036-7459, February 2005
  - 18) BWRVIP-28-A: BWR Vessel and Internals Project, Assessment of Jet Pump Riser Elbow to Thermal Sleeve Weld Cracking", EPRI Technical Report 1006601, April 2002

Dear Mr. Callan

During the March 2005 Li2R08 refueling outage visual examination of the jet pumps disclosed inlet-mixer wedge bearing (WD-1) surfaces with wear or damage on 12 of the 20 jet pumps. Based on experience, it is assumed that there is also wear on the interfacing restrainer bracket pad surfaces. Subsequent scope expansion, in accordance with BWRVIP-41 [1] also found 19 of the 40

adjusting (set) screws, which were not in contact with the inlet-mixer belly band. The scope expansion also included inspections beyond those required by BWRVIP-41. These indications are documented in the Reference 2 through 15 inspection notification reports (INRs). All of the relevant indications (wedge wear and set screw gaps) are summarized in Table 1. The total jet pump inspection scope (original planned inspections and expanded scope) is summarized in Table 2. This letter documents the GE evaluation and recommended disposition for these indications.

The jet pump riser brace and riser brace welds of the jet pumps with wedge wear were inspected and no indications were found. The slip joint clamps will mitigate potential high vibrations. Hence the probability of a cracked riser brace during the next cycle is close to zero. Hence complete disassembly of a jet pump, which precludes 2/3-core height floodability, has no probability of occurring and even if it occurs, it is detectable by existing process instrumentation and the reactor can be safely shut down. The probability of a LOCA and a concurrent jet pump inlet mixer/riser assembly failure caused by riser brace failure is close to zero. Therefore, Limerick 2 can continue to operate without safety concerns. The safety assessment is also consistent with the conclusions of BWRVIP-06A and BWRVIP-28-A, both approved by the NRC.

The goal for these Li2R08 INR recommended dispositions is to minimize the risk of abnormally high vibration during this next cycle that can lead to jet pump fatigue cracking or significant additional WD-1 wedge wear. It is understood that Unit 2 jet pumps will be scheduled for additional preventive maintenance during the next refueling outage. Therefore, this disposition is for one cycle.

Unusual wear and damage was reported to the inlet-mixer main wedge (WD-1) on 12 jet pumps. This wear indicates that these jet pumps have been subject to medium or high levels of flow induced vibration. This vibration was most likely self-excited by the leakage flow through the inlet-mixer to diffuser slip joint as predicted in Reference 17. Installation of slip-joint clamps is recommended for all 12 jet pumps with reported main wedge wear. The slip-joint clamp will dampen self-excited flow induced vibration from slip joint leakage.

The wedge wear on jet pumps 1, 8, 12 and 17 was the most severe. As these jet pumps will have slip-joint clamps during the next cycle the root cause of the severe wedge damage has been addressed. Additional visual examinations were performed to confirm that the back face of the inlet-mixer wedge was in contact with the inlet-mixer belly band. These examinations confirmed wedge to belly band contact on Jet Pumps 1, 8 and 17. However, contact was not confirmed for Jet Pump 12, and in fact Jet Pump 12 main wedge was determined to be loose (Reference 15). Replacement of the Jet Pump 12 main wedge is recommended because this wedge is no longer functional. Jet pump 1, 8 and 17 wedges will still function as a fixed lateral support for a cycle but will probably no longer self-adjust. An alternative one-cycle repair is recommended for jet pumps 1, 8 and 17. For jet pumps 1, 8 and 17 auxiliary spring wedges can be installed on both set screws. These auxiliary spring wedges will restore a self-adjusting capability for one-cycle. With the recommended repairs, these four most severely damaged jet pumps will be adequate for one cycle considering all known causes of FIV.

There was a limited supply of auxiliary spring wedges. Therefore, not all of the set screw gaps reported in Reference 14 could be repaired. The following considerations were used to prioritize the repair of set screw gaps. As described in Reference 17 as well as in BWRVIP-41, there are four different mechanisms for JP FIV with set screw gaps. These are briefly described and evaluated for

applicability to Limerick 2 in the current situation:

1. Recirculation Pump Vane Passing Frequency

If the natural frequency of the riser brace is identical to that of the vane passing frequency, there is possibility of the component going into resonance, resulting in very high stresses. With a variable speed recirculation pump such as in Limerick 2, the pump speed traverses over a range of 0 to 100% and resonance can occur at any speed, if the VPF coincides with a natural frequency. Startup vibration test results from prototype plant, Browns Ferry Unit 1, show that riser brace resonance due to VPF is not occurring and the stress due to VPF is within allowable limits. Since the VPF and the riser brace natural frequency have not changed, no VPF resonance is occurring or will occur.

2. Turbulent Flow within the Jet Pump

In the presence of set screw gaps, the mixer becomes more flexible and the natural frequency of the jet pump is reduced. Also the loading on the jet pump at lower frequencies is slightly higher. This results in increased response to turbulent loading. The effect of this may be an increase of at most 25% in stresses.

3. Cross Flow over the Jet Pumps in the Annulus

As stated in BWRVIP-41, most of the flow going past the jet pump is axial. The main mechanism of cross flow is vortex shedding, which has not been observed, as the vortex shedding frequencies are removed from the natural frequencies. Therefore, this mechanism is judged to be of little significance to the jet pump vibrations at Limerick 2 unit.

4. Leakage Flow Mechanism at the Mixer to Diffuser Slip Joint

FIV caused by leakage past slip joints was first observed in slip fit BWR feedwater spargers and later found to be significant in the jet pump assembly in testing performed at the Moss Landing facility using full scale JP components at the BWR pressure and temperature. At certain slip joint differential pressure ( $\Delta P$ ), the jet pump could go into high vibrations, depending on jet pump flexibility. The jet pump flexibility is increased by set screw gaps.

Of the four FIV mechanisms described in BWRVIP-41, the slip joint leakage induced instability mechanism in the presence of set screw gaps is the most likely cause of excessive vibration, which could lead to wedge and riser brace damage. This mechanism could result in vibrations, which are 4 to 10 times the normal vibrations. Installation of the slip joint clamp effectively eliminates the vibration due to this mechanism. The next in importance is the turbulent vibration with set screw gaps, which could lead to a 25% increase in vibrations. The VPF and cross flow mechanisms have negligible impact on the vibrations.

Hence, the highest priority should be for unprotected (No SJ-clamp) jet pumps with gaps > 12 mil, which have the potential for slip joint leakage induced instability mechanism.

The second priority would be the severely damaged jet pumps with gaps where two auxiliary wedges are needed to provide some capability to self adjust as recommended above. These have the slip joint clamps.

The third priority is for the repair of other damaged jet pumps. For these it is recommended that one install an auxiliary spring wedge if the gap is >22 mils. These have the slip joint clamps.

The question may arise why some jet pumps with large gaps were not damaged? There are two reasons for this:

(a) The nature of instability is such that it is sometimes triggered, sometimes not.

(b) As a result of the complex displacements, some diffusers rotate (gross motion of the diffuser along with the shroud support plate) such that there is contact between the diffuser and the mixer thus producing a lateral contact force naturally (acting somewhat like a slip joint clamp). This will prevent slip joint leakage flow induced vibration.

The recommended repairs are summarized in Table 1. Jet Pump 12 set screw gaps and belly band to restrainer bracket spacing should be checked/measured again following re-installation of the inlet-mixer with the replacement main wedge. Jet Pump 12 auxiliary spring wedges will need to be final machined based on these final gap and spacing measurements. The above 22-mil criteria can be applied for the final determination of the number of auxiliary wedges for Jet Pump 12.<sup>1</sup>

Regards,

Prepared by  
D. B. Drendel  
Technical Lead Structural Analysis & Hardware Design

Verified by  
S. Sundaram  
Technical Lead Structural Analysis & Hardware Design

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<sup>1</sup> The Jet Pump 12 main wedge replacement was completed on 3-12-2005. A 0.029 in. gap was reported on the vessel side and the shroud side set screw was in contact (Ref. INR-Li2R08-05-17). Therefore, only one auxiliary wedge was recommended.

Table 1: Summary of Jet Pump Inspection Results and Recommend Repairs

Pump	LOOP	Last Inspected	GE INR #	Findings					2R08 Recommended Repair				
				Main Wedge (WD-1) Wear			Set Screw Gap		Comments	Aux Wedge VS	Aux Wedge SS	Main Wedge	Slip Joint Clamp
				Wear Severity (H-M-L)	Restrainer Bracket	Vert Move	Vessel Side	Shroud Side					
1	B	2R05	05-01	H	H	Y	0.029	contact	For long term recommend pad repair; wedge in contact with belly band	X	X	X	X
2	B	2R05	05-10	M	M	Y	0.02	contact		X	X	X	X
3	B	2R05	SAT				contact	contact		X	X	X	X
4	B	2R05	05-04	M	L	Y	0.022	contact		X	X	X	X
5	B	2R05	SAT				0.009	contact		X	X	X	X
6	B	2R05	SAT				contact	contact		X	X	X	X
7	B	2R05	SAT				contact	contact		X	X	X	X
8	B	2R05	05-02	H	H	Y	0.011	contact	For long term recommend pad repair; wedge in contact with belly band	X	X	X	X
9	B	2R05	SAT				0.11	contact		X	X	X	X
10	B	2R05	05-03	L	L	Y	0.024	contact		X	X	X	X
11	A	2R05	05-12	L		Y	0.015	0.015	Wedge unusually high; wedge wear on bottom only; rod wear	X	X	X	X
12	A	2R05	05-11	H	M	Y	0.033	0.012	Rod wear & cracked tack weld; wedge NOT in contact with belly band	X	X	X	X
13	A	2R05	05-08	L		N	0.023	contact	Rod wear	X	X	X	X
14	A	2R05	05-06	M	M	Y	0.017	contact		X	X	X	X
15	A	2R05	SAT				0.024	contact		X	X	X	X
16	A	2R05	SAT				0.012	contact		X	X	X	X
17	A	2R05	05-09	H	H	Y	0.01	contact	Wedge in contact with belly band	X	X	X	X
18	A	2R05	SAT				0.031	contact		X	X	X	X
19	A	2R05	05-07	M	L	Y	0.011	contact		X	X	X	X
20	A	2R05	05-05	M	H	Y	0.014	contact		X	X	X	X

Note: The Jet Pump 12 main wedge replacement was completed on 3-12-2005. A 0.029 in. gap was reported on the vessel side and the shroud side set screw was in contact (Ref. INR-LI2R08-05-17). Therefore, only one auxiliary wedge was recommended.

Table 2: Summary of Li2R08 Jet Pump IVVI Scope

Status: 18:00 Hours 3-9-05

Limerick Li2R08 ADDED SCOPE

Belly band to wedge

JP #	AZ #	Team	WD-1	AS-1-SS	AS-1-VS	AS-3-SS	AS-3-VS	AD-7	WD-2-a-b	AS-8	AS-9	WD-1-AB
1	23	2	INR-01	C	INR-13 (.029")	C	C	C	C	C	C	INR-14
2	37	2	INR-10	C	INR-13 (.020")	C	C	C	C	C	C	
3	53	2	C	C	C					C	C	
4	67	2	INR-04	C	INR-13 (.022")	C	C	C	C	C	C	
5	83	2	C	C	INR-13 (.008")							
6	87	3	C	C	C							
7	113	3	C	C	C					C	C	
8	127	3	INR-12	C	INR-13 (.011")	C	C	C	C	C	C	INR-14
9	143	3	C	C	INR-13 (.011")				C	C	C	
10	157	3	INR-03	C	INR-13 (.024")	C	C	C	C	C	C	
11	203	4	INR-12-R1	INR-13 (.015")	INR-13 (.015")	C	C	C	INR-12-R1	C	C	
12	217	4	INR-11-R1	INR-13 (.012")	INR-13 (.033")	INR-13	C	C	INR-11-R1	C	C	INR-14
13	233	4	INR-08 R1	C	INR-13 (.023")	C	C	C	INR-08 R1	C	C	
14	247	4	INR-06	C	INR-13 (.017")	C	C	C	C	C	C	
15	283	5	C	C	INR-13 (.024")							
16	277	1	C	C	INR-13 (.012")							
17	293	1	INR-09	C	INR-13 (.010")	C	C	C	C	C	C	INR-14
18	308	1	C	C	INR-13 (.031")					C	C	
19	333	1	INR-07	C	INR-13 (.011")	C	C	C	C	C	C	
20	337	1	INR-05	C	INR-13 (.014")	C	C	C	C	C	C	

X = Data sheets are generated and are ready for inspection.

C = Additional Scope Completed.

INR = Original Scope Completed

Need to generate data sheets

NR = Additional Scope Completed & Needs Level III Review

NOTE: \*WD-2a/b exams include examination of the Rod, looking for wear where it contacts the Wedge Top and bottom.

Note: The Jet Pump 12 main wedge replacement was completed on 3-12-2005. A 0.029 in. gap was reported on the vessel side and the shroud side set screw was in contact (Ref. INR-Li2R08-05-17). Therefore, only one auxiliary wedge was recommended.



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March 15, 2005  
SIR-05-085, Rev. 1  
MLH-05-041

Ms. Michelle Karasek  
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Pottstown, PA 19464

**Subject: Evaluation of the Limerick Generating Station Unit 2 Core Shroud Welds H1, H2, H3, H4 and H6**

- References:**
- 1) BWR Vessel and Internals Project, BWR Core Shroud Inspection and Flaw Evaluation Guidelines, BWRVIP-76, EPRI TR-114232, November 1999.
  - 2) E-mail Dave Schmidt (Exelon) to Marcos Herrera (SI), "Single Sided UT Position Paper," 3/14/05, containing the file: "Exelon's Position Paper, One Sided UT Exams of Austenitic Stainless Steel."
  - 3) Inspection Results:
    - a. E-mail Dave Schmidt (Exelon) to Marcos Herrera (SI), "LGS Core Shroud H6 Data", 3/14/05.
    - b. E-mail Dave Schmidt (Exelon) to Marcos Herrera (SI), "LGS Li2R08 Shroud Inspection H2 Indication Data," 3/13/05.
    - c. E-mail, Michelle Karasek (Exelon) to Marcos Herrera (SI), "Shroud H4 weld data from Limerick," 3/12/05.
    - d. E-mail, Michelle Karasek (Exelon) to Marcos Herrera (SI), "H3 data for Limerick," 3/12/05.
    - e. E-mail Dave Schmidt (Exelon) to Marcos Herrera (SI), "Limerick Shroud Design Documents," 3/10/05.
  - 4) DLL: Distributed Ligament Length Evaluation, Rev. 2:1 (09/19/96).
  - 5) GE Report GENE-0000-0006-2250-04a, Rev. 0, DRF 0000-0006-2250, June 2003.
  - 6) BWR Vessel and Internals Project, Reactor Pressure Vessel and Internals Examination Guidelines (BWRVIP-03) EPRI-TR-105696.
  - 7) E-mail Michelle Karasek (Exelon) to Marcos Herrera (SI), "Evaluation factors for GE H2/H3 technique," 3/12/05.

Dear Ms. Karasek,

Structural Integrity Associates (SI) has completed an evaluation of the UT inspection results for welds H1, H2, H3, H4 and H6 of the Limerick Unit 2 core shroud obtained during the current on-going 2005

refueling outage (Li2R08). The evaluations presented in this report determine the safety factors for the five welds at the end of the next operating cycle (Li2R09). In summary, the evaluations performed in this report indicate that Limerick Unit 2 can be operated safely considering the shroud inspection results and inspection coverage for at least one operating cycle since the resulting safety factors meet the required safety factors per BWRVIP-76. Details of the evaluation are summarized below in this letter report.

## **INTRODUCTION/APPROACH**

During the Spring 2005 outage at Limerick Unit 2 (Li2R08), UT inspections were performed on the core shroud horizontal welds, H1, H2, H3, H4 and H6. Two-sided inspection of weld H4 was achieved and only one-sided inspection, or limited inspection on the ring side was achieved for welds H2 and H3. Only one-sided inspection of weld H6 was obtained. Welds H1, H2, H3 and H6 were associated with the welded plate rings (shroud head, top guide and core plate).

During these inspections, a sufficient amount of weld length (approximately 60%) was inspected, which resulted in the detection of several flaws. In some weld locations (primarily the welded ring side of the joints) the amount of coverage obtained did not meet the intent of BWRVIP-76 [1], Table 2-1, which requires 50% of both sides of each shroud weld be inspected in order to be able to use the inspection frequencies listed in this Table. Because less than 50% inspection coverage of both sides of some of the welds was not obtained, or essentially only one-side was inspected, a site-specific analysis is required per BWRVIP-76 requirements. The SI analysis was performed in response to the need for the site-specific analysis.

The analysis performed for the H1, H2, H3 and H6 welds took into consideration the essentially one-sided inspection and incorporated the approach from the Exelon position paper regarding one-sided inspections [2]. The analysis for weld H4 used the two sided inspection results and were performed in compliance with BWRVIP-76 analysis guidelines.

## **INSPECTION SUMMARY**

Attachments 1 through 5 show the inspection results for each weld [3]. These examination results indicate that cracking exists at each weld location. However, the crack depths do not appear to be significantly deep. Further, these results suggest that at worst, although cracking is expected at some of the locations that could not be inspected, the crack depths of any flaws that may be present are not expected to be significant. All of the inspection results shown in Attachments 1 through 5 indicate that they are preliminary, but were used for the analysis at the direction from Limerick personnel to obtain an initial assessment of the structural integrity of the shroud.

## **ANALYSIS**

SI's analysis was performed consistent with BWRVIP guidelines as provided in BWRVIP-76. This section provides the details of the evaluation for each horizontal weld. Of the five welds being considered, only Welds H3 and H4 are subjected to high enough fluence such that LFM or EPFM must

be considered per BWRVIP-76. The evaluation of Welds H3 and H4, per BWRVIP-76 must include consideration for both limit load and EPFM or LEFM. As described below for Welds H3 and H4, no credit is taken for any wall thickness where the inside surface fluence is  $3 \times 10^{20}$  n/cm<sup>2</sup> (E > 1MeV) or greater. This eliminates the need to perform LEFM and the resulting flaw pattern can be analyzed using only limit load. The other three welds are analyzed using standard limit load methods and the DLL code [4]. In addition, crack growth over the next operating cycle is considered in the evaluation.

#### APPLIED STRESSES

The applied stresses at the five welds are shown in Table 1 [5]. The primary membrane and primary bending stresses are shown for the normal/upset and emergency/faulted conditions. In performing the structural integrity analysis of the welds, both normal/upset and emergency/faulted conditions must be considered.

#### CRACK GROWTH

Crack growth in the depth and length direction was accounted for by adding 2 years of growth to the measured flaws found during the Li2R08 inspection. Limerick Unit 2 has implemented a Hydrogen Water Chemistry system and plans to continue injection of hydrogen in the future. Availability of this system has been greater than 99% over the past year and Limerick expects that this high reliability will be maintained throughout the next operating cycle. BWRVIP-14A, including the NRC SER, allows the use of a reduced K-independent crack growth rate of  $1.1 \times 10^{-5}$  in/hr. The crack growth rate of  $1.1 \times 10^{-5}$  in/hr was used for the through-wall direction and with the assumption of 100% unit availability over the two-year operating cycle (17,520 hours). Comparison of the crack depths from the previous inspection shows that the Li2R08 inspection results are consistent with crack growth rates based on HWC injection. This results in total growth of 0.193 inches in the through-wall direction over the next two years. A constant crack growth rate of  $5 \times 10^{-5}$  in/hr was used in the length direction consistent with BWRVIP-76. The crack length change at each end of the flaws is  $5 \times 10^{-5}$  in/hr \* 17520 = 0.876 inches. This amount was added to the ends of all flaws.

#### SIZING UNCERTAINTY

UT sizing uncertainties were considered in the evaluation of the flaws. Both length and depth sizing was considered. Sizing uncertainties were obtained from BWRVIP-03 [6] for the specific shroud demonstration qualification used. For most locations, the uncertainties per BWRVIP-03 UT demonstration 16, scan type 1, were applicable. For length, the 45° shear probe was used which has a 0.336 inch length evaluation factor per BWRVIP-03. The depth angle used 60° longitudinal (access classification is "same"), which has a 0.108 inch uncertainty per BWRVIP-03. For the ring side scans of welds H2 and H3, Reference 7 provided the uncertainties for use in the calculations. These uncertainties were incorporated into the UT inspection results.

## DISTRIBUTED LIGAMENT DETERMINATION

The determination of the flaw pattern is key to determining the remaining ligament for evaluation using the Distributed Ligament Length (DLL) program. The general procedure is summarized below:

1. For welds where the fluence on the inside surface exceeds  $3 \times 10^{20}$  n/cm<sup>2</sup>, postulate through-wall flaws at these locations. This step is applicable to H3 and H4 only (see Sections below for welds H3 and H4).
2. Add uncertainties (length and depth) to the flaws (both postulated and detected flaws).
3. Add crack growth (length and depth) to all flaws.
4. Combine flaws if ligament between any two flaws is less than 2 times the thickness of the shroud thickness at the specific weld location.
5. Apply 50% penalty on uncracked inspected regions (for cases where the ring side was not inspected or had limited inspection).
6. Reapply proximity check (step 4).
7. Postulate through-wall flaws at all uninspected regions.
8. Add OD and ID resulting flaws into one ID flaw for input to DLL.

The general procedure discussed above was applied to the five welds of interest. The specific weld evaluations are provided below. Note, Step 8 above involves combining the final results of the OD initiated flaws and ID initiated flaws into a single ID flaw. DLL was developed to handle ID flaws only. For limit load, this assumption is not critical as the results are primarily a function of the remaining ligament.

### WELD H1

Weld H1 was inspected on the shell side only and the results are shown in Attachment 1. The fluence at Weld H1 is well below that needed above which LEFM or EPFM is required. Exelon is proposing [2] taking a penalty of reducing the inspected length of weld on the shell side of a weld to account for the lack of inspection of the ring side of the weld. This approach appears to be conservative since it not only assumes an equivalent uninspected region of the weld on the ring side, but it also increases the overall uninspected region on the side that was examined. This assumes that there is no overlap in the uninspected regions, a conservative assumption.

### WELD H2

Weld H2 was inspected from the upper side (with some limitations) and some inspection was performed between azimuths 229.5 and 307 on the lower side. The inspection results are shown in Attachment 2. As with H1, the fluence was well below that needed above which LEFM or EPFM is required. Consistent with the Exelon position paper for one-sided inspections, any inspected region on the shell side that was not flawed, was reduced by 50%.

### WELD H3

Weld H3 received a full inspection on one side only. The other side (upper ring side) was partly inspected. These results were combined with the inspection results below the weld to include additional conservatism. The inspection results are shown in Attachment 3. Consistent with the Exelon position paper [2], the inspected crack-free regions will be reduced by 50%.

The H3 weld is of special significance because it currently has received a total fluence that is greater than  $3 \times 10^{20}$  n/cm<sup>2</sup> (E > 1 MeV) at some of the azimuthal locations. Per the requirements of BWRVIP-76, limit load analyses can be applied for core shroud welds for fluences below  $3 \times 10^{20}$  n/cm<sup>2</sup> (E > 1 MeV) due to the excellent toughness of these austenitic stainless steel shroud materials. Additionally, crack growth rates for un-irradiated austenitic stainless steels can be used up to fluences of  $5 \times 10^{20}$  n/cm<sup>2</sup> (E > 1 MeV), using the methodology contained within BWRVIP-76. At fluences greater than  $3 \times 10^{20}$  n/cm<sup>2</sup> (E > 1 MeV) but less than  $1 \times 10^{21}$  n/cm<sup>2</sup> (E > 1 MeV), limit load in addition to elastic-plastic fracture mechanics or linear elastic fracture mechanics (LEFM) methodologies can be used for determining the allowable flaw size at the H3 weld. Above a fluence of  $1 \times 10^{21}$  n/cm<sup>2</sup> (E > 1 MeV), limit load and LEFM are used to determine the allowable flaw size at the weld.

Since the fluence exceeds  $3 \times 10^{20}$  n/cm<sup>2</sup> in eight localized locations, through-wall flaws are postulated corresponding to these locations, requiring that only limit load analysis be performed. Attachment 3 shows the coverage for this weld and Table 7 shows the results of the remaining ligament calculations.

The core shroud was inspected at Limerick Unit 2 during the recent 8<sup>th</sup> refueling outage using state of the art UT technology. As a result of limitations in the inspection volume, full inspection (with some limitations) on one side was performed with only partial inspection on the upper ring side. The full inspection was performed from the shell side of the joint. Of special interest is weld H3, which has elevated fluence and in some cases exceeds the threshold where reduction in fracture toughness is expected per the BWRVIP guidelines. This data was reviewed for the regions examined at the H3 weld at Limerick Unit 2 by SI, in preparation for a site-specific shroud structural evaluation of this weld, in accordance with the requirements of BWRVIP-76.

SI has examined the inspection volume produced by the UT inspection during the 8<sup>th</sup> refueling outage and the projected neutron fluence for weld H3 at the 9<sup>th</sup> outage to determine the approach to be used to determine the structural margin present at this weld. In addition, SI has reviewed the Exelon Position Paper on "One Sided UT Exams of Austenitic Stainless Steel, and the results of the UT exams" [2]. SI plotted the inspection coverage and the fluence thresholds azimuthally for H3 at the 9<sup>th</sup> refueling outage (in 2007). The following paragraphs provide the results of this review.

The BWRVIP has established an approach for evaluating core shroud welds that have been examined on both sides, and for which a minimum coverage has been obtained. At Limerick Unit 2, for the H3 weld, only an essentially one-sided UT inspection was performed during the 8<sup>th</sup> refueling outage.

Exelon is proposing [2] taking a penalty of reducing the inspected length of weld on the shell side of weld H3 to account for the lack of inspection of the ring side of the weld. This approach appears to be

conservative since it not only assumes an equivalent uninspected region of the weld on the ring side, but it also increases the overall uninspected region on the side that was examined. This assumes that there is no overlap in the uninspected regions, a conservative assumption.

SI performed an allowable flaw size analysis for weld H3 with the current uninspected region identified from the shell side of the weld, and as augmented by increasing the effective uninspected crack-free regions by doubling that length also on the shell side of the weld to account for the inability to perform the ring side inspection of weld H3.

In addition to the assumption mentioned above for incorporating the guidance from the Exelon position paper, additional consideration for the fluence levels at H3 is included in the analysis. As mentioned earlier, if the fluence is greater than  $3 \times 10^{20}$  n/cm<sup>2</sup> then limit load and LEFM must be performed to demonstrate the structural integrity of the shroud. An approach used frequently in evaluating core shrouds with material at elevated fluence levels, is to take no credit for material that has been subjected to fluences of  $3 \times 10^{20}$  n/cm<sup>2</sup> or higher. In effect, this approach eliminates the use of LEFM and allows for use of limit load only. Through-wall flaws can be assumed at the locations where the fluence is equal to or greater than  $3 \times 10^{20}$  n/cm<sup>2</sup>. This is conservative because the fluence drops significantly through the wall of the shroud. In locations where the fluence is high on the surface, requiring LEFM, the fluence may drop sharply and part through the wall, the fluence can drop below the threshold and the material could be analyzed using limit load. Also, it should be noted that use of EPFM with consideration of irradiated material properties would also show greater margins than the limit load approach used here in this analysis.

The approach used for the H3 weld was to use the bounding flaw condition defined by combining the Exelon position paper approach and the elimination of material exposed to fluence (on the ID) of  $3 \times 10^{20}$  n/cm<sup>2</sup> or greater. In addition, crack growth over one cycle was added to the ends of the assumed flaw pattern.

Attachment 3 shows the one-sided inspection coverage for Weld H3. The following approach was used to define the remaining ligament for Weld H3.

#### *Exelon Position Paper*

Using the results in Attachment 3, the length of the inspected uncracked regions was divided by 4 (2 for penalty of one-sided inspection and 2 for each end of the ligament). Crack growth was also included in this value. The inspected uncracked ligaments were reduced at each end by the resulting amount.

#### *Elimination of Thickness Exposed to Fluence of $\geq 3 \times 10^{20}$ n/cm<sup>2</sup>*

Any section (full thickness) that was exposed to fluence  $\geq 3 \times 10^{20}$  n/cm<sup>2</sup> was assumed to be cracked through-wall. The fluence curve for 2 years was used in this calculation.

#### *Combination of Exelon Position Paper and Fluence $> 3 \times 10^{20}$ n/cm<sup>2</sup> Approach*

Using the results of the two approaches above for defining the remaining ligaments, the remaining ligaments were defined by using the worst combination that would result in the smallest remaining ligaments. Thus, for a given remaining ligament, one end could be defined by one approach and the other end by the second approach. This adds additional conservatism to the calculation. Table 7 shows the results of the remaining ligament calculation.

#### WELD H4

Weld H4 received a two-sided inspection. The inspection coverage is shown in Attachment 4. The same procedure to account for fluence greater than  $3 \times 10^{20}$  n/cm<sup>2</sup> was applied to Weld H4. The fluence levels at the H4 weld are higher than those H3. This results in more ligament being removed from consideration and impacts the resulting safety factor. It should be noted that the fluence at the inside surface is used as the measure of whether to remove material for the limit load analysis. This is conservative since the fluence varies through the thickness of the shroud wall. In some cases, the fluence drops below the  $3 \times 10^{20}$  n/cm<sup>2</sup> threshold. More detailed analysis could consider this fluence variation through-wall in order to demonstrate additional margin.

#### WELD H6

Weld H6 received a one sided inspection only (lower side). The inspection results are shown in Attachment 5. The evaluation was performed using the Exelon position paper to account for the one-sided inspection.

#### **LIMIT LOAD CALCULATIONS**

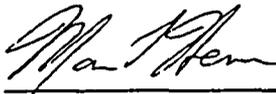
The DLL program [4] was used to determine the safety factors after a two-year cycle. The DLL cases are shown in Tables 2 through 11. Tables 2 through 6 are the results for the normal and upset condition, and Tables 7 through 11 are the results for the emergency and faulted conditions. Table 12 shows the resulting safety factors for the cases evaluated. As can be seen from the table, even with the conservative assumptions made, the safety factors are well above the required safety factors of 2.77 for normal and upset conditions and 1.39 for emergency and faulted conditions.

#### **CONCLUSIONS**

Based on the results shown in Table 7 and the assumptions used in this evaluation, the structural integrity of the Limerick Unit 2 core shroud for at least the next operating cycle is assured. Even with significant conservative assumptions, made to compensate for one-sided coverage or less than 50% of weld length coverage. The minimum calculated safety factors were for weld H4 and were 6.19 for normal and upset conditions, and 3.16 for emergency and faulted conditions, which exceed the required safety factors. These results indicate that further analysis can be performed to determine the inspection frequency (consistent with BWRVIP-76 site specific analysis), which will likely demonstrate that additional cycles of operation can be justified until the next inspection.

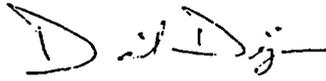
If you have any questions on the content of this report, please do not hesitate to contact me.

Prepared by,



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Senior Associate

Verified by:



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Engineer

Verified by:



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Approved by:



Marcos Legaspi Herrera, P.E.  
Senior Associate

**Table 1 Shroud Weld Stress Levels [5]**

Weld	Applied Stress (ksi)			
	Normal and Upset		Emergency and Faulted	
	P <sub>m</sub>	P <sub>b</sub>	P <sub>m</sub>	P <sub>b</sub>
H1	334.9	482.6	808.2	813.8
H2	334.9	651.5	808.2	1089.5
H3	356.0	753.1	858.9	1258.8
H4	356.0	1165.6	858.9	1985.9
H6	674.7	2343.9	1203.0	4036.7

**TABLE 2 Weld H1 DLL**

DLL: DISTRIBUTED LIGAMENT LENGTH EVALUATION, REV. 2.1 (09/19/96)  
 DATE OF THIS ANALYSIS: 03/13/2005

SUMMARY OF INPUTS:

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=====
Title: H1 limit load
Angle increment      =      .1 deg. ( FINE )
Membrane Stress, Pm =      335. psi
Bending Stress, Pb  =      483. psi
Safety Factor, SF   =      2.77
Mean Radius, Rm    =    109.00 inches
Wall Thickness, t   =      2.100 inches
Stress Intensity, Sm =    14400. psi
Fluence             =    1.0E+20 n/cm^2
(Thus, LEFM evaluation not applicable)
  
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REGION	THETA1 [deg.]	THETA2 [deg.]	THICKNESS [inches]
1	12.0	13.4	.968
2	13.4	14.6	.958
3	14.6	16.8	.728
4	16.8	38.9	.598
5	51.1	54.5	.568
6	54.5	61.3	1.429
7	61.3	64.8	.568
8	64.8	79.2	.838
9	79.2	83.6	.568
10	83.6	96.3	.838
11	96.3	102.0	.568
12	102.0	104.2	.918
13	104.2	107.0	.698
14	107.0	112.6	1.349
15	112.6	115.4	.568
16	115.4	120.7	.768
17	120.7	122.4	.838
18	122.4	126.5	.568
19	126.5	134.8	1.349
20	134.8	138.9	.568
21	191.6	193.4	.568
22	193.4	197.0	1.349
23	197.0	198.8	.568
24	198.8	200.6	.838
25	200.6	201.8	1.319
26	201.8	204.2	2.100
27	204.2	205.4	1.319
28	205.4	209.1	1.589
29	209.1	210.5	1.319
30	210.5	213.5	1.349
31	213.5	214.7	.568
32	214.7	217.1	.838
33	217.1	217.5	.568
34	217.5	218.5	1.349
35	231.0	232.8	.568
36	232.8	236.5	1.349
37	236.5	238.4	1.319
38	238.4	241.0	.838

39	241.0	246.2	1.319
40	246.2	256.7	1.349
41	256.7	261.9	1.568
42	261.9	265.1	1.728
43	265.1	268.2	1.319
44	268.2	274.4	2.100
45	274.4	277.5	1.319
46	277.5	278.8	1.439
47	278.8	280.9	1.379
48	280.9	284.1	1.319
49	284.1	290.4	1.349
50	290.4	293.6	1.568
51	293.6	296.8	1.818
52	296.8	304.9	1.568
53	304.9	308.8	1.668

LIMIT LOAD RESULTS:

NOTE: THE FOLLOWING LIMIT LOAD RESULTS ASSUME THAT THE FLAWS TAKE COMPRESSION.

ALPHA [deg]	MOMENT [in-lbs]	Pb' [psi]	SAFETY FACTOR	RESULT
.0	1.915E+09	24428.	30.29	---->ACCEPTABLE
5.0	1.899E+09	24224.	30.04	---->ACCEPTABLE
10.0	1.878E+09	23959.	29.72	---->ACCEPTABLE
15.0	1.858E+09	23704.	29.41	---->ACCEPTABLE
20.0	1.834E+09	23397.	29.03	---->ACCEPTABLE
25.0	1.811E+09	23102.	28.67	---->ACCEPTABLE
30.0	1.781E+09	22716.	28.20	---->ACCEPTABLE
35.0	1.752E+09	22346.	27.74	---->ACCEPTABLE
40.0	1.719E+09	21929.	27.23	---->ACCEPTABLE
45.0	1.689E+09	21544.	26.76	---->ACCEPTABLE
50.0	1.653E+09	21090.	26.21	---->ACCEPTABLE
55.0	1.619E+09	20655.	25.68	---->ACCEPTABLE
60.0	1.587E+09	20242.	25.17	---->ACCEPTABLE
65.0	1.557E+09	19868.	24.71	---->ACCEPTABLE
70.0	1.530E+09	19519.	24.29	---->ACCEPTABLE
75.0	1.511E+09	19281.	24.00	---->ACCEPTABLE
80.0	1.492E+09	19037.	23.70	---->ACCEPTABLE
85.0	1.484E+09	18938.	23.58	---->ACCEPTABLE
90.0	1.480E+09	18885.	23.51	---->ACCEPTABLE
95.0	1.474E+09	18803.	23.41	---->ACCEPTABLE
100.0	1.471E+09	18761.	23.36	---->ACCEPTABLE
105.0	1.464E+09	18672.	23.25	---->ACCEPTABLE
110.0	1.462E+09	18647.	23.22	---->ACCEPTABLE
115.0	1.462E+09	18657.	23.23	---->ACCEPTABLE
120.0	1.463E+09	18661.	23.24	---->ACCEPTABLE
125.0	1.461E+09	18637.	23.21	---->ACCEPTABLE
130.0	1.464E+09	18675.	23.25	---->ACCEPTABLE
135.0	1.467E+09	18719.	23.31	---->ACCEPTABLE
140.0	1.471E+09	18768.	23.37	---->ACCEPTABLE
145.0	1.475E+09	18824.	23.44	---->ACCEPTABLE
150.0	1.481E+09	18897.	23.53	---->ACCEPTABLE
155.0	1.497E+09	19093.	23.76	---->ACCEPTABLE
160.0	1.519E+09	19384.	24.12	---->ACCEPTABLE
165.0	1.537E+09	19608.	24.39	---->ACCEPTABLE

170.0	1.556E+09	19851.	24.69	---->ACCEPTABLE
175.0	1.573E+09	20072.	24.96	---->ACCEPTABLE
180.0	1.591E+09	20292.	25.23	---->ACCEPTABLE
185.0	1.609E+09	20530.	25.52	---->ACCEPTABLE
190.0	1.626E+09	20750.	25.79	---->ACCEPTABLE
195.0	1.642E+09	20942.	26.03	---->ACCEPTABLE
200.0	1.656E+09	21123.	26.25	---->ACCEPTABLE
205.0	1.668E+09	21282.	26.44	---->ACCEPTABLE
210.0	1.683E+09	21468.	26.67	---->ACCEPTABLE
215.0	1.691E+09	21576.	26.80	---->ACCEPTABLE
220.0	1.701E+09	21701.	26.96	---->ACCEPTABLE
225.0	1.714E+09	21866.	27.16	---->ACCEPTABLE
230.0	1.728E+09	22040.	27.37	---->ACCEPTABLE
235.0	1.739E+09	22187.	27.55	---->ACCEPTABLE
240.0	1.754E+09	22377.	27.78	---->ACCEPTABLE
245.0	1.770E+09	22576.	28.03	---->ACCEPTABLE
250.0	1.794E+09	22882.	28.40	---->ACCEPTABLE
255.0	1.813E+09	23135.	28.71	---->ACCEPTABLE
260.0	1.837E+09	23440.	29.08	---->ACCEPTABLE
265.0	1.862E+09	23752.	29.46	---->ACCEPTABLE
270.0	1.884E+09	24038.	29.81	---->ACCEPTABLE
275.0	1.904E+09	24290.	30.12	---->ACCEPTABLE
280.0	1.919E+09	24480.	30.35	---->ACCEPTABLE
285.0	1.938E+09	24721.	30.65	---->ACCEPTABLE
290.0	1.954E+09	24931.	30.91	---->ACCEPTABLE
295.0	1.968E+09	25109.	31.12	---->ACCEPTABLE
300.0	1.977E+09	25226.	31.27	---->ACCEPTABLE
305.0	1.987E+09	25354.	31.42	---->ACCEPTABLE
310.0	1.995E+09	25446.	31.54	---->ACCEPTABLE
315.0	1.997E+09	25482.	31.58	---->ACCEPTABLE
320.0	1.996E+09	25469.	31.56	---->ACCEPTABLE
325.0	1.990E+09	25387.	31.46	---->ACCEPTABLE
330.0	1.988E+09	25357.	31.43	---->ACCEPTABLE
335.0	1.981E+09	25279.	31.33	---->ACCEPTABLE
340.0	1.973E+09	25168.	31.20	---->ACCEPTABLE
345.0	1.964E+09	25050.	31.05	---->ACCEPTABLE
350.0	1.951E+09	24888.	30.85	---->ACCEPTABLE
355.0	1.934E+09	24678.	30.60	---->ACCEPTABLE

ACCEPTABLE! MINIMUM SAFETY FACTOR = 23.21 AT 125.0 DEGREES.

**TABLE 3 Weld H2 DLL**

DLL: DISTRIBUTED LIGAMENT LENGTH EVALUATION, REV. 2.1 (09/19/96)  
 DATE OF THIS ANALYSIS: 03/13/2005

**SUMMARY OF INPUTS:**

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=====
Title: H2 limit load
Angle increment = .1 deg. ( FINE )
Membrane Stress, Pm = 335. psi
Bending Stress, Pb = 652. psi
Safety Factor, SF = 2.77
Mean Radius, Rm = 109.00 inches
Wall Thickness, t = 2.100 inches
Stress Intensity, Sm = 14400. psi
Fluence = 1.0E+20 n/cm^2
(Thus, LEFM evaluation not applicable)
  
```

REGION	THETA1 [deg.]	THETA2 [deg.]	THICKNESS [inches]
1	12.6	14.3	1.487
2	14.3	16.6	1.487
3	16.6	22.1	1.277
4	22.1	27.3	1.487
5	32.6	36.5	1.487
6	36.5	37.4	1.487
7	37.4	38.9	1.487
8	51.1	52.1	1.487
9	52.1	55.8	1.487
10	55.8	59.6	1.487
11	63.6	67.8	1.487
12	67.8	71.9	1.487
13	73.6	86.1	1.487
14	88.9	96.7	1.397
15	97.0	111.6	.784
16	111.6	121.4	1.397
17	121.4	133.9	.784
18	133.9	138.9	1.487
19	191.6	197.0	1.487
20	197.0	200.4	1.427
21	200.4	210.3	1.487
22	230.9	237.6	.784
23	242.6	253.4	.784
24	253.4	259.2	.784
25	259.2	262.1	.784
26	262.1	265.6	1.487
27	274.6	282.4	1.487
28	282.4	284.7	1.487
29	284.7	287.1	1.487

**LIMIT LOAD RESULTS:**

NOTE: THE FOLLOWING LIMIT LOAD RESULTS ASSUME THAT THE FLAWS TAKE COMPRESSION.

ALPHA [deg]	MOMENT [in-lbs]	Pb' [psi]	SAFETY FACTOR	RESULT
----------------	--------------------	--------------	------------------	--------

.0	1.225E+09	15624.	16.18	---->ACCEPTABLE
5.0	1.217E+09	15532.	16.09	---->ACCEPTABLE
10.0	1.212E+09	15465.	16.02	---->ACCEPTABLE
15.0	1.213E+09	15479.	16.03	---->ACCEPTABLE
20.0	1.217E+09	15531.	16.08	---->ACCEPTABLE
25.0	1.223E+09	15603.	16.16	---->ACCEPTABLE
30.0	1.233E+09	15727.	16.28	---->ACCEPTABLE
35.0	1.240E+09	15822.	16.38	---->ACCEPTABLE
40.0	1.253E+09	15981.	16.54	---->ACCEPTABLE
45.0	1.262E+09	16106.	16.67	---->ACCEPTABLE
50.0	1.277E+09	16292.	16.86	---->ACCEPTABLE
55.0	1.293E+09	16499.	17.07	---->ACCEPTABLE
60.0	1.311E+09	16729.	17.30	---->ACCEPTABLE
65.0	1.328E+09	16947.	17.52	---->ACCEPTABLE
70.0	1.358E+09	17323.	17.90	---->ACCEPTABLE
75.0	1.391E+09	17746.	18.33	---->ACCEPTABLE
80.0	1.431E+09	18262.	18.85	---->ACCEPTABLE
85.0	1.475E+09	18815.	19.41	---->ACCEPTABLE
90.0	1.518E+09	19366.	19.97	---->ACCEPTABLE
95.0	1.562E+09	19927.	20.54	---->ACCEPTABLE
100.0	1.604E+09	20470.	21.09	---->ACCEPTABLE
105.0	1.644E+09	20972.	21.60	---->ACCEPTABLE
110.0	1.688E+09	21529.	22.17	---->ACCEPTABLE
115.0	1.725E+09	22009.	22.65	---->ACCEPTABLE
120.0	1.761E+09	22465.	23.11	---->ACCEPTABLE
125.0	1.795E+09	22897.	23.55	---->ACCEPTABLE
130.0	1.826E+09	23299.	23.96	---->ACCEPTABLE
135.0	1.855E+09	23664.	24.33	---->ACCEPTABLE
140.0	1.881E+09	23999.	24.67	---->ACCEPTABLE
145.0	1.910E+09	24370.	25.05	---->ACCEPTABLE
150.0	1.932E+09	24651.	25.33	---->ACCEPTABLE
155.0	1.958E+09	24986.	25.67	---->ACCEPTABLE
160.0	1.987E+09	25350.	26.04	---->ACCEPTABLE
165.0	2.014E+09	25691.	26.39	---->ACCEPTABLE
170.0	2.032E+09	25923.	26.62	---->ACCEPTABLE
175.0	2.044E+09	26079.	26.78	---->ACCEPTABLE
180.0	2.047E+09	26117.	26.82	---->ACCEPTABLE
185.0	2.051E+09	26169.	26.87	---->ACCEPTABLE
190.0	2.047E+09	26116.	26.82	---->ACCEPTABLE
195.0	2.040E+09	26020.	26.72	---->ACCEPTABLE
200.0	2.028E+09	25873.	26.57	---->ACCEPTABLE
205.0	2.013E+09	25679.	26.37	---->ACCEPTABLE
210.0	1.994E+09	25442.	26.13	---->ACCEPTABLE
215.0	1.970E+09	25133.	25.82	---->ACCEPTABLE
220.0	1.948E+09	24853.	25.53	---->ACCEPTABLE
225.0	1.920E+09	24500.	25.18	---->ACCEPTABLE
230.0	1.888E+09	24089.	24.76	---->ACCEPTABLE
235.0	1.857E+09	23691.	24.36	---->ACCEPTABLE
240.0	1.827E+09	23312.	23.97	---->ACCEPTABLE
245.0	1.800E+09	22965.	23.62	---->ACCEPTABLE
250.0	1.773E+09	22624.	23.28	---->ACCEPTABLE
255.0	1.748E+09	22299.	22.95	---->ACCEPTABLE
260.0	1.724E+09	21999.	22.64	---->ACCEPTABLE
265.0	1.696E+09	21641.	22.28	---->ACCEPTABLE
270.0	1.669E+09	21295.	21.93	---->ACCEPTABLE
275.0	1.640E+09	20923.	21.55	---->ACCEPTABLE
280.0	1.609E+09	20533.	21.16	---->ACCEPTABLE
285.0	1.575E+09	20098.	20.71	---->ACCEPTABLE

290.0	1.544E+09	19695.	20.31	---->ACCEPTABLE
295.0	1.513E+09	19306.	19.91	---->ACCEPTABLE
300.0	1.482E+09	18907.	19.51	---->ACCEPTABLE
305.0	1.450E+09	18502.	19.10	---->ACCEPTABLE
310.0	1.417E+09	18083.	18.67	---->ACCEPTABLE
315.0	1.386E+09	17683.	18.27	---->ACCEPTABLE
320.0	1.354E+09	17274.	17.85	---->ACCEPTABLE
325.0	1.333E+09	17002.	17.58	---->ACCEPTABLE
330.0	1.308E+09	16684.	17.25	---->ACCEPTABLE
335.0	1.289E+09	16450.	17.02	---->ACCEPTABLE
340.0	1.271E+09	16210.	16.77	---->ACCEPTABLE
345.0	1.259E+09	16063.	16.62	---->ACCEPTABLE
350.0	1.244E+09	15876.	16.43	---->ACCEPTABLE
355.0	1.230E+09	15691.	16.25	---->ACCEPTABLE

ACCEPTABLE! MINIMUM SAFETY FACTOR = 16.02 AT 10.0 DEGREES.

290.0	1.544E+09	19695.	20.31	---->ACCEPTABLE
295.0	1.513E+09	19306.	19.91	---->ACCEPTABLE
300.0	1.482E+09	18907.	19.51	---->ACCEPTABLE
305.0	1.450E+09	18502.	19.10	---->ACCEPTABLE
310.0	1.417E+09	18083.	18.67	---->ACCEPTABLE
315.0	1.386E+09	17683.	18.27	---->ACCEPTABLE
320.0	1.354E+09	17274.	17.85	---->ACCEPTABLE
325.0	1.333E+09	17002.	17.58	---->ACCEPTABLE
330.0	1.308E+09	16684.	17.25	---->ACCEPTABLE
335.0	1.289E+09	16450.	17.02	---->ACCEPTABLE
340.0	1.271E+09	16210.	16.77	---->ACCEPTABLE
345.0	1.259E+09	16063.	16.62	---->ACCEPTABLE
350.0	1.244E+09	15876.	16.43	---->ACCEPTABLE
355.0	1.230E+09	15691.	16.25	---->ACCEPTABLE

**TABLE 4 Weld H3 DLL**

DLL: DISTRIBUTED LIGAMENT LENGTH EVALUATION, REV. 2.1 (09/19/96)  
 DATE OF THIS ANALYSIS: 03/14/2005

SUMMARY OF INPUTS:

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=====
Title: H3 limit load
Angle increment      =      .1 deg. ( FINE )
Membrane Stress, Pm =      356. psi
Bending Stress, Pb  =      753. psi
Safety Factor, SF   =      2.77
Mean Radius, Rm    =     102.56 inches
Wall Thickness, t   =      2.140 inches
Stress Intensity, Sm =     14400. psi
Fluence             =     1.0E+20 n/cm^2
(Thus, LEFM evaluation not applicable)
  
```

REGION	THETA1 [deg.]	THETA2 [deg.]	THICKNESS [inches]
1	2.2	2.7	.520
2	2.7	4.2	.520
3	4.2	13.9	.360
4	13.9	14.9	.260
5	14.9	17.7	.260
6	17.7	20.0	.430
7	20.0	22.0	.360
8	26.0	26.2	.260
9	26.2	33.4	1.105
10	33.5	37.1	.260
11	47.2	52.0	.330
12	52.0	61.6	1.175
13	61.6	64.0	.480
14	68.0	70.0	.600
15	70.0	73.6	.650
16	73.6	78.8	.590
17	78.8	81.4	.610
18	81.4	82.9	.480
19	82.9	85.7	1.445
20	85.7	87.2	.600
21	87.2	88.7	.720
22	88.7	91.9	.560
23	91.9	92.3	1.405
24	92.3	98.1	2.140
25	98.1	101.3	.580
26	101.3	102.5	.670
27	102.5	104.9	.630
28	104.9	111.0	.600
29	111.0	112.0	.630
30	116.0	118.3	.650
31	118.3	120.5	.260
32	120.5	122.5	2.140
33	122.5	124.9	1.105
34	124.9	127.1	.630
35	182.2	183.4	.260
36	183.4	185.9	1.105

37	185.9	187.2	1.660
38	187.2	201.0	1.300
39	206.0	211.6	1.460
40	211.6	213.9	1.730
41	213.9	217.1	1.690
42	227.2	228.4	1.260
43	228.4	244.0	1.260
44	248.0	249.2	1.430
45	249.2	257.0	1.550
46	257.0	262.4	1.370
47	262.4	270.0	1.380
48	270.0	274.2	1.260
49	274.2	278.8	1.760
50	278.8	281.7	1.410
51	281.7	286.6	1.810
52	286.6	287.8	1.660
53	287.8	290.1	1.205
54	290.1	291.3	1.360
55	291.3	292.0	1.500
56	296.0	299.0	1.450
57	299.0	300.4	1.330
58	300.4	303.0	1.505
59	303.0	304.4	1.260
60	304.4	307.0	1.380
61	307.0	307.0	1.260
62	307.0	307.1	1.260

LIMIT LOAD RESULTS:

NOTE: THE FOLLOWING LIMIT LOAD RESULTS ASSUME THAT THE FLAWS TAKE COMPRESSION.

ALPHA [deg]	MOMENT [in-lbs]	Pb' [psi]	SAFETY FACTOR	RESULT
0.0	7.433E+08	10512.	9.80	---->ACCEPTABLE
5.0	7.475E+08	10570.	9.85	---->ACCEPTABLE
10.0	7.510E+08	10620.	9.90	---->ACCEPTABLE
15.0	7.604E+08	10753.	10.02	---->ACCEPTABLE
20.0	7.655E+08	10825.	10.08	---->ACCEPTABLE
25.0	7.751E+08	10961.	10.20	---->ACCEPTABLE
30.0	7.814E+08	11050.	10.28	---->ACCEPTABLE
35.0	7.967E+08	11266.	10.48	---->ACCEPTABLE
40.0	8.072E+08	11415.	10.61	---->ACCEPTABLE
45.0	8.196E+08	11591.	10.77	---->ACCEPTABLE
50.0	8.336E+08	11787.	10.95	---->ACCEPTABLE
55.0	8.493E+08	12010.	11.15	---->ACCEPTABLE
60.0	8.623E+08	12194.	11.32	---->ACCEPTABLE
65.0	8.823E+08	12477.	11.57	---->ACCEPTABLE
70.0	9.006E+08	12736.	11.80	---->ACCEPTABLE
75.0	9.213E+08	13028.	12.07	---->ACCEPTABLE
80.0	9.390E+08	13278.	12.29	---->ACCEPTABLE
85.0	9.586E+08	13555.	12.54	---->ACCEPTABLE
90.0	9.800E+08	13859.	12.82	---->ACCEPTABLE
95.0	9.986E+08	14122.	13.05	---->ACCEPTABLE
100.0	1.017E+09	14384.	13.29	---->ACCEPTABLE
105.0	1.035E+09	14629.	13.51	---->ACCEPTABLE
110.0	1.051E+09	14864.	13.72	---->ACCEPTABLE

115.0	1.068E+09	15106.	13.94	---->ACCEPTABLE
120.0	1.081E+09	15287.	14.10	---->ACCEPTABLE
125.0	1.094E+09	15463.	14.26	---->ACCEPTABLE
130.0	1.105E+09	15621.	14.41	---->ACCEPTABLE
135.0	1.117E+09	15794.	14.56	---->ACCEPTABLE
140.0	1.125E+09	15909.	14.67	---->ACCEPTABLE
145.0	1.133E+09	16015.	14.76	---->ACCEPTABLE
150.0	1.142E+09	16146.	14.88	---->ACCEPTABLE
155.0	1.146E+09	16200.	14.93	---->ACCEPTABLE
160.0	1.152E+09	16290.	15.01	---->ACCEPTABLE
165.0	1.152E+09	16294.	15.01	---->ACCEPTABLE
170.0	1.155E+09	16328.	15.04	---->ACCEPTABLE
175.0	1.152E+09	16288.	15.01	---->ACCEPTABLE
180.0	1.154E+09	16312.	15.03	---->ACCEPTABLE
185.0	1.149E+09	16247.	14.97	---->ACCEPTABLE
190.0	1.142E+09	16156.	14.89	---->ACCEPTABLE
195.0	1.134E+09	16041.	14.78	---->ACCEPTABLE
200.0	1.125E+09	15907.	14.66	---->ACCEPTABLE
205.0	1.114E+09	15758.	14.53	---->ACCEPTABLE
210.0	1.102E+09	15583.	14.37	---->ACCEPTABLE
215.0	1.085E+09	15344.	14.16	---->ACCEPTABLE
220.0	1.069E+09	15123.	13.96	---->ACCEPTABLE
225.0	1.051E+09	14858.	13.72	---->ACCEPTABLE
230.0	1.034E+09	14618.	13.50	---->ACCEPTABLE
235.0	1.015E+09	14357.	13.27	---->ACCEPTABLE
240.0	9.950E+08	14070.	13.01	---->ACCEPTABLE
245.0	9.778E+08	13827.	12.79	---->ACCEPTABLE
250.0	9.625E+08	13611.	12.59	---->ACCEPTABLE
255.0	9.445E+08	13356.	12.36	---->ACCEPTABLE
260.0	9.276E+08	13117.	12.15	---->ACCEPTABLE
265.0	9.076E+08	12835.	11.89	---->ACCEPTABLE
270.0	8.929E+08	12626.	11.70	---->ACCEPTABLE
275.0	8.736E+08	12354.	11.46	---->ACCEPTABLE
280.0	8.608E+08	12172.	11.30	---->ACCEPTABLE
285.0	8.464E+08	11969.	11.11	---->ACCEPTABLE
290.0	8.311E+08	11752.	10.92	---->ACCEPTABLE
295.0	8.152E+08	11528.	10.71	---->ACCEPTABLE
300.0	7.976E+08	11278.	10.49	---->ACCEPTABLE
305.0	7.847E+08	11097.	10.33	---->ACCEPTABLE
310.0	7.737E+08	10941.	10.19	---->ACCEPTABLE
315.0	7.644E+08	10810.	10.07	---->ACCEPTABLE
320.0	7.541E+08	10664.	9.94	---->ACCEPTABLE
325.0	7.499E+08	10604.	9.88	---->ACCEPTABLE
330.0	7.444E+08	10526.	9.81	---->ACCEPTABLE
335.0	7.387E+08	10446.	9.74	---->ACCEPTABLE
340.0	7.374E+08	10427.	9.72	---->ACCEPTABLE
345.0	7.309E+08	10335.	9.64	---->ACCEPTABLE
350.0	7.358E+08	10406.	9.70	---->ACCEPTABLE
355.0	7.397E+08	10460.	9.75	---->ACCEPTABLE

ACCEPTABLE! MINIMUM SAFETY FACTOR = 9.64 AT 345.0 DEGREES.

**TABLE 5 Weld H4 DLL**

DLL: DISTRIBUTED LIGAMENT LENGTH EVALUATION, REV. 2.1 (09/19/96)  
 DATE OF THIS ANALYSIS: 03/13/2005

**SUMMARY OF INPUTS:**

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=====
Title: H4 limit load
Angle increment = .1 deg. ( FINE )
Membrane Stress, Pm = 356. psi
Bending Stress, Pb = 1166. psi
Safety Factor, SF = 2.77
Mean Radius, Rm = 102.56 inches
Wall Thickness, t = 2.140 inches
Stress Intensity, Sm = 14400. psi
Fluence = 1.0E+20 n/cm^2
(Thus, LEFM evaluation not applicable)
  
```

REGION	THETA1 [deg.]	THETA2 [deg.]	THICKNESS [inches]
1	5.2	5.9	1.205
2	5.9	10.9	1.205
3	10.9	14.1	1.205
4	76.1	76.4	1.245
5	76.4	88.2	1.375
6	88.2	91.8	1.415
7	91.8	93.8	1.395
8	93.8	99.1	1.415
9	99.1	104.1	1.275
10	122.1	128.8	1.325
11	185.2	194.1	1.205
12	256.0	283.9	1.205

**LIMIT LOAD RESULTS:**

NOTE: THE FOLLOWING LIMIT LOAD RESULTS ASSUME THAT  
 THE FLAWS TAKE COMPRESSION.

ALPHA [deg]	MOMENT [in-lbs]	Pb' [psi]	SAFETY FACTOR	RESULT
.0	6.579E+08	9303.	6.35	---->ACCEPTABLE
5.0	6.531E+08	9236.	6.30	---->ACCEPTABLE
10.0	6.484E+08	9169.	6.26	---->ACCEPTABLE
15.0	6.449E+08	9119.	6.23	---->ACCEPTABLE
20.0	6.445E+08	9114.	6.22	---->ACCEPTABLE
25.0	6.410E+08	9065.	6.19	---->ACCEPTABLE
30.0	6.412E+08	9068.	6.19	---->ACCEPTABLE
35.0	6.432E+08	9096.	6.21	---->ACCEPTABLE
40.0	6.453E+08	9125.	6.23	---->ACCEPTABLE
45.0	6.476E+08	9157.	6.25	---->ACCEPTABLE
50.0	6.501E+08	9192.	6.28	---->ACCEPTABLE
55.0	6.555E+08	9269.	6.33	---->ACCEPTABLE
60.0	6.563E+08	9281.	6.33	---->ACCEPTABLE
65.0	6.659E+08	9416.	6.42	---->ACCEPTABLE
70.0	6.723E+08	9506.	6.48	---->ACCEPTABLE
75.0	6.786E+08	9596.	6.54	---->ACCEPTABLE

80.0	6.869E+08	9714.	6.62	---->ACCEPTABLE
85.0	6.965E+08	9850.	6.71	---->ACCEPTABLE
90.0	7.062E+08	9987.	6.80	---->ACCEPTABLE
95.0	7.156E+08	10120.	6.88	---->ACCEPTABLE
100.0	7.246E+08	10247.	6.97	---->ACCEPTABLE
105.0	7.332E+08	10367.	7.05	---->ACCEPTABLE
110.0	7.411E+08	10481.	7.12	---->ACCEPTABLE
115.0	7.486E+08	10585.	7.19	---->ACCEPTABLE
120.0	7.537E+08	10658.	7.24	---->ACCEPTABLE
125.0	7.618E+08	10773.	7.31	---->ACCEPTABLE
130.0	7.733E+08	10936.	7.42	---->ACCEPTABLE
135.0	7.819E+08	11056.	7.50	---->ACCEPTABLE
140.0	7.901E+08	11172.	7.58	---->ACCEPTABLE
145.0	7.942E+08	11231.	7.62	---->ACCEPTABLE
150.0	8.025E+08	11348.	7.69	---->ACCEPTABLE
155.0	8.110E+08	11469.	7.77	---->ACCEPTABLE
160.0	8.236E+08	11647.	7.89	---->ACCEPTABLE
165.0	8.317E+08	11762.	7.96	---->ACCEPTABLE
170.0	8.390E+08	11864.	8.03	---->ACCEPTABLE
175.0	8.450E+08	11950.	8.09	---->ACCEPTABLE
180.0	8.481E+08	11994.	8.12	---->ACCEPTABLE
185.0	8.520E+08	12048.	8.15	---->ACCEPTABLE
190.0	8.529E+08	12061.	8.16	---->ACCEPTABLE
195.0	8.525E+08	12055.	8.16	---->ACCEPTABLE
200.0	8.511E+08	12035.	8.14	---->ACCEPTABLE
205.0	8.449E+08	11948.	8.09	---->ACCEPTABLE
210.0	8.426E+08	11915.	8.06	---->ACCEPTABLE
215.0	8.403E+08	11883.	8.04	---->ACCEPTABLE
220.0	8.417E+08	11903.	8.06	---->ACCEPTABLE
225.0	8.387E+08	11860.	8.03	---->ACCEPTABLE
230.0	8.349E+08	11806.	7.99	---->ACCEPTABLE
235.0	8.304E+08	11743.	7.95	---->ACCEPTABLE
240.0	8.253E+08	11670.	7.90	---->ACCEPTABLE
245.0	8.195E+08	11588.	7.85	---->ACCEPTABLE
250.0	8.131E+08	11498.	7.79	---->ACCEPTABLE
255.0	8.025E+08	11349.	7.69	---->ACCEPTABLE
260.0	7.961E+08	11258.	7.63	---->ACCEPTABLE
265.0	7.910E+08	11185.	7.58	---->ACCEPTABLE
270.0	7.843E+08	11091.	7.52	---->ACCEPTABLE
275.0	7.768E+08	10984.	7.45	---->ACCEPTABLE
280.0	7.683E+08	10865.	7.37	---->ACCEPTABLE
285.0	7.590E+08	10734.	7.29	---->ACCEPTABLE
290.0	7.490E+08	10592.	7.19	---->ACCEPTABLE
295.0	7.383E+08	10440.	7.10	---->ACCEPTABLE
300.0	7.277E+08	10290.	7.00	---->ACCEPTABLE
305.0	7.180E+08	10153.	6.91	---->ACCEPTABLE
310.0	7.120E+08	10069.	6.85	---->ACCEPTABLE
315.0	7.035E+08	9949.	6.77	---->ACCEPTABLE
320.0	6.953E+08	9832.	6.70	---->ACCEPTABLE
325.0	6.847E+08	9682.	6.60	---->ACCEPTABLE
330.0	6.788E+08	9599.	6.54	---->ACCEPTABLE
335.0	6.743E+08	9536.	6.50	---->ACCEPTABLE
340.0	6.710E+08	9489.	6.47	---->ACCEPTABLE
345.0	6.652E+08	9406.	6.42	---->ACCEPTABLE
350.0	6.638E+08	9386.	6.40	---->ACCEPTABLE
355.0	6.620E+08	9362.	6.39	---->ACCEPTABLE

ACCEPTABLE! MINIMUM SAFETY FACTOR = 6.19 AT 25.0 DEGREES.

**TABLE 6 Weld H6 DLL**

DLL: DISTRIBUTED LIGAMENT LENGTH EVALUATION, REV. 2.1 (09/19/96)  
 DATE OF THIS ANALYSIS: 03/15/2005

**SUMMARY OF INPUTS:**

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Title: H6 limit load  
 Angle increment = .1 deg. ( FINE )  
 Membrane Stress, Pm = 675. psi  
 Bending Stress, Pb = 2344. psi  
 Safety Factor, SF = 2.77  
 Mean Radius, Rm = 99.38 inches  
 Wall Thickness, t = 2.140 inches  
 Stress Intensity, Sm = 14400. psi  
 Fluence = 1.0E+20 n/cm<sup>2</sup>  
 (Thus, LEFM evaluation not applicable)

REGION	THETA1 [deg.]	THETA2 [deg.]	THICKNESS [inches]
1	5.1	5.4	1.559
2	5.4	39.9	1.629
3	50.0	129.9	1.559
4	185.1	188.2	1.559
5	188.2	194.9	1.599
6	194.9	197.3	1.559
7	197.3	202.0	2.140
8	202.0	204.4	1.559
9	204.4	206.5	1.629
10	206.5	209.8	1.559
11	209.8	219.9	1.629
12	230.1	231.9	1.559
13	231.9	235.4	1.629
14	235.4	240.2	1.559
15	240.2	245.9	1.629
16	245.9	248.7	1.559
17	248.7	254.4	2.140
18	254.4	257.2	1.559
19	257.2	261.3	1.629
20	261.3	265.7	1.559
21	265.7	274.5	2.140
22	274.5	278.9	1.559
23	278.9	309.9	1.609

**LIMIT LOAD RESULTS:**

NOTE: THE FOLLOWING LIMIT LOAD RESULTS ASSUME THAT  
 THE FLAWS TAKE COMPRESSION.

ALPHA [deg]	MOMENT [in-lbs]	Pb! [psi]	SAFETY FACTOR	RESULT
.0	2.440E+09	36747.	12.40	---->ACCEPTABLE
5.0	2.434E+09	36655.	12.37	---->ACCEPTABLE
10.0	2.422E+09	36471.	12.31	---->ACCEPTABLE

15.0	2.403E+09	36186.	12.21	---->ACCEPTABLE
20.0	2.378E+09	35817.	12.09	---->ACCEPTABLE
25.0	2.350E+09	35385.	11.95	---->ACCEPTABLE
30.0	2.320E+09	34942.	11.80	---->ACCEPTABLE
35.0	2.286E+09	34431.	11.63	---->ACCEPTABLE
40.0	2.254E+09	33952.	11.47	---->ACCEPTABLE
45.0	2.227E+09	33536.	11.33	---->ACCEPTABLE
50.0	2.201E+09	33149.	11.21	---->ACCEPTABLE
55.0	2.184E+09	32888.	11.12	---->ACCEPTABLE
60.0	2.170E+09	32678.	11.05	---->ACCEPTABLE
65.0	2.158E+09	32508.	10.99	---->ACCEPTABLE
70.0	2.153E+09	32430.	10.97	---->ACCEPTABLE
75.0	2.151E+09	32394.	10.95	---->ACCEPTABLE
80.0	2.145E+09	32301.	10.92	---->ACCEPTABLE
85.0	2.145E+09	32311.	10.93	---->ACCEPTABLE
90.0	2.151E+09	32391.	10.95	---->ACCEPTABLE
95.0	2.161E+09	32553.	11.01	---->ACCEPTABLE
100.0	2.175E+09	32758.	11.08	---->ACCEPTABLE
105.0	2.195E+09	33062.	11.18	---->ACCEPTABLE
110.0	2.213E+09	33331.	11.27	---->ACCEPTABLE
115.0	2.232E+09	33608.	11.36	---->ACCEPTABLE
120.0	2.245E+09	33808.	11.42	---->ACCEPTABLE
125.0	2.260E+09	34035.	11.50	---->ACCEPTABLE
130.0	2.270E+09	34190.	11.55	---->ACCEPTABLE
135.0	2.281E+09	34347.	11.60	---->ACCEPTABLE
140.0	2.284E+09	34404.	11.62	---->ACCEPTABLE
145.0	2.286E+09	34430.	11.63	---->ACCEPTABLE
150.0	2.287E+09	34450.	11.64	---->ACCEPTABLE
155.0	2.289E+09	34480.	11.65	---->ACCEPTABLE
160.0	2.291E+09	34511.	11.66	---->ACCEPTABLE
165.0	2.297E+09	34587.	11.68	---->ACCEPTABLE
170.0	2.303E+09	34685.	11.71	---->ACCEPTABLE
175.0	2.306E+09	34726.	11.73	---->ACCEPTABLE
180.0	2.307E+09	34748.	11.73	---->ACCEPTABLE
185.0	2.305E+09	34715.	11.72	---->ACCEPTABLE
190.0	2.296E+09	34579.	11.68	---->ACCEPTABLE
195.0	2.281E+09	34348.	11.60	---->ACCEPTABLE
200.0	2.263E+09	34074.	11.51	---->ACCEPTABLE
205.0	2.240E+09	33735.	11.40	---->ACCEPTABLE
210.0	2.217E+09	33387.	11.28	---->ACCEPTABLE
215.0	2.189E+09	32970.	11.15	---->ACCEPTABLE
220.0	2.164E+09	32589.	11.02	---->ACCEPTABLE
225.0	2.143E+09	32274.	10.92	---->ACCEPTABLE
230.0	2.128E+09	32056.	10.84	---->ACCEPTABLE
235.0	2.119E+09	31921.	10.80	---->ACCEPTABLE
240.0	2.115E+09	31847.	10.77	---->ACCEPTABLE
245.0	2.117E+09	31879.	10.78	---->ACCEPTABLE
250.0	2.125E+09	31996.	10.82	---->ACCEPTABLE
255.0	2.132E+09	32115.	10.86	---->ACCEPTABLE
260.0	2.141E+09	32249.	10.91	---->ACCEPTABLE
265.0	2.156E+09	32474.	10.98	---->ACCEPTABLE
270.0	2.174E+09	32736.	11.07	---->ACCEPTABLE
275.0	2.196E+09	33071.	11.18	---->ACCEPTABLE
280.0	2.225E+09	33516.	11.33	---->ACCEPTABLE
285.0	2.257E+09	33989.	11.48	---->ACCEPTABLE
290.0	2.286E+09	34425.	11.63	---->ACCEPTABLE
295.0	2.315E+09	34861.	11.77	---->ACCEPTABLE
300.0	2.341E+09	35259.	11.90	---->ACCEPTABLE
305.0	2.362E+09	35578.	12.01	---->ACCEPTABLE

310.0	2.383E+09	35883.	12.11	---->ACCEPTABLE
315.0	2.397E+09	36093.	12.18	---->ACCEPTABLE
320.0	2.409E+09	36280.	12.24	---->ACCEPTABLE
325.0	2.417E+09	36402.	12.28	---->ACCEPTABLE
330.0	2.421E+09	36464.	12.30	---->ACCEPTABLE
335.0	2.424E+09	36508.	12.32	---->ACCEPTABLE
340.0	2.431E+09	36609.	12.35	---->ACCEPTABLE
345.0	2.434E+09	36662.	12.37	---->ACCEPTABLE
350.0	2.442E+09	36774.	12.41	---->ACCEPTABLE
355.0	2.442E+09	36774.	12.41	---->ACCEPTABLE

ACCEPTABLE! MINIMUM SAFETY FACTOR = 10.77 AT 240.0 DEGREES.

310.0  
315.0  
320.0  
325.0  
330.0  
335.0  
340.0  
345.0  
350.0  
355.0  
360.0  
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765.0  
770.0  
775.0  
780.0  
785.0  
790.0  
795.0  
800.0  
805.0  
810.0  
815.0  
820.0  
825.0  
830.0  
835.0  
840.0  
845.0  
850.0  
855.0  
860.0  
865.0  
870.0  
875.0  
880.0  
885.0  
890.0  
895.0  
900.0  
905.0  
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915.0  
920.0  
925.0  
930.0  
935.0  
940.0  
945.0  
950.0  
955.0  
960.0  
965.0  
970.0  
975.0  
980.0  
985.0  
990.0  
995.0  
1000.0

**TABLE 7 Weld H1 DLL**

DLL: DISTRIBUTED LIGAMENT LENGTH EVALUATION, REV. 2.1 (09/19/96)  
 DATE OF THIS ANALYSIS: 03/13/2005

SUMMARY OF INPUTS:

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Title: H1 limit load

Angle increment = .1 deg. ( FINE )

Membrane Stress, Pm = 808. psi

Bending Stress, Pb = 814. psi

Safety Factor, SF = 1.39

Mean Radius, Rm = 109.00 inches

Wall Thickness, t = 2.100 inches

Stress Intensity, Sm = 14400. psi

Fluence = 1.0E+20 n/cm<sup>2</sup>

(Thus, LEFM evaluation not applicable)

REGION	THETA1 [deg.]	THETA2 [deg.]	THICKNESS [inches]
1	12.0	13.4	.968
2	13.4	14.6	.958
3	14.6	16.8	.728
4	16.8	38.9	.598
5	51.1	54.5	.568
6	54.5	61.3	1.429
7	61.3	64.8	.568
8	64.8	79.2	.838
9	79.2	83.6	.568
10	83.6	96.3	.838
11	96.3	102.0	.568
12	102.0	104.2	.918
13	104.2	107.0	.698
14	107.0	112.6	1.349
15	112.6	115.4	.568
16	115.4	120.7	.768
17	120.7	122.4	.838
18	122.4	126.5	.568
19	126.5	134.8	1.349
20	134.8	138.9	.568
21	191.6	193.4	.568
22	193.4	197.0	1.349
23	197.0	198.8	.568
24	198.8	200.6	.838
25	200.6	201.8	1.319
26	201.8	204.2	2.100
27	204.2	205.4	1.319
28	205.4	209.1	1.589
29	209.1	210.5	1.319
30	210.5	213.5	1.349
31	213.5	214.7	.568
32	214.7	217.1	.838
33	217.1	217.5	.568
34	217.5	218.5	1.349
35	231.0	232.8	.568
36	232.8	236.5	1.349
37	236.5	238.4	1.319

38	238.4	241.0	1.838
39	241.0	246.2	1.319
40	246.2	256.7	1.349
41	256.7	261.9	1.568
42	261.9	265.1	1.728
43	265.1	268.2	1.319
44	268.2	274.4	2.100
45	274.4	277.5	1.319
46	277.5	278.8	1.439
47	278.8	280.9	1.379
48	280.9	284.1	1.319
49	284.1	290.4	1.349
50	290.4	293.6	1.568
51	293.6	296.8	1.818
52	296.8	304.9	1.568
53	304.9	308.8	1.668

LIMIT LOAD RESULTS:

NOTE: THE FOLLOWING LIMIT LOAD RESULTS ASSUME THAT THE FLAWS TAKE COMPRESSION.

ALPHA [deg]	MOMENT [in-lbs]	Pb' [psi]	SAFETY FACTOR	RESULT
0.0	1.855E+09	23668.	15.09	---->ACCEPTABLE
5.0	1.837E+09	23438.	14.95	---->ACCEPTABLE
10.0	1.818E+09	23189.	14.79	---->ACCEPTABLE
15.0	1.798E+09	22940.	14.64	---->ACCEPTABLE
20.0	1.775E+09	22646.	14.46	---->ACCEPTABLE
25.0	1.750E+09	22322.	14.26	---->ACCEPTABLE
30.0	1.721E+09	21962.	14.04	---->ACCEPTABLE
35.0	1.694E+09	21617.	13.83	---->ACCEPTABLE
40.0	1.662E+09	21208.	13.57	---->ACCEPTABLE
45.0	1.630E+09	20794.	13.32	---->ACCEPTABLE
50.0	1.597E+09	20379.	13.06	---->ACCEPTABLE
55.0	1.565E+09	19962.	12.81	---->ACCEPTABLE
60.0	1.532E+09	19549.	12.55	---->ACCEPTABLE
65.0	1.503E+09	19171.	12.32	---->ACCEPTABLE
70.0	1.474E+09	18800.	12.09	---->ACCEPTABLE
75.0	1.456E+09	18571.	11.95	---->ACCEPTABLE
80.0	1.436E+09	18318.	11.79	---->ACCEPTABLE
85.0	1.430E+09	18238.	11.74	---->ACCEPTABLE
90.0	1.422E+09	18136.	11.68	---->ACCEPTABLE
95.0	1.417E+09	18074.	11.64	---->ACCEPTABLE
100.0	1.411E+09	18007.	11.60	---->ACCEPTABLE
105.0	1.406E+09	17940.	11.56	---->ACCEPTABLE
110.0	1.403E+09	17901.	11.53	---->ACCEPTABLE
115.0	1.404E+09	17907.	11.54	---->ACCEPTABLE
120.0	1.403E+09	17897.	11.53	---->ACCEPTABLE
125.0	1.404E+09	17911.	11.54	---->ACCEPTABLE
130.0	1.402E+09	17885.	11.52	---->ACCEPTABLE
135.0	1.405E+09	17922.	11.55	---->ACCEPTABLE
140.0	1.408E+09	17959.	11.57	---->ACCEPTABLE
145.0	1.413E+09	18030.	11.61	---->ACCEPTABLE
150.0	1.422E+09	18141.	11.68	---->ACCEPTABLE
155.0	1.439E+09	18356.	11.82	---->ACCEPTABLE
160.0	1.455E+09	18566.	11.94	---->ACCEPTABLE

165.0	1.473E+09	18798.	12.09	---->ACCEPTABLE
170.0	1.492E+09	19038.	12.24	---->ACCEPTABLE
175.0	1.509E+09	19257.	12.37	---->ACCEPTABLE
180.0	1.526E+09	19468.	12.50	---->ACCEPTABLE
185.0	1.543E+09	19685.	12.63	---->ACCEPTABLE
190.0	1.563E+09	19946.	12.80	---->ACCEPTABLE
195.0	1.579E+09	20149.	12.92	---->ACCEPTABLE
200.0	1.594E+09	20341.	13.04	---->ACCEPTABLE
205.0	1.609E+09	20528.	13.15	---->ACCEPTABLE
210.0	1.622E+09	20695.	13.26	---->ACCEPTABLE
215.0	1.630E+09	20801.	13.32	---->ACCEPTABLE
220.0	1.644E+09	20972.	13.43	---->ACCEPTABLE
225.0	1.659E+09	21161.	13.54	---->ACCEPTABLE
230.0	1.671E+09	21320.	13.64	---->ACCEPTABLE
235.0	1.685E+09	21494.	13.75	---->ACCEPTABLE
240.0	1.699E+09	21679.	13.86	---->ACCEPTABLE
245.0	1.719E+09	21935.	14.02	---->ACCEPTABLE
250.0	1.740E+09	22194.	14.18	---->ACCEPTABLE
255.0	1.762E+09	22478.	14.36	---->ACCEPTABLE
260.0	1.785E+09	22771.	14.54	---->ACCEPTABLE
265.0	1.808E+09	23070.	14.72	---->ACCEPTABLE
270.0	1.830E+09	23350.	14.89	---->ACCEPTABLE
275.0	1.850E+09	23602.	15.05	---->ACCEPTABLE
280.0	1.866E+09	23804.	15.17	---->ACCEPTABLE
285.0	1.882E+09	24012.	15.30	---->ACCEPTABLE
290.0	1.896E+09	24185.	15.41	---->ACCEPTABLE
295.0	1.910E+09	24368.	15.52	---->ACCEPTABLE
300.0	1.922E+09	24520.	15.62	---->ACCEPTABLE
305.0	1.928E+09	24594.	15.66	---->ACCEPTABLE
310.0	1.934E+09	24678.	15.71	---->ACCEPTABLE
315.0	1.936E+09	24705.	15.73	---->ACCEPTABLE
320.0	1.936E+09	24702.	15.73	---->ACCEPTABLE
325.0	1.933E+09	24667.	15.71	---->ACCEPTABLE
330.0	1.929E+09	24616.	15.67	---->ACCEPTABLE
335.0	1.922E+09	24523.	15.62	---->ACCEPTABLE
340.0	1.912E+09	24394.	15.54	---->ACCEPTABLE
345.0	1.904E+09	24294.	15.48	---->ACCEPTABLE
350.0	1.890E+09	24118.	15.37	---->ACCEPTABLE
355.0	1.874E+09	23913.	15.24	---->ACCEPTABLE

ACCEPTABLE! MINIMUM SAFETY FACTOR = 11.52 AT 130.0 DEGREES.

**TABLE 8 Weld H2 DLL**

DLL: DISTRIBUTED LIGAMENT LENGTH EVALUATION, REV. 2.1 (09/19/96)  
 DATE OF THIS ANALYSIS: 03/13/2005

**SUMMARY OF INPUTS:**

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Title: H2 limit load  
 Angle increment = .1 deg. ( FINE )  
 Membrane Stress, Pm = 808. psi  
 Bending Stress, Pb = 1090. psi  
 Safety Factor, SF = 1.39  
 Mean Radius, Rm = 109.00 inches  
 Wall Thickness, t = 2.100 inches  
 Stress Intensity, Sm = 14400. psi  
 Fluence = 1.0E+20 n/cm<sup>2</sup>  
 (Thus, LEFM evaluation not applicable)

REGION	THETA1 [deg.]	THETA2 [deg.]	THICKNESS [inches]
1	12.6	14.3	1.487
2	14.3	16.6	1.487
3	16.6	22.1	1.277
4	22.1	27.3	1.487
5	32.6	36.5	1.487
6	36.5	37.4	1.487
7	37.4	38.9	1.487
8	51.1	52.1	1.487
9	52.1	55.8	1.487
10	55.8	59.6	1.487
11	63.6	67.8	1.487
12	67.8	71.9	1.487
13	73.6	86.1	1.487
14	88.9	96.7	1.397
15	97.0	111.6	.784
16	111.6	121.4	1.397
17	121.4	133.9	.784
18	133.9	138.9	1.487
19	191.6	197.0	1.487
20	197.0	200.4	1.427
21	200.4	210.3	1.487
22	230.9	237.6	.784
23	242.6	253.4	.784
24	253.4	259.2	.784
25	259.2	262.1	.784
26	262.1	265.6	1.487
27	274.6	282.4	1.487
28	282.4	284.7	1.487
29	284.7	287.1	1.487

**LIMIT LOAD RESULTS:**

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NOTE: THE FOLLOWING LIMIT LOAD RESULTS ASSUME THAT  
 THE FLAWS TAKE COMPRESSION.

ALPHA      MOMENT      Pb'      SAFETY

[deg]	[in-lbs]	[psi]	FACTOR	RESULT
.0	1.159E+09	14790.	8.22	---->ACCEPTABLE
5.0	1.152E+09	14693.	8.17	---->ACCEPTABLE
10.0	1.152E+09	14694.	8.17	---->ACCEPTABLE
15.0	1.152E+09	14696.	8.17	---->ACCEPTABLE
20.0	1.156E+09	14743.	8.19	---->ACCEPTABLE
25.0	1.162E+09	14826.	8.24	---->ACCEPTABLE
30.0	1.169E+09	14915.	8.29	---->ACCEPTABLE
35.0	1.177E+09	15020.	8.34	---->ACCEPTABLE
40.0	1.191E+09	15190.	8.43	---->ACCEPTABLE
45.0	1.204E+09	15363.	8.52	---->ACCEPTABLE
50.0	1.219E+09	15556.	8.62	---->ACCEPTABLE
55.0	1.233E+09	15725.	8.71	---->ACCEPTABLE
60.0	1.253E+09	15982.	8.85	---->ACCEPTABLE
65.0	1.274E+09	16250.	8.99	---->ACCEPTABLE
70.0	1.298E+09	16555.	9.15	---->ACCEPTABLE
75.0	1.332E+09	16988.	9.38	---->ACCEPTABLE
80.0	1.372E+09	17498.	9.65	---->ACCEPTABLE
85.0	1.414E+09	18045.	9.93	---->ACCEPTABLE
90.0	1.459E+09	18613.	10.23	---->ACCEPTABLE
95.0	1.503E+09	19174.	10.53	---->ACCEPTABLE
100.0	1.545E+09	19717.	10.82	---->ACCEPTABLE
105.0	1.588E+09	20254.	11.10	---->ACCEPTABLE
110.0	1.627E+09	20755.	11.36	---->ACCEPTABLE
115.0	1.666E+09	21253.	11.63	---->ACCEPTABLE
120.0	1.700E+09	21686.	11.85	---->ACCEPTABLE
125.0	1.733E+09	22110.	12.08	---->ACCEPTABLE
130.0	1.768E+09	22551.	12.31	---->ACCEPTABLE
135.0	1.795E+09	22894.	12.49	---->ACCEPTABLE
140.0	1.823E+09	23253.	12.68	---->ACCEPTABLE
145.0	1.848E+09	23580.	12.85	---->ACCEPTABLE
150.0	1.875E+09	23922.	13.03	---->ACCEPTABLE
155.0	1.901E+09	24256.	13.21	---->ACCEPTABLE
160.0	1.929E+09	24605.	13.39	---->ACCEPTABLE
165.0	1.952E+09	24899.	13.55	---->ACCEPTABLE
170.0	1.970E+09	25131.	13.67	---->ACCEPTABLE
175.0	1.981E+09	25274.	13.74	---->ACCEPTABLE
180.0	1.989E+09	25371.	13.80	---->ACCEPTABLE
185.0	1.990E+09	25388.	13.80	---->ACCEPTABLE
190.0	1.989E+09	25377.	13.80	---->ACCEPTABLE
195.0	1.979E+09	25242.	13.73	---->ACCEPTABLE
200.0	1.968E+09	25104.	13.65	---->ACCEPTABLE
205.0	1.953E+09	24918.	13.56	---->ACCEPTABLE
210.0	1.935E+09	24690.	13.44	---->ACCEPTABLE
215.0	1.916E+09	24438.	13.30	---->ACCEPTABLE
220.0	1.891E+09	24122.	13.14	---->ACCEPTABLE
225.0	1.865E+09	23789.	12.96	---->ACCEPTABLE
230.0	1.835E+09	23410.	12.76	---->ACCEPTABLE
235.0	1.805E+09	23026.	12.56	---->ACCEPTABLE
240.0	1.772E+09	22604.	12.34	---->ACCEPTABLE
245.0	1.746E+09	22278.	12.17	---->ACCEPTABLE
250.0	1.722E+09	21964.	12.00	---->ACCEPTABLE
255.0	1.694E+09	21608.	11.81	---->ACCEPTABLE
260.0	1.667E+09	21263.	11.63	---->ACCEPTABLE
265.0	1.637E+09	20886.	11.43	---->ACCEPTABLE
270.0	1.609E+09	20527.	11.24	---->ACCEPTABLE
275.0	1.580E+09	20163.	11.05	---->ACCEPTABLE
280.0	1.550E+09	19773.	10.85	---->ACCEPTABLE

285.0	1.519E+09	19373	10.63	----->ACCEPTABLE
290.0	1.486E+09	18959	10.42	----->ACCEPTABLE
295.0	1.454E+09	18552	10.20	----->ACCEPTABLE
300.0	1.419E+09	18102	9.97	----->ACCEPTABLE
305.0	1.386E+09	17685	9.74	----->ACCEPTABLE
310.0	1.354E+09	17274	9.53	----->ACCEPTABLE
315.0	1.320E+09	16842	9.30	----->ACCEPTABLE
320.0	1.295E+09	16525	9.13	----->ACCEPTABLE
325.0	1.269E+09	16192	8.96	----->ACCEPTABLE
330.0	1.248E+09	15920	8.82	----->ACCEPTABLE
335.0	1.224E+09	15614	8.65	----->ACCEPTABLE
340.0	1.209E+09	15425	8.55	----->ACCEPTABLE
345.0	1.194E+09	15228	8.45	----->ACCEPTABLE
350.0	1.182E+09	15084	8.37	----->ACCEPTABLE
355.0	1.169E+09	14917	8.29	----->ACCEPTABLE

ACCEPTABLE! MINIMUM SAFETY FACTOR = 8.17 AT 5.0 DEGREES.

**TABLE 9 Weld H3 DLL**

DLL: DISTRIBUTED LIGAMENT LENGTH EVALUATION, REV. 2.1 (09/19/96)  
 DATE OF THIS ANALYSIS: 03/14/2005

SUMMARY OF INPUTS:

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Title: H3 limit load
Angle increment      =      .1 deg. ( FINE )
Membrane Stress, Pm =      859. psi
Bending Stress, Pb  =     1259. psi
Safety Factor, SF   =      1.39
Mean Radius, Rm    =    102.56 inches
Wall Thickness, t   =      2.140 inches
Stress Intensity, Sm =    14400. psi
Fluence              =    1.0E+20 n/cm^2
(Thus, LEFM evaluation not applicable)
  
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REGION	THETA1 [deg.]	THETA2 [deg.]	THICKNESS [inches]
1	2.2	2.7	.520
2	2.7	4.2	.520
3	4.2	13.9	.360
4	13.9	14.9	.260
5	14.9	17.7	.260
6	17.7	20.0	.430
7	20.0	22.0	.360
8	26.0	26.2	.260
9	26.2	33.4	1.105
10	33.5	37.1	.260
11	47.2	52.0	.330
12	52.0	61.6	1.175
13	61.6	64.0	.480
14	68.0	70.0	.600
15	70.0	73.6	.650
16	73.6	78.8	.590
17	78.8	81.4	.610
18	81.4	82.9	.480
19	82.9	85.7	1.445
20	85.7	87.2	.600
21	87.2	88.7	.720
22	88.7	91.9	.560
23	91.9	92.3	1.405
24	92.3	98.1	2.140
25	98.1	101.3	.580
26	101.3	102.5	.670
27	102.5	104.9	.630
28	104.9	111.0	.600
29	111.0	112.0	.630
30	116.0	118.3	.650
31	118.3	120.5	.260
32	120.5	122.5	2.140
33	122.5	124.9	1.105
34	124.9	127.1	.630
35	182.2	183.4	.260
36	183.4	185.9	1.105
37	185.9	187.2	.660

38	187.2	201.0	1300
39	206.0	211.6	1460
40	211.6	213.9	1730
41	213.9	217.1	1690
42	227.2	228.4	1260
43	228.4	244.0	1260
44	248.0	249.2	1430
45	249.2	257.0	1550
46	257.0	262.4	1370
47	262.4	270.0	1380
48	270.0	274.2	1260
49	274.2	278.8	1760
50	278.8	281.7	1410
51	281.7	286.6	1810
52	286.6	287.8	1660
53	287.8	290.1	11205
54	290.1	291.3	1360
55	291.3	292.0	1500
56	296.0	299.0	1450
57	299.0	300.4	1330
58	300.4	303.0	11505
59	303.0	304.4	1260
60	304.4	307.0	1380
61	307.0	307.0	1260
62	307.0	307.1	1260

LIMIT LOAD RESULTS:

NOTE: THE FOLLOWING LIMIT LOAD RESULTS ASSUME THAT THE FLAWS TAKE COMPRESSION.

ALPHA [deg]	MOMENT [in-lbs]	Pb' [psi]	SAFETY FACTOR	RESULT
.0	6.772E+08	9576.	4.93	---->ACCEPTABLE
5.0	6.783E+08	9592.	4.94	---->ACCEPTABLE
10.0	6.843E+08	9676.	4.97	---->ACCEPTABLE
15.0	6.925E+08	9793.	5.03	---->ACCEPTABLE
20.0	7.005E+08	9906.	5.08	---->ACCEPTABLE
25.0	7.086E+08	10021.	5.14	---->ACCEPTABLE
30.0	7.156E+08	10119.	5.18	---->ACCEPTABLE
35.0	7.289E+08	10307.	5.27	---->ACCEPTABLE
40.0	7.437E+08	10516.	5.37	---->ACCEPTABLE
45.0	7.564E+08	10697.	5.46	---->ACCEPTABLE
50.0	7.690E+08	10874.	5.54	---->ACCEPTABLE
55.0	7.843E+08	11091.	5.64	---->ACCEPTABLE
60.0	8.013E+08	11331.	5.76	---->ACCEPTABLE
65.0	8.172E+08	11557.	5.86	---->ACCEPTABLE
70.0	8.348E+08	11805.	5.98	---->ACCEPTABLE
75.0	8.562E+08	12108.	6.12	---->ACCEPTABLE
80.0	8.769E+08	12401.	6.26	---->ACCEPTABLE
85.0	8.944E+08	12647.	6.38	---->ACCEPTABLE
90.0	9.169E+08	12966.	6.53	---->ACCEPTABLE
95.0	9.340E+08	13208.	6.64	---->ACCEPTABLE
100.0	9.526E+08	13471.	6.77	---->ACCEPTABLE
105.0	9.694E+08	13709.	6.88	---->ACCEPTABLE
110.0	9.860E+08	13944.	6.99	---->ACCEPTABLE
115.0	1.002E+09	14176.	7.10	---->ACCEPTABLE

120.0	1.014E+09	14333.	7.17	---->ACCEPTABLE
125.0	1.027E+09	14525.	7.26	---->ACCEPTABLE
130.0	1.041E+09	14723.	7.36	---->ACCEPTABLE
135.0	1.051E+09	14861.	7.42	---->ACCEPTABLE
140.0	1.060E+09	14992.	7.48	---->ACCEPTABLE
145.0	1.069E+09	15124.	7.55	---->ACCEPTABLE
150.0	1.076E+09	15218.	7.59	---->ACCEPTABLE
155.0	1.082E+09	15298.	7.63	---->ACCEPTABLE
160.0	1.087E+09	15371.	7.66	---->ACCEPTABLE
165.0	1.088E+09	15389.	7.67	---->ACCEPTABLE
170.0	1.088E+09	15391.	7.67	---->ACCEPTABLE
175.0	1.088E+09	15387.	7.67	---->ACCEPTABLE
180.0	1.084E+09	15332.	7.65	---->ACCEPTABLE
185.0	1.083E+09	15316.	7.64	---->ACCEPTABLE
190.0	1.075E+09	15197.	7.58	---->ACCEPTABLE
195.0	1.070E+09	15126.	7.55	---->ACCEPTABLE
200.0	1.060E+09	14989.	7.48	---->ACCEPTABLE
205.0	1.048E+09	14818.	7.40	---->ACCEPTABLE
210.0	1.036E+09	14648.	7.32	---->ACCEPTABLE
215.0	1.019E+09	14413.	7.21	---->ACCEPTABLE
220.0	1.003E+09	14188.	7.11	---->ACCEPTABLE
225.0	9.891E+08	13986.	7.01	---->ACCEPTABLE
230.0	9.696E+08	13710.	6.88	---->ACCEPTABLE
235.0	9.520E+08	13462.	6.76	---->ACCEPTABLE
240.0	9.326E+08	13187.	6.63	---->ACCEPTABLE
245.0	9.153E+08	12943.	6.52	---->ACCEPTABLE
250.0	8.970E+08	12684.	6.40	---->ACCEPTABLE
255.0	8.787E+08	12426.	6.27	---->ACCEPTABLE
260.0	8.630E+08	12204.	6.17	---->ACCEPTABLE
265.0	8.447E+08	11945.	6.05	---->ACCEPTABLE
270.0	8.268E+08	11692.	5.93	---->ACCEPTABLE
275.0	8.116E+08	11477.	5.83	---->ACCEPTABLE
280.0	7.968E+08	11268.	5.73	---->ACCEPTABLE
285.0	7.812E+08	11047.	5.62	---->ACCEPTABLE
290.0	7.658E+08	10830.	5.52	---->ACCEPTABLE
295.0	7.478E+08	10575.	5.40	---->ACCEPTABLE
300.0	7.341E+08	10381.	5.31	---->ACCEPTABLE
305.0	7.209E+08	10194.	5.22	---->ACCEPTABLE
310.0	7.074E+08	10003.	5.13	---->ACCEPTABLE
315.0	7.006E+08	9907.	5.08	---->ACCEPTABLE
320.0	6.875E+08	9722.	5.00	---->ACCEPTABLE
325.0	6.842E+08	9675.	4.97	---->ACCEPTABLE
330.0	6.753E+08	9549.	4.91	---->ACCEPTABLE
335.0	6.706E+08	9483.	4.88	---->ACCEPTABLE
340.0	6.683E+08	9451.	4.87	---->ACCEPTABLE
345.0	6.686E+08	9455.	4.87	---->ACCEPTABLE
350.0	6.683E+08	9450.	4.87	---->ACCEPTABLE
355.0	6.701E+08	9476.	4.88	---->ACCEPTABLE

ACCEPTABLE! MINIMUM SAFETY FACTOR = 4.87 AT 350.0 DEGREES.

**TABLE 10 Weld H4 DLL**

DLL: DISTRIBUTED LIGAMENT LENGTH EVALUATION, REV. 2.1 (09/19/96)  
 DATE OF THIS ANALYSIS: 03/13/2005

**SUMMARY OF INPUTS:**

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Title: H4 limit load
Angle increment = .1 deg. ( FINE )
Membrane Stress, Pm = 859. psi
Bending Stress, Pb = 1986. psi
Safety Factor, SF = 1.39
Mean Radius, Rm = 102.56 inches
Wall Thickness, t = 2.140 inches
Stress Intensity, Sm = 14400. psi
Fluence = 1.0E+20 n/cm^2
(Thus, LEFM evaluation not applicable)
  
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REGION	THETA1 [deg.]	THETA2 [deg.]	THICKNESS [inches]
1	5.2	5.9	1.205
2	5.9	10.9	1.205
3	10.9	14.1	1.205
4	76.1	76.4	1.245
5	76.4	88.2	1.375
6	88.2	91.8	1.415
7	91.8	93.8	1.395
8	93.8	99.1	1.415
9	99.1	104.1	1.275
10	122.1	128.8	1.325
11	185.2	194.1	1.205
12	256.0	283.9	1.205

**LIMIT LOAD RESULTS:**

NOTE: THE FOLLOWING LIMIT LOAD RESULTS ASSUME THAT  
 THE FLAWS TAKE COMPRESSION.

ALPHA [deg]	MOMENT [in-lbs]	Pb [psi]	SAFETY FACTOR	RESULT
.0	5.883E+08	8320.	3.23	---->ACCEPTABLE
5.0	5.835E+08	8251.	3.20	---->ACCEPTABLE
10.0	5.792E+08	8190.	3.18	---->ACCEPTABLE
15.0	5.790E+08	8187.	3.18	---->ACCEPTABLE
20.0	5.753E+08	8135.	3.16	---->ACCEPTABLE
25.0	5.764E+08	8150.	3.17	---->ACCEPTABLE
30.0	5.744E+08	8122.	3.16	---->ACCEPTABLE
35.0	5.792E+08	8190.	3.18	---->ACCEPTABLE
40.0	5.812E+08	8219.	3.19	---->ACCEPTABLE
45.0	5.835E+08	8251.	3.20	---->ACCEPTABLE
50.0	5.860E+08	8286.	3.21	---->ACCEPTABLE
55.0	5.887E+08	8325.	3.23	---->ACCEPTABLE
60.0	5.938E+08	8396.	3.25	---->ACCEPTABLE
65.0	5.995E+08	8478.	3.28	---->ACCEPTABLE
70.0	6.059E+08	8568.	3.31	---->ACCEPTABLE

75.0	6.096E+08	8620.	3.33	---->ACCEPTABLE
80.0	6.174E+08	8731.	3.37	---->ACCEPTABLE
85.0	6.265E+08	8859.	3.42	---->ACCEPTABLE
90.0	6.388E+08	9033.	3.48	---->ACCEPTABLE
95.0	6.482E+08	9166.	3.52	---->ACCEPTABLE
100.0	6.572E+08	9293.	3.57	---->ACCEPTABLE
105.0	6.657E+08	9414.	3.61	---->ACCEPTABLE
110.0	6.737E+08	9527.	3.65	---->ACCEPTABLE
115.0	6.805E+08	9623.	3.68	---->ACCEPTABLE
120.0	6.883E+08	9734.	3.72	---->ACCEPTABLE
125.0	6.982E+08	9874.	3.77	---->ACCEPTABLE
130.0	7.070E+08	9997.	3.82	---->ACCEPTABLE
135.0	7.155E+08	10118.	3.86	---->ACCEPTABLE
140.0	7.237E+08	10234.	3.90	---->ACCEPTABLE
145.0	7.316E+08	10345.	3.94	---->ACCEPTABLE
150.0	7.371E+08	10424.	3.97	---->ACCEPTABLE
155.0	7.452E+08	10538.	4.01	---->ACCEPTABLE
160.0	7.533E+08	10652.	4.05	---->ACCEPTABLE
165.0	7.610E+08	10761.	4.08	---->ACCEPTABLE
170.0	7.678E+08	10858.	4.12	---->ACCEPTABLE
175.0	7.735E+08	10938.	4.15	---->ACCEPTABLE
180.0	7.768E+08	10985.	4.16	---->ACCEPTABLE
185.0	7.805E+08	11037.	4.18	---->ACCEPTABLE
190.0	7.818E+08	11055.	4.19	---->ACCEPTABLE
195.0	7.817E+08	11054.	4.19	---->ACCEPTABLE
200.0	7.807E+08	11041.	4.18	---->ACCEPTABLE
205.0	7.791E+08	11018.	4.17	---->ACCEPTABLE
210.0	7.773E+08	10991.	4.17	---->ACCEPTABLE
215.0	7.776E+08	10997.	4.17	---->ACCEPTABLE
220.0	7.753E+08	10964.	4.16	---->ACCEPTABLE
225.0	7.723E+08	10921.	4.14	---->ACCEPTABLE
230.0	7.685E+08	10868.	4.12	---->ACCEPTABLE
235.0	7.640E+08	10804.	4.10	---->ACCEPTABLE
240.0	7.589E+08	10732.	4.07	---->ACCEPTABLE
245.0	7.531E+08	10650.	4.05	---->ACCEPTABLE
250.0	7.468E+08	10560.	4.01	---->ACCEPTABLE
255.0	7.376E+08	10430.	3.97	---->ACCEPTABLE
260.0	7.307E+08	10332.	3.93	---->ACCEPTABLE
265.0	7.241E+08	10240.	3.90	---->ACCEPTABLE
270.0	7.201E+08	10183.	3.88	---->ACCEPTABLE
275.0	7.125E+08	10076.	3.84	---->ACCEPTABLE
280.0	7.041E+08	9956.	3.80	---->ACCEPTABLE
285.0	6.948E+08	9825.	3.76	---->ACCEPTABLE
290.0	6.848E+08	9683.	3.71	---->ACCEPTABLE
295.0	6.725E+08	9510.	3.64	---->ACCEPTABLE
300.0	6.624E+08	9366.	3.59	---->ACCEPTABLE
305.0	6.544E+08	9254.	3.55	---->ACCEPTABLE
310.0	6.457E+08	9131.	3.51	---->ACCEPTABLE
315.0	6.372E+08	9010.	3.47	---->ACCEPTABLE
320.0	6.289E+08	8894.	3.43	---->ACCEPTABLE
325.0	6.211E+08	8783.	3.39	---->ACCEPTABLE
330.0	6.114E+08	8646.	3.34	---->ACCEPTABLE
335.0	6.064E+08	8576.	3.32	---->ACCEPTABLE
340.0	6.026E+08	8521.	3.30	---->ACCEPTABLE
345.0	6.002E+08	8488.	3.29	---->ACCEPTABLE
350.0	5.940E+08	8400.	3.25	---->ACCEPTABLE
355.0	5.925E+08	8379.	3.25	---->ACCEPTABLE

ACCEPTABLE! MINIMUM SAFETY FACTOR = 3.16 AT 30.0 DEGREES.

**TABLE 11 Weld H6 DLL**

DLL: DISTRIBUTED LIGAMENT LENGTH EVALUATION, REV. 2.1 (09/19/96)  
 DATE OF THIS ANALYSIS: 03/14/2005

**SUMMARY OF INPUTS:**

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Title: H6 limit load  
 Angle increment = .1 deg. ( FINE )  
 Membrane Stress, Pm = 1203. psi  
 Bending Stress, Pb = 4037. psi  
 Safety Factor, SF = 1.39  
 Mean Radius, Rm = 99.38 inches  
 Wall Thickness, t = 2.140 inches  
 Stress Intensity, Sm = 14400. psi  
 Fluence = 1.0E+20 n/cm<sup>2</sup>  
 (Thus, LEFM evaluation not applicable)

REGION	THETA1 [deg.]	THETA2 [deg.]	THICKNESS [inches]
1	5.1	5.4	1.559
2	5.4	39.9	1.629
3	50.0	129.9	1.559
4	185.1	188.2	1.559
5	188.2	194.9	1.599
6	194.9	197.3	1.559
7	197.3	202.0	2.140
8	202.0	204.4	1.559
9	204.4	206.5	1.629
10	206.5	209.8	1.559
11	209.8	219.9	1.629
12	230.1	231.9	1.559
13	231.9	235.4	1.629
14	235.4	240.2	1.559
15	240.2	245.9	1.629
16	245.9	248.7	1.559
17	248.7	254.4	2.140
18	254.4	257.2	1.559
19	257.2	261.3	1.629
20	261.3	265.7	1.559
21	265.7	274.5	2.140
22	274.5	278.9	1.559
23	278.9	309.9	1.609

**LIMIT LOAD RESULTS:**

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NOTE: THE FOLLOWING LIMIT LOAD RESULTS ASSUME THAT  
 THE FLAWS TAKE COMPRESSION.

ALPHA [deg]	MOMENT [in-lbs]	Pb [psi]	SAFETY FACTOR	RESULT
.0	2.398E+09	36111.	7.12	---->ACCEPTABLE
5.0	2.393E+09	36036.	7.11	---->ACCEPTABLE
10.0	2.381E+09	35856.	7.07	---->ACCEPTABLE
15.0	2.363E+09	35591.	7.02	---->ACCEPTABLE

20.0	2.339E+09	35229.	6.95	---->ACCEPTABLE
25.0	2.312E+09	34817.	6.87	---->ACCEPTABLE
30.0	2.284E+09	34396.	6.79	---->ACCEPTABLE
35.0	2.251E+09	33903.	6.70	---->ACCEPTABLE
40.0	2.218E+09	33408.	6.61	---->ACCEPTABLE
45.0	2.191E+09	32994.	6.53	---->ACCEPTABLE
50.0	2.165E+09	32607.	6.45	---->ACCEPTABLE
55.0	2.147E+09	32337.	6.40	---->ACCEPTABLE
60.0	2.133E+09	32130.	6.36	---->ACCEPTABLE
65.0	2.122E+09	31954.	6.33	---->ACCEPTABLE
70.0	2.118E+09	31894.	6.32	---->ACCEPTABLE
75.0	2.115E+09	31847.	6.31	---->ACCEPTABLE
80.0	2.113E+09	31825.	6.30	---->ACCEPTABLE
85.0	2.111E+09	31796.	6.30	---->ACCEPTABLE
90.0	2.116E+09	31871.	6.31	---->ACCEPTABLE
95.0	2.127E+09	32038.	6.34	---->ACCEPTABLE
100.0	2.141E+09	32242.	6.38	---->ACCEPTABLE
105.0	2.160E+09	32531.	6.44	---->ACCEPTABLE
110.0	2.176E+09	32778.	6.49	---->ACCEPTABLE
115.0	2.194E+09	33041.	6.54	---->ACCEPTABLE
120.0	2.206E+09	33223.	6.57	---->ACCEPTABLE
125.0	2.218E+09	33403.	6.60	---->ACCEPTABLE
130.0	2.227E+09	33533.	6.63	---->ACCEPTABLE
135.0	2.234E+09	33646.	6.65	---->ACCEPTABLE
140.0	2.239E+09	33720.	6.67	---->ACCEPTABLE
145.0	2.238E+09	33712.	6.66	---->ACCEPTABLE
150.0	2.239E+09	33728.	6.67	---->ACCEPTABLE
155.0	2.242E+09	33762.	6.67	---->ACCEPTABLE
160.0	2.244E+09	33800.	6.68	---->ACCEPTABLE
165.0	2.249E+09	33868.	6.69	---->ACCEPTABLE
170.0	2.255E+09	33964.	6.71	---->ACCEPTABLE
175.0	2.260E+09	34044.	6.73	---->ACCEPTABLE
180.0	2.263E+09	34086.	6.73	---->ACCEPTABLE
185.0	2.262E+09	34062.	6.73	---->ACCEPTABLE
190.0	2.253E+09	33927.	6.70	---->ACCEPTABLE
195.0	2.238E+09	33707.	6.66	---->ACCEPTABLE
200.0	2.219E+09	33419.	6.61	---->ACCEPTABLE
205.0	2.200E+09	33138.	6.55	---->ACCEPTABLE
210.0	2.178E+09	32806.	6.49	---->ACCEPTABLE
215.0	2.152E+09	32416.	6.42	---->ACCEPTABLE
220.0	2.126E+09	32025.	6.34	---->ACCEPTABLE
225.0	2.108E+09	31754.	6.29	---->ACCEPTABLE
230.0	2.094E+09	31533.	6.25	---->ACCEPTABLE
235.0	2.083E+09	31364.	6.22	---->ACCEPTABLE
240.0	2.078E+09	31291.	6.20	---->ACCEPTABLE
245.0	2.080E+09	31324.	6.21	---->ACCEPTABLE
250.0	2.088E+09	31448.	6.23	---->ACCEPTABLE
255.0	2.098E+09	31595.	6.26	---->ACCEPTABLE
260.0	2.110E+09	31771.	6.29	---->ACCEPTABLE
265.0	2.122E+09	31958.	6.33	---->ACCEPTABLE
270.0	2.139E+09	32220.	6.38	---->ACCEPTABLE
275.0	2.164E+09	32595.	6.45	---->ACCEPTABLE
280.0	2.191E+09	33001.	6.53	---->ACCEPTABLE
285.0	2.221E+09	33446.	6.61	---->ACCEPTABLE
290.0	2.250E+09	33892.	6.70	---->ACCEPTABLE
295.0	2.278E+09	34308.	6.78	---->ACCEPTABLE
300.0	2.301E+09	34650.	6.84	---->ACCEPTABLE
305.0	2.323E+09	34984.	6.91	---->ACCEPTABLE
310.0	2.342E+09	35269.	6.96	---->ACCEPTABLE

315.0	2.354E+09	35459.	7.00	---->ACCEPTABLE
320.0	2.366E+09	35627.	7.03	---->ACCEPTABLE
325.0	2.372E+09	35728.	7.05	---->ACCEPTABLE
330.0	2.375E+09	35766.	7.06	---->ACCEPTABLE
335.0	2.381E+09	35864.	7.07	---->ACCEPTABLE
340.0	2.385E+09	35912.	7.08	---->ACCEPTABLE
345.0	2.392E+09	36019.	7.10	---->ACCEPTABLE
350.0	2.395E+09	36076.	7.11	---->ACCEPTABLE
355.0	2.398E+09	36118.	7.12	---->ACCEPTABLE

ACCEPTABLE! MINIMUM SAFETY FACTOR = 6.20 AT 240.0 DEGREES.

**Table 12 Limit Load Safety Factors**

Weld ID	Normal and Upset (2.77 Required)	Emergency and Faulted (1.39 Required)
H1	23.21	11.52
H2	16.02	8.17
H3	9.64	4.87
H4	6.19	3.16
H6	10.77	6.2

ATTACHMENT 1  
WELD HI INSPECTION RESULTS

Weld ID	Inspector	Weld Type	Weld Location	Weld Size	Weld Material	Weld Date	Weld Status	Weld Notes
W101	J. Smith	Weld	Beam	1/2"	A36	03/10/05	Pass	
W102	J. Smith	Weld	Beam	1/2"	A36	03/10/05	Pass	
W103	J. Smith	Weld	Beam	1/2"	A36	03/10/05	Pass	
W104	J. Smith	Weld	Beam	1/2"	A36	03/10/05	Pass	
W105	J. Smith	Weld	Beam	1/2"	A36	03/10/05	Pass	
W106	J. Smith	Weld	Beam	1/2"	A36	03/10/05	Pass	
W107	J. Smith	Weld	Beam	1/2"	A36	03/10/05	Pass	
W108	J. Smith	Weld	Beam	1/2"	A36	03/10/05	Pass	
W109	J. Smith	Weld	Beam	1/2"	A36	03/10/05	Pass	
W110	J. Smith	Weld	Beam	1/2"	A36	03/10/05	Pass	
W111	J. Smith	Weld	Beam	1/2"	A36	03/10/05	Pass	
W112	J. Smith	Weld	Beam	1/2"	A36	03/10/05	Pass	
W113	J. Smith	Weld	Beam	1/2"	A36	03/10/05	Pass	
W114	J. Smith	Weld	Beam	1/2"	A36	03/10/05	Pass	
W115	J. Smith	Weld	Beam	1/2"	A36	03/10/05	Pass	
W116	J. Smith	Weld	Beam	1/2"	A36	03/10/05	Pass	
W117	J. Smith	Weld	Beam	1/2"	A36	03/10/05	Pass	
W118	J. Smith	Weld	Beam	1/2"	A36	03/10/05	Pass	
W119	J. Smith	Weld	Beam	1/2"	A36	03/10/05	Pass	
W120	J. Smith	Weld	Beam	1/2"	A36	03/10/05	Pass	



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**Shroud Weld H1 Indication Data (Lower Side)**

Total Scan Length Examined (Deg.)	219.40	Thickness (in)	2.10
Total Scan Length Examined (in)	421.22	Circumference (in)	691.15
Percentage of Weld Length Examined	60.9%	Inches per Degree	1.92
Percentage of Examined Weld Length Flawed	Note 3		
Percentage of Total Weld Length Flawed	Note 3		
Total Flawed Length (Deg.)	Note 3		
Total Flawed Length (in)	Note 3		

Ind. No.	Start Deg.	End Deg.	Length Deg.	Length in	Multiple Scans	Depth Max.in	Depth Pos.Deg.	Percent Thruwall	Side of Weld 2	Initiating Surface	Length Angle	Depth Angle
1 <sup>1</sup>	11.1°	12.8°	1.7°	3.26	N	0.21	12.3°	45.0%	Lower	Inside	45s/60RL	60RL
2	12.9°	14.4°	1.5°	2.88	N	<0.21	N/A	<10%	Lower	Inside	45s	60RL
3 <sup>1</sup>	11.1°	11.2°	0.1°	0.19	N	<0.21	N/A	<10%	Lower	Outside	60RL	60RL
4	13.1°	13.8°	0.7°	1.34	N	<0.30	N/A	<14.3%	Lower	Outside	45s	60RL
5	14.8°	16.1°	1.3°	2.50	N	<0.30	N/A	<14.3%	Lower	Outside	45s	60RL
6	18.3°	18.2°	1.9°	3.65	N	0.33	18.0°	15.7%	Lower	Outside	45s	60RL
7	19.0°	19.9°	0.9°	1.73	N	0.37	19.4°	17.6%	Lower	Outside	45s	60RL
8	20.5°	21.1°	0.6°	1.15	N	<0.30	N/A	<14.3%	Lower	Outside	45s	60RL
9	21.7°	22.6°	0.9°	1.73	N	<0.30	N/A	<14.3%	Lower	Outside	45s	60RL
10	15.2°	16.2°	1.0°	1.92	N	0.44	15.6°	21.0%	Lower	Inside	45s	60RL
11 <sup>1</sup>	19.1°	39.9°	20.8°	39.93	Y	0.45	21.5°	21.4%	Lower	Inside	45s	60RL
12	24.8°	25.7°	0.9°	1.73	N	0.30	25.4°	14.3%	Lower	Outside	45s	60RL
13	26.3°	27.6°	1.3°	2.50	N	<0.30	N/A	<14.3%	Lower	Outside	45s	60RL
14	34.3°	34.8°	0.5°	0.96	N	<0.30	N/A	<14.3%	Lower	Outside	45s	60RL
15	35.5°	35.9°	0.4°	0.77	N	0.35	35.5°	16.7%	Lower	Outside	45s	60RL
16	56.0°	59.1°	3.1°	5.95	N	0.32	58.5°	15.2%	Lower	Outside	45s	60RL
17	65.4°	67.9°	2.5°	4.80	N	<0.21	N/A	<10%	Lower	Inside	45s	60RL
18	68.5°	69.2°	0.7°	1.34	N	<0.21	N/A	<10%	Lower	Inside	45s	60RL
19	69.2°	70.0°	0.8°	1.54	N	<0.21	N/A	<10%	Lower	Inside	45s	60RL
20	72.2°	72.7°	0.5°	0.96	N	<0.21	N/A	<10%	Lower	Inside	45s	60RL
21	75.2°	78.6°	3.4°	6.53	N	<0.21	N/A	<10%	Lower	Inside	45s	60RL
22	76.5°	79.8°	3.3°	6.34	N	0.30	79.0°	14.3%	Lower	Outside	45s	60RL
23	84.2°	84.7°	0.5°	0.96	N	<0.21	N/A	<10%	Lower	Inside	45s	60RL
24	86.5°	87.4°	0.9°	1.73	N	<0.30	N/A	<14.3%	Lower	Outside	45s	60RL
25	87.3°	88.2°	0.9°	1.73	N	<0.21	N/A	<10%	Lower	Inside	45s	60RL
26	87.6°	91.3°	3.7°	7.10	Y	0.35	88.3°	16.7%	Lower	Outside	45s	60RL
27	91.5°	93.9°	2.4°	4.61	N	<0.21	N/A	<10%	Lower	Inside	45s	60RL
28	92.8°	94.7°	1.9°	3.85	N	0.36	93.7°	17.1%	Lower	Outside	45s	60RL
29	98.3°	99.1°	0.8°	1.54	N	<0.30	N/A	<14.3%	Lower	Outside	45s	60RL
30	99.3°	100.7°	1.4°	2.69	N	0.37	100.1°	17.6%	Lower	Outside	45s	60RL
31	102.8°	103.6°	1.0°	1.92	N	<0.21	N/A	<10%	Lower	Inside	45s	60RL
32	101.8°	102.3°	0.5°	0.96	N	<0.30	N/A	<14.3%	Lower	Outside	45s	60RL
33	104.0°	106.3°	2.3°	4.42	N	<0.30	N/A	<14.3%	Lower	Outside	45s	60RL
34	107.6°	111.2°	3.6°	6.91	N	0.32	109.7°	15.2%	Lower	Outside	45s	60RL
35	111.3°	127.9°	16.6°	31.87	Y	0.45	124.5°	21.4%	Lower	Outside	45s	60RL
36	116.0°	120.1°	4.1°	7.87	N	0.28	119.6°	13.3%	Lower	Inside	45s	60RL
37	121.3°	121.8°	0.5°	0.96	N	<0.21	N/A	<10%	Lower	Inside	45s	60RL
38 <sup>1</sup>	128.6°	129.9°	1.3°	2.50	N	0.32	129.1°	15.2%	Lower	Outside	45s	60RL
39	199.4°	200.0°	0.6°	1.15	N	<0.21	N/A	<10%	Lower	Inside	45s	60RL
40	206.0°	206.5°	0.5°	0.96	N	<0.21	N/A	<10%	Lower	Inside	45s	60RL
41	206.6°	208.5°	1.9°	3.65	N	<0.21	N/A	<10%	Lower	Inside	45s	60RL
42	215.3°	216.5°	1.2°	2.30	N	<0.21	N/A	<10%	Lower	Inside	45s	60RL



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**Shroud Weld H1 Indication Data (Lower Side)**

43	239.0°	240.4°	1.4°	2.69	N	<0.21	N/A	<10%	Lower	Inside	45s	60RL
44	244.3°	245.1°	0.8°	1.54	N	0.34	244.8°	16.2%	Lower	Outside	45s	60RL
45	252.8°	253.3°	0.5°	0.96	N	<0.30	N/A	<14.3%	Lower	Outside	45s	60RL
46	262.5°	264.5°	2.0°	3.84	N	0.32	264.0°	15.2%	Lower	Inside	45s	60RL
47	276.1°	279.3°	1.2°	2.30	N	0.36	278.5°	17.1%	Lower	Inside	45s	60RL
48	279.4°	280.3°	0.9°	1.73	N	0.42	279.8°	20.0%	Lower	Inside	45s	60RL
49	294.2°	298.6°	2.4°	4.61	N	0.37	295.5°	17.6%	Lower	Inside	45s	60RL
50	297.4°	303.9°	6.5°	12.48	N	0.48	301.2°	22.9%	Lower	Inside	45s	60RL
51	295.1°	297.7°	2.6°	4.89	N	0.31	297.1°	14.8%	Lower	Outside	45s	60RL
52	298.4°	298.9°	0.5°	0.96	N	<0.30	N/A	<14.3%	Lower	Outside	45s	60RL
53 <sup>1</sup>	305.5°	309.9°	4.4°	8.45	N	0.38	306.8°	18.1%	Lower	Inside	45s	60RL

**Indication Comments:**

- <sup>1</sup> Flaw extends beyond scan area
- <sup>2</sup> In reference to the weld
- <sup>3</sup> ID and OD flaws overlap
- > Indication depth is measured from initiation surface, either I.D. or O.D., as applicable. Indication length as noted in inches refers to O.D. measurements, regardless of whether the indication is I.D. or O.D..
- ^ In the absence of 60° RL and 45° shear wave flaw tip data, the following shall apply. For inside surface-connected flaws, document the flaw as less than 10% through-wall. For outside surface-connected flaws, document the through-wall dimension as the bounding capability of the 60° RL primary beam in relation to the location of the flaw. Typically, this dimension is 0.30"

Areas Not Examined (Azimuth References):				140.6°	Total Degrees Not Examined By All Three Transducers
0.00°	to	12.00°	for	12.00°	Core Spray Downcomers, Guide Pin.
38.90°	to	51.10°	for	12.20°	LPCI Line
138.90°	to	191.60°	for	52.70°	LPCI Line, Lifting Lug, CS Downcomers, Guide Pin
218.50°	to	231.00°	for	12.50°	LPCI Line
308.80°	to	360.00°	for	51.20°	LPCI Line, Lifting Lug, CS Downcomers, Guide Pin

**Additional Comments:**

BWRVIP-03 Shroud Demonstration 16, scan type 1

ATTACHMENT 2

WELD H2 INSPECTION RESULTS



GE Nuclear Energy

Preliminary

Exelon  
Limerick - Unit 2 Shroud UT Project - MJDOR March 2005

**Shroud Weld H2 Indication Data (Upper Side)**

Total Scan Length Examined (Deg.)	219.40	Thickness (in)	2.10
Total Scan Length Examined (in)	421.22	Circumference (in)	691.15
Percentage of Weld Length Examined	60.9%	Inches per Degree	1.92
Percentage of Examined Weld Length Flawed	27.4%		
Percentage of Total Weld Length Flawed	16.7%		
Total Flawed Length (Deg.)	60.20		
Total Flawed Length (in)	115.58		

Ind. No.	Start Deg.	End Deg.	Length Deg.	Length in	Multiple Scans	Depth Max.in	Depth Pos.Deg.	Percent Thruwall	Side of Weld	Initiating Surface	Length Angle	Depth Angle
1	13.1°	13.9°	0.8°	1.54	N	<0.21	N/A	<10%	Upper	Inside	45S	60RL
2	14.7°	16.5°	1.8°	3.46	N	<0.21	N/A	<10%	Upper	Inside	45S	60RL
3	16.7°	20.7°	4.0°	7.68	N	0.42	17.4°	20.0%	Upper	Inside	45S	60RL
4	23.8°	24.2°	0.8°	1.15	N	<0.21	N/A	<10%	Upper	Inside	45S	60RL
5	35.7°	36.3°	0.8°	1.15	N	<0.21	N/A	<10%	Upper	Inside	45S	60RL
6	36.6°	37.2°	0.8°	1.15	N	<0.21	N/A	<10%	Upper	Inside	45S	60RL
7	37.6°	38.7°	1.1°	2.11	N	<0.21	N/A	<10%	Upper	Inside	45S	60RL
8	50.1°	51.9°	1.8°	3.46	N	<0.21	N/A	<10%	Upper	Inside	45S	60RL
9	52.3°	55.6°	3.3°	6.34	N	<0.21	N/A	<10%	Upper	Inside	45S	60RL
10	55.9°	57.0°	1.1°	2.11	N	<0.21	N/A	<10%	Upper	Inside	45S	60RL
11	66.2°	67.3°	1.1°	2.11	N	<0.21	N/A	<10%	Upper	Inside	45S	60RL
12	68.2°	70.5°	2.3°	4.42	N	<0.21	N/A	<10%	Upper	Inside	45S	60RL
13	75.0°	80.2°	5.2°	9.98	N	<0.21	N/A	<10%	Upper	Inside	45S	60RL
14	89.4°	89.9°	0.5°	0.96	N	<0.30	N/A	<14.3%	Upper	Outside	45S	60RL
15	90.6°	91.1°	0.5°	0.96	N	<0.30	N/A	<14.3%	Upper	Outside	45S	60RL
16	102.9°	106.2°	3.3°	6.34	N	<0.21	N/A	<10%	Upper	Inside	45S	60RL
17	126.8°	127.9°	1.1°	2.11	N	<0.21	N/A	<10%	Upper	Inside	45S	60RL
18	191.3°	196.2°	4.9°	9.41	Y	<0.21	N/A	<10%	Upper	Inside	45S	60RL
19	197.8°	199.0°	1.2°	2.30	N	0.27	198.5°	12.9%	Upper	Inside	45S	60RL
20	201.7°	202.9°	1.2°	2.30	N	<0.21	N/A	<10%	Upper	Inside	45S	60RL
21	231.4°	234.5°	3.1°	5.95	N	<0.21	N/A	<10%	Upper	Inside	45S	60RL
22	245.7°	252.8°	7.1°	13.63	N	<0.21	N/A	<10%	Upper	Inside	45S	60RL
23	253.9°	259.2°	5.3°	10.18	N	<0.21	N/A	<10%	Upper	Inside	45S	60RL
24	259.2°	260.6°	1.4°	2.69	N	<0.21	N/A	<10%	Upper	Inside	45S	60RL
25	261.4°	261.6°	0.2°	0.38	N	<0.30	N/A	<14.3%	Upper	Outside	45S	60RL
26	279.6°	282.2°	2.8°	4.99	N	<0.21	N/A	<10%	Upper	Inside	45S	60RL
27	282.5°	284.4°	1.9°	3.65	N	<0.21	N/A	<10%	Upper	Inside	45S	60RL
28	285.0°	286.6°	1.6°	3.07	N	<0.21	N/A	<10%	Upper	Inside	45S	60RL



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**Shroud Weld H2 Indication Data (Upper Side)**

**Preliminary**

**Indication Comments:**

- <sup>1</sup> Flaw extends beyond scan area
- <sup>2</sup> In reference to the weld
- > Indication depth is measured from initiation surface, either I.D. or O.D., as applicable. Indication length as noted in inches refers to O.D. measurements, regardless of whether the indication is I.D. or O.D..
- ^ In the absence of 60° RL and 45° shear wave flaw tip data, the following shall apply. For inside surface-connected flaws, document the flaw as less than 10% through-wall. For outside surface-connected flaws, document the through-wall dimension as the bounding capability of the 60° RL primary beam in relation to the location of the flaw. Typically, this dimension is 0.30"

<b>Areas Not Examined (Azimuth References):</b>				<b>140.5° Total Degrees Not Examined By All Three Transducers</b>	
0.00°	to	12.00°	for	12.00°	Core Spray Downcomers, Guide Pin.
38.90°	to	51.10°	for	12.20°	LPCI Line
138.90°	to	191.60°	for	52.70°	LPCI Line, Lifting Lug, CS Downcomers, Guide Pin
218.50°	to	231.00°	for	12.50°	LPCI Line
308.80°	to	360.00°	for	51.20°	LPCI Line, Lifting Lug, CS Downcomers, Guide Pin

**Additional Comments:**

BWRVIP-03 Shroud Demonstration 16, scan type 1



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Preliminary

**Shroud Weld H2 Indication Data (Lower Side)**

<b>Total Scan Length Examined (Deg.)</b>	<b>77.5°</b>	<b>Thickness (in)</b>	<b>2.75</b>
<b>Total Scan Length Examined (in)</b>	<b>148.79</b>	<b>Circumference (in)</b>	<b>691.15</b>
<b>Percentage of Weld Length Examined</b>	<b>21.5%</b>	<b>Inches per Degree</b>	<b>1.92</b>
<b>Percentage of Examined Weld Length Flawed</b>	<b>0.0%</b>		
<b>Percentage of Total Weld Length Flawed</b>	<b>0.0%</b>		
<b>Total Flawed Length (Deg.)</b>	<b>0.0°</b>		
<b>Total Flawed Length (in)</b>	<b>0.00</b>		

<b>Ind. No.</b>	<b>Start Deg.</b>	<b>End Deg.</b>	<b>Length Deg.</b>	<b>Length in</b>	<b>Multiple Scans</b>	<b>Depth Max.in</b>	<b>Depth Pos.Deg.</b>	<b>Percent Thruwall</b>	<b>Side of Weld*</b>	<b>Initiating Surface</b>	<b>Length Angle</b>	<b>Depth Angle</b>
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None Detected

**Areas Not Examined (Azimuth References):**

**282.5° Total Degrees Not Examined By All Three Transducers**

0.00°	to	4.50°	for	4.50°	Core Spray Downcomers, Guide Pin.
4.50°	to	37.00°	for	32.50°	Area Not Scanned
37.00°	to	49.50°	for	12.50°	LPCI Line
49.50°	to	127.00°	for	77.50°	Area Not Scanned
127.00°	to	184.50°	for	57.50°	LPCI Line, Lifting Lug, CS Downcomers, Guide Pin
184.50°	to	217.00°	for	32.50°	Area Not Scanned
217.00°	to	229.50°	for	12.50°	LPCI Line
307.00°	to	360.00°	for	53.00°	LPCI Line, Lifting Lug, CS Downcomers, Guide Pin

**Additional Comments:**

BWRVIP-03 Shroud Demonstration # has not been published. Reference e-mail from Greg Selby regarding "Evaluation Factors for GE H2/H3 Technique" dated March 12, 2005.

ATTACHMENT 3  
WELD H3 INSPECTION RESULTS



GE Nuclear Energy

**Preliminary**

Exelon  
Limerick - Unit 2 Shroud UT Project - MJDOR March 2005

**Shroud Weld H3 Indication Data (Lower Side)**

Total Scan Length Examined (Deg.)	229.8°	Thickness (In)	2.14
Total Scan Length Examined (In)	415.0	Circumference (In)	650.89
Percentage of Weld Length Examined	63.8%	Inches per Degree	1.81
Percentage of Examined Weld Length Flawed	79.2%		
Percentage of Total Weld Length Flawed	50.5%		
Total Flawed Length (Deg.)	181.8°		
Total Flawed Length (In)	328.6		

Ind. No.	Start Deg.	End Deg.	Length Deg.	Length In	Multiple Scans	Depth Max.In	Depth Pos.Deg.	Percent Thruwall	Side of Weld *	Initiating Surface	Length Angle	Depth Angle
1 <sup>1</sup>	2.2°	3.8°	1.6°	2.89	N	0.35	3.1°	16.4%	Lower	Inside	45s/80RL	60RL
2	5.6°	6.9°	1.3°	2.35	N	0.24	6.0°	11.2%	Lower	Inside	45s	60RL
3 <sup>1</sup>	9.2°	37.1°	27.9°	50.43	Y	0.61	21.5°	28.5%	Lower	Inside	45s	60RL
4	4.8°	13.3°	8.5°	15.36	N	0.32	12.9°	15.0%	Lower	Outside	45s/80RL	60RL
5	18.3°	20.2°	1.9°	3.43	N	0.25	18.9°	11.7%	Lower	Outside	45s/80RL	60RL
6	20.6°	21.9°	1.3°	2.35	N	0.32	20.9°	15.0%	Lower	Outside	45s/80RL	60RL
7 <sup>1</sup>	47.2°	58.6°	11.6°	20.97	Y	0.54	56.5°	25.2%	Lower	Inside	45s/80RL	60RL
8	59.8°	81.5°	21.7°	39.22	Y	0.39	64.4°	18.2%	Lower	Inside	45s	60RL
9	62.0°	64.2°	2.2°	3.98	N	0.30	63.8°	14.0%	Lower	Outside	45s/80RL	60RL
10	67.0°	68.0°	1.0°	1.81	N	0.29	67.6°	13.6%	Lower	Outside	45s/80RL	60RL
11	70.6°	73.4°	2.8°	5.06	N	0.25	72.5°	11.7%	Lower	Outside	45s/80RL	60RL
12	74.2°	76.7°	2.5°	4.52	N	0.31	74.6°	14.5%	Lower	Outside	45s/80RL	60RL
13	79.4°	80.8°	1.4°	2.53	N	0.29	80.4°	13.0%	Lower	Outside	45s/80RL	60RL
14	81.9°	83.0°	1.1°	1.99	N	<0.21	N/A	<10%	Lower	Inside	45s	N/A
15	84.8°	89.0°	4.2°	7.59	N	0.27	88.4°	12.6%	Lower	Inside	45s	60RL
16	87.8°	88.1°	0.3°	0.54	N	<0.30	N/A	<14.0%	Lower	Outside	45s/80RL	N/A
17	89.3°	90.2°	0.9°	1.63	N	<0.21	N/A	<10%	Lower	Inside	45s	N/A
18	90.5°	91.7°	1.2°	2.17	N	0.31	91.3°	14.5%	Lower	Inside	45s	60RL
19	100.1°	101.5°	1.4°	2.53	N	0.29	100.7°	13.6%	Lower	Inside	45s	60RL
20	101.7°	108.5°	6.8°	12.29	N	0.36	103.7°	16.8%	Lower	Inside	45s	60RL
21	101.9°	102.8°	0.9°	1.63	N	0.26	102.4°	12.1%	Lower	Outside	45s/80RL	60RL
22	103.1°	104.3°	1.2°	2.17	N	<0.30	N/A	<14.0%	Lower	Outside	45s/80RL	N/A
23	105.9°	110.4°	4.5°	8.13	N	0.33	108.8°	15.4%	Lower	Outside	45s/80RL	60RL
24	109.1°	118.2°	9.1°	16.45	N	0.46	111.4°	21.5%	Lower	Inside	45s	60RL
25	113.0°	113.9°	0.9°	1.63	N	<0.30	N/A	<14.0%	Lower	Outside	45s/80RL	N/A
26	114.2°	117.7°	3.5°	6.33	N	0.28	116.5°	13.1%	Lower	Outside	45s/80RL	60RL
27 <sup>1</sup>	124.3°	127.1°	2.8°	5.06	N	0.24	126.6°	11.2%	Lower	Inside	45s	60RL
28	186.3°	187.4°	1.1°	1.99	N	<0.21	N/A	<10%	Lower	Inside	45s	N/A
29	187.8°	202.5°	14.7°	26.57	Y	0.38	196.5°	17.8%	Lower	Outside	45s/80RL	60RL
30	193.8°	194.9°	1.1°	1.99	N	<0.21	N/A	<10%	Lower	Inside	45s	N/A
31	196.7°	198.2°	1.5°	2.71	N	0.42	197.3°	19.6%	Lower	Inside	45s	60RL
32	203.9°	206.0°	2.1°	3.80	N	<0.21	N/A	<10%	Lower	Inside	45s	N/A
33	208.4°	211.0°	2.6°	4.70	N	0.41	208.8°	19.2%	Lower	Inside	45s	60RL
34	211.5°	215.1°	3.6°	6.51	N	0.26	214.5°	12.1%	Lower	Inside	45s	60RL
35	212.2°	212.8°	0.6°	1.08	N	<0.30	N/A	<14.0%	Lower	Outside	45s/80RL	N/A
36 <sup>1</sup>	214.5°	217.1°	2.6°	4.70	N	0.28	216.4°	13.1%	Lower	Outside	45s/80RL	60RL
37 <sup>1</sup>	215.4°	217.1°	1.7°	3.07	N	0.32	216.2°	15.0%	Lower	Inside	45s	60RL



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**Shroud Weld H3 Indication Data (Lower Side), cont'd**

Ind. No.	Start Deg.	End Deg.	Length Deg.	Length In	Multiple Scans	Depth Max.in	Depth Pos.Deg.	Percent Thruwall	Side of Weld *	Initiating Surface	Length Angle	Depth Angle
38	229.8°	231.2°	1.4°	2.53	N	0.25	230.5°	11.7%	Lower	Inside	45s	60RL
39	231.9°	233.3°	1.4°	2.53	N	0.34	232.7°	15.9%	Lower	Inside	45s	60RL
40	229.0°	248.6°	19.6°	35.43	Y	0.39	243.7°	18.2%	Lower	Outside	45s/80RL	60RL
41	233.5°	240.1°	6.6°	11.93	N	0.47	239.1°	22.0%	Lower	Inside	45s	60RL
42	243.5°	249.2°	5.7°	10.30	N	0.60	245.4°	28.0%	Lower	Inside	45s	60RL
43	250.3°	252.2°	1.9°	3.43	N	0.44	251.5°	20.6%	Lower	Inside	45s	60RL
44	249.2°	257.4°	8.2°	14.82	Y	0.30	253.5°	14.0%	Lower	Outside	45s/80RL	60RL
45	252.9°	254.0°	1.1°	1.99	N	0.33	253.2°	15.4%	Lower	Inside	45s	60RL
46	258.2°	258.8°	2.6°	4.70	N	0.32	256.7°	15.0%	Lower	Inside	45s	60RL
47	257.6°	261.8°	4.2°	7.59	Y	0.31	258.1°	14.5%	Lower	Outside	45s/80RL	60RL
48	262.0°	262.9°	0.9°	1.63	N	<0.30	N/A	<14.0%	Lower	Outside	45s/80RL	N/A
49	263.2°	263.8°	0.4°	0.72	N	<0.30	N/A	<14.0%	Lower	Outside	45s/80RL	N/A
50	264.8°	268.2°	1.4°	2.53	N	<0.30	N/A	<14.0%	Lower	Outside	45s/80RL	N/A
51	268.3°	269.4°	3.1°	5.60	N	<0.30	N/A	<14.0%	Lower	Outside	45s/80RL	N/A
52	272.6°	273.8°	1.0°	1.81	N	<0.30	N/A	<14.0%	Lower	Outside	45s/80RL	N/A
53	274.0°	275.2°	1.2°	2.17	N	<0.30	N/A	<14.0%	Lower	Outside	45s/80RL	N/A
54	275.3°	277.7°	2.4°	4.34	N	0.32	276.9°	15.0%	Lower	Outside	45s/80RL	60RL
55	279.4°	281.1°	1.7°	3.07	N	0.27	280.7°	12.6%	Lower	Outside	45s/80RL	60RL
56	278.6°	279.6°	1.0°	1.81	N	<0.21	N/A	<10%	Lower	Inside	45s	N/A
57	281.4°	288.0°	4.6°	8.31	N	0.27	282.2°	12.6%	Lower	Outside	45s/80RL	60RL
58	285.4°	288.5°	1.1°	1.99	N	<0.21	N/A	<10%	Lower	Inside	45s	N/A
59	290.3°	291.8°	1.5°	2.71	N	0.51	291.4°	23.8%	Lower	Inside	45s	60RL
60	291.9°	294.6°	2.7°	4.88	N	0.28	293.7°	13.1%	Lower	Outside	45s/80RL	60RL
61	295.4°	298.4°	3.0°	5.42	N	0.54	296.4°	25.2%	Lower	Inside	45s	60RL
62	296.4°	298.4°	2.0°	3.61	N	<0.30	N/A	<14.0%	Lower	Outside	45s/80RL	N/A
63	301.5°	302.5°	1.0°	1.81	N	<0.21	N/A	<10%	Lower	Inside	45s	N/A
64	305.0°	306.4°	1.4°	2.53	N	<0.30	N/A	<14.0%	Lower	Outside	45s/80RL	N/A

**Indication Comments:**

- <sup>1</sup> Flaw extends beyond scan area
- \* In reference to the weld
- > Indication depth is measured from initiation surface, either I.D. or O.D., as applicable. Indication length as noted in inches refers to O.D. measurements, regardless of whether the indication is I.D. or O.D..
- <sup>^</sup> In the absence of 60° RL and 45° shear wave flaw tip data, the following shall apply. For inside surface-connected flaws, document the flaw as less than 10% through-wall. For outside surface-connected flaws, document the through-wall dimension as the bounding capability of the 60° RL primary beam in relation to the location of the flaw. Typically, this dimension is 0.30"



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**Shroud Weld H3 Indication Data (Lower Side), cont'd**

**Areas Not Examined (Azimuth References): 130.4° Total Degrees Not Examined By At Least One Detection Angle**

	to	2.2°	for	2.2°	Core Spray Downcomers, Guide Pin.
37.1°	to	47.2°	for	10.1°	LPCI Line
127.1°	to	182.2°	for	55.1°	LPCI Line, Lifting Lug, CS Downcomers, Guide Pin
217.1°	to	227.2°	for	10.1°	LPCI Line
307.1°	to	360.0°	for	52.9°	LPCI Line, Lifting Lug, CS Downcomers, Guide Pin

**Additional Comments:**

BWRVIP-03 Shroud Demonstration 16, scan type 1



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**Shroud Weld H3 Indication Data (Upper Side)**

<i>Total Scan Length Examined (Deg.)</i>	77.50	<i>Thickness (in)</i>	2.75
<i>Total Scan Length Examined (in)</i>	140.08	<i>Circumference (in)</i>	650.69
<i>Percentage of Weld Length Examined</i>	21.5%	<i>Inches per Degree</i>	1.81
<i>Percentage of Examined Weld Length Flawed</i>	1.7%		
<i>Percentage of Total Weld Length Flawed</i>	0.4%		
<i>Total Flawed Length (Deg.)</i>	1.30		
<i>Total Flawed Length (in)</i>	2.35		

<i>Ind. No.</i>	<i>Start Deg.</i>	<i>End Deg.</i>	<i>Length Deg.</i>	<i>Length in</i>	<i>Multiple Scans</i>	<i>Depth Max.in</i>	<i>Depth Pos.Deg.</i>	<i>Percent Thruwall</i>	<i>Side of Weld *</i>	<i>Initiating Surface</i>	<i>Length Angle</i>	<i>Depth Angle</i>
1	266.2°	266.8°	0.6°	1.08	N	0.12	266.5	4.4%	Upper	Outside	35e	35e
2	272.6°	273.3°	0.7°	1.27	N	0.42	272.8	15.3%	Upper	Outside	35e	35e

**Indication Comments:**

<b>Areas Not Examined (Azimuth References):</b>	<b>282.5°</b>	<b>Total Degrees Not Examined</b>
0.00° to 4.50° for	4.50°	Core Spray Downcomers, Guide Pin, Area Not Scanned
4.50° to 37.00° for	32.50°	Area Not Scanned
37.00° to 49.50° for	12.50°	LPCI Line
49.50° to 127.00° for	77.50°	Area Not Scanned
127.00° to 184.50° for	57.50°	LPCI Line, Lifting Lug, CS Downcomers, Guide Pin
184.50° to 217.00° for	32.50°	Area Not Scanned
217.00° to 229.50° for	12.50°	LPCI Line
229.50° to 360.00° for	53.00°	LPCI Line, Lifting Lug, CS Downcomers, Guide Pin

**Additional Comments:**

BWRVIP-03 Shroud Demonstration # has not been published, reference letter ??????

ATTACHEMENT 4

WELD H4 INSPECTION RESULTS

*[The table content is extremely faint and illegible due to low contrast and scan quality. It appears to be a multi-column table with headers and data rows.]*



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Preliminary

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**Shroud Weld H4 Indication Data (Lower Side)**

Total Scan Length Examined (Deg.)	228.60	Thickness (in)	2.14
Total Scan Length Examined (in)	409.57	Circumference (in)	650.69
Percentage of Weld Length Examined	62.9%	Inches per Degree	1.81
Percentage of Examined Weld Length Flawed	27.3%		
Percentage of Total Weld Length Flawed	17.2%		
Total Flawed Length (Deg.)	61.9°		
Total Flawed Length (in)	111.88		

Ind. No.	Start Deg.	End Deg.	Length Deg.	Length in	Multiple Scans	Depth Max.in	Depth Pos.Deg.	Percent Thruwall	Side of Weld °	Insiding Surface	Length Angle	Depth Angle
1	10.9°	11.4°	0.5°	0.90	N/A	N/A	N/A	N/A	Lower	Outside	45s/80RL	N/A
2	50.1°	51.8°	1.7°	3.07	N/A	N/A	N/A	N/A	Lower	Outside	45s/80RL	N/A
3	53.4°	59.1°	5.7°	10.30	N	0.48	87.80	21.4%	Lower	Outside	45s/80RL	60 RL
4	64.3°	69.3°	5.0°	9.04	N	0.38	86.80	17.7%	Lower	Outside	45s/80RL	60 RL
5	73.4°	76.0°	2.6°	4.70	N	0.47	75.40	21.9%	Lower	Outside	45s/80RL	60 RL
6	76.1°	83.2°	7.1°	12.83	N	0.34	80.70	15.8%	Lower	Outside	45s/80RL	60 RL
7	83.3°	85.1°	1.8°	3.11	N	0.34	86.60	15.8%	Lower	Outside	45s/80RL	60 RL
8	88.2°	90.9°	2.7°	4.88	N	<0.30	89.30	<14%	Lower	Outside	45s/80RL	60 RL
9	99.7°	109.6°	9.9°	17.89	N	0.44	106.40	20.5%	Lower	Outside	45s/80RL	60 RL
10	112.6°	113.0°	0.4°	0.72	N	<0.30	113.00	<14%	Lower	Outside	45s/80RL	60 RL
11	113.1°	118.3°	5.2°	9.40	N	0.32	116.10	14.9%	Lower	Outside	45s/80RL	60 RL
12	118.4°	128.4°	10.0°	18.07	N	0.39	123.40	18.2%	Lower	Outside	45s/80RL	60 RL
13	185.1°	188.6°	3.5°	6.21	N	0.33	186.10°	18.4%	Lower	Outside	45s/80RL	60 RL
14	268.9°	269.9°	1.0°	1.81	N/A	N/A	N/A	N/A	Lower	Outside	45s/80RL	N/A
15	284.7°	286.9°	2.2°	3.98	N	0.26	285.80	12.1%	Lower	Outside	45s/80RL	60 RL
16	291.2°	292.6°	1.4°	2.89	N	0.33	291.60	15.4%	Lower	Outside	45s/80RL	60 RL

**Indication Comments:**

- <sup>1</sup> Flaw extends beyond scan area
- \* in reference to the weld
- > Indication depth is measured from initiation surface, either I.D. or O.D., as applicable. Indication length as noted in inches refers to O.D. measurements, regardless of whether the indication is I.D. or O.D..
- <sup>A</sup> In the absence of 60° RL and 45° shear wave flaw tip data, the following shall apply. For inside surface-connected flaws, document the flaw as less than 10% through-wall. For outside surface-connected flaws, document the through-wall dimension as the bounding capability of the 60° RL primary beam in relation to the location of the flaw. Typically, this dimension is 0.30"

**Areas Not Examined (Azimuth References):** 133.4° **Total Degrees Not Examined By At Least One Detection Angle**

0.0°	to	5.1°	for	5.1°	Core Spray Downcomers, Guide Pin.
38.3°	to	39.9°	for	1.6°	No Contact
39.9°	to	50.1°	for	10.2°	LPCI Line
129.9°	to	185.1°	for	55.2°	LPCI Line, Lifting Lug, CS Downcomers, Guide Pin
219.9°	to	230.1°	for	10.2°	LPCI Line
308.9°	to	360.0°	for	51.1°	LPCI Line, Lifting Lug, CS Downcomers, Guide Pin

**Additional Comments:**

BWRVIP-03 Shroud Demonstration 16, scan type 1



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Shroud Weld H4 Indication Data (Upper Side)

Total Scan Length Examined (Deg.)	216.80	Thickness (In)	2.14
Total Scan Length Examined (In)	391.88	Circumference (In)	650.69
Percentage of Weld Length Examined	60.2%	Inches per Degree	1.81
Percentage of Examined Weld Length Flawed	47.7%		
Percentage of Total Weld Length Flawed	28.7%		
Total Flawed Length (Deg.)	100.7°		
Total Flawed Length (In)	182.61		

Ind. No.	Start Deg.	End Deg.	Length Deg.	Length In	Multiple Scans	Depth Max.In	Depth Pos.Deg.	Percent Thruwall	Side of Weld *	Initiating Surface	Length Angle	Depth Angle
1	5.1°	5.4°	0.3°	0.84	N	N/A	N/A	N/A	Upper	Outside	48s/80RL	N/A
2	6.8°	10.8°	4.1°	7.41	N	N/A	N/A	N/A	Upper	Outside	48s/80RL	N/A
3	11.3°	16.8°	4.2°	7.89	N	N/A	N/A	N/A	Upper	Outside	48s/80RL	N/A
4	16.1°	17.1°	1.0°	1.81	N	N/A	N/A	N/A	Upper	Outside	48s/80RL	N/A
5	20.2°	21.7°	1.4°	2.63	N	N/A	N/A	N/A	Upper	Inside	48s	N/A
6	23.7°	28.8°	4.8°	8.58	N	N/A	N/A	N/A	Upper	Inside	48s	N/A
7	29.8°	32.1°	2.5°	4.52	N	N/A	N/A	N/A	Upper	Inside	48s	N/A
8	22.8°	26.4°	3.5°	6.87	N	N/A	N/A	N/A	Upper	Outside	48s/80RL	N/A
9	36.2°	36.9°	1.7°	3.07	N	N/A	N/A	N/A	Upper	Inside	48s	N/A
10	63.1°	63.9°	0.8°	1.45	N	<0.30	63.40°	<14%	Upper	Outside	48s/80RL	60 RL
11	64.2°	65.2°	1.0°	1.81	N	<0.30	64.70°	<14%	Upper	Outside	48s/80RL	60 RL
12	67.4°	67.9°	0.5°	0.90	N	<0.30	67.40°	<14%	Upper	Outside	48s	60 RL
13	69.9°	71.0°	1.1°	1.92	N	0.47	62.90°	21.9%	Upper	Outside	48s/80RL	60 RL
14	74.7°	76.8°	2.1°	3.80	N	0.45	75.80°	21.0%	Upper	Outside	48s/80RL	60 RL
15	80.2°	81.8°	1.6°	2.89	N	<0.30	80.80°	<14%	Upper	Outside	48s/80RL	60 RL
16	87.0°	88.1°	1.1°	1.90	N	<0.30	87.30°	<14%	Upper	Outside	48s/80RL	60 RL
17	88.8°	89.9°	1.3°	2.35	N	0.34	88.70°	15.8%	Upper	Outside	48s/80RL	60 RL
18	90.8°	91.7°	0.9°	1.63	N	<0.30	91.10°	<14%	Upper	Outside	48s/80RL	60 RL
19	91.9°	93.1°	1.2°	2.17	N	0.32	92.60°	14.9%	Upper	Outside	48s/80RL	60 RL
20	94.6°	98.5°	3.9°	7.08	N	<0.30	98.40°	<14%	Upper	Outside	48s/80RL	60 RL
21	103.2°	103.8°	0.6°	1.08	N	<0.30	103.30°	<14%	Upper	Outside	48s/80RL	60 RL
22	105.1°	108.1°	3.0°	5.42	N	<0.30	105.30°	<14%	Upper	Outside	48s/80RL	60 RL
23	108.3°	109.7°	1.4°	2.72	N	0.51	108.30°	23.8%	Upper	Outside	48s/80RL	60 RL
24	129.2°	129.8°	0.6°	1.08	N	N/A	N/A	N/A	Upper	Outside	48s/80RL	N/A
25	185.1°	185.4°	0.3°	0.54	N	N/A	N/A	N/A	Upper	Outside	48s/80RL	N/A
26	188.8°	189.9°	13.4°	24.22	N	N/A	N/A	N/A	Upper	Outside	48s/80RL	N/A
27	206.3°	211.0°	5.7°	10.30	N	N/A	N/A	N/A	Upper	Outside	48s/80RL	N/A
28	230.1°	232.6°	2.5°	4.52	N	N/A	N/A	N/A	Upper	Outside	48s/80RL	N/A
29	235.9°	240.8°	4.8°	8.31	N	N/A	N/A	N/A	Upper	Outside	48s/80RL	N/A
30	243.8°	245.3°	2.5°	4.52	N	N/A	N/A	N/A	Upper	Outside	48s/80RL	N/A
31	247.3°	248.0°	1.7°	3.07	N	N/A	N/A	N/A	Upper	Outside	48s/80RL	N/A
32	262.8°	269.3°	6.5°	11.78	N	N/A	N/A	N/A	Upper	Outside	48s/80RL	N/A
33	269.7°	281.6°	1.8°	3.26	N	N/A	N/A	N/A	Upper	Outside	48s/80RL	N/A
34	282.0°	283.1°	1.1°	1.89	N	N/A	N/A	N/A	Upper	Outside	48s/80RL	N/A
35	286.4°	287.3°	0.9°	1.63	N	N/A	N/A	N/A	Upper	Outside	48s/80RL	N/A
36	287.8°	288.3°	0.5°	0.90	N	N/A	N/A	N/A	Upper	Outside	48s/80RL	N/A
37	289.1°	270.1°	1.8°	1.31	N	N/A	N/A	N/A	Upper	Outside	48s/80RL	N/A
38	276.6°	277.4°	0.8°	1.45	N	N/A	N/A	N/A	Upper	Outside	48s/80RL	N/A
39	278.7°	283.8°	5.1°	9.22	N	N/A	N/A	N/A	Upper	Outside	48s/80RL	N/A
40	286.7°	287.3°	0.6°	1.08	N	N/A	N/A	N/A	Upper	Outside	48s/80RL	N/A
41	291.6°	293.1°	1.5°	2.71	N	N/A	N/A	N/A	Upper	Outside	48s/80RL	N/A
42	297.5°	298.3°	0.8°	1.45	N	N/A	N/A	N/A	Upper	Outside	48s/80RL	N/A
43	299.3°	301.0°	1.7°	3.07	N	N/A	N/A	N/A	Upper	Outside	48s/80RL	N/A



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**Shroud Weld H4 Indication Data (Upper Side)**

**Indication Comments:**

- <sup>1</sup> Flaw extends beyond scan area
- \* In reference to the weld
- > Indication depth is measured from initiation surface, either I.D. or O.D., as applicable. Indication length as noted in inches refers to O.D. measurements, regardless of whether the indication is I.D. or O.D..
- <sup>A</sup> In the absence of 60° RL and 45° shear wave flaw tip data, the following shall apply. For inside surface-connected flaws, document the flaw as less than 10% through-wall. For outside surface-connected flaws, document the through-wall dimension as the bounding capability of the 60° RL primary beam in relation to the location of the flaw. Typically, this dimension is 0.30"

<b>Areas Not Examined (Azimuth References):</b>	<b>143.2° Total Degrees Not Examined By All Three Transducers</b>
0.0° to 5.1° for	5.1° Core Spray Downcomers, Guide Pin.
39.9° to 50.1° for	10.2° LPCI Line
121.0° to 123.5° for	2.5° Missed
129.9° to 186.1° for	56.2° LPCI Line, Lifting Lug, CS Downcomers, Guide Pin
211.0° to 219.9° for	8.9° No Contact
219.9° to 230.1° for	10.2° LPCI Line
308.9° to 360.0° for	51.1° LPCI Line, Lifting Lug, CS Downcomers, Guide Pin

**Additional Comments:**

BWRVIP-03 Shroud Demonstration 16, scan type 1

ATTACHMENT 5

WELD H6 INSPECTION RESULTS

Table with multiple columns containing inspection data, including identification numbers, inspection dates, and results. The text is highly faded and difficult to read.



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**Shroud Weld H6 Indication Data (Lower Side)**

Total Scan Length Examined (Deg.)	229.2°	Thickness (in)	2.14
Total Scan Length Examined (in)	401.5	Circumference (in)	830.68
Percentage of Weld Length Examined	63.7%	Inches per Degree	1.75188
Percentage of Examined Weld Length Flawed	58.8%		
Percentage of Total Weld Length Flawed	37.3%		
Total Flawed Length (Deg.)	134.4°		
Total Flawed Length (in)	235.5		

Ind. No.	Start Deg.	End Deg.	Length Deg.	Length in	Multiple Scans	Depth Max.in	Depth Pos.Deg.	Percent Thruwall	Side of Weld *	Initiating Surface	Length Angle	Depth Angle
1 <sup>†</sup>	6.1°	13.4°	7.3°	12.79	N	<0.21	N/A	<10%	Lower	Inside	45s	
2	13.2°	15.1°	1.9°	3.33	N	<0.21	N/A	<10%	Lower	Inside	45s	
3	15.2°	20.3°	5.1°	8.93	N	<0.21	N/A	<10%	Lower	Inside	45s	
4	22.3°	25.7°	3.4°	5.96	N	<0.21	N/A	<10%	Lower	Inside	45s	
5 <sup>†</sup>	25.8°	39.9°	14.1°	24.70	Y	<0.21	N/A	<10%	Lower	Inside	45s	
6	50.7°	54.0°	3.3°	5.78	N	<0.21	N/A	<10%	Lower	Inside	45s	
7	54.1°	55.4°	1.3°	2.28	N	<0.21	N/A	<10%	Lower	Inside	45s	
8	56.1°	59.2°	3.1°	5.43	N	0.23	57.1°	10.7%	Lower	Inside	45s	
9	59.3°	60.4°	1.1°	1.93	N	<0.21	N/A	<10%	Lower	Inside	45s	
10	61.1°	64.2°	3.1°	5.43	N	<0.21	N/A	<10%	Lower	Inside	45s	
11	66.9°	69.5°	2.6°	4.55	N	0.28	67.7°	13.1%	Lower	Inside	45s	
12	71.0°	73.4°	2.4°	4.20	N	<0.21	N/A	<10%	Lower	Inside	45s	
13	74.2°	77.2°	3.0°	5.26	Y	0.24	76.5°	11.2%	Lower	Inside	45s	
14	77.5°	78.4°	0.9°	1.58	N	<0.21	N/A	<10%	Lower	Inside	45s	
15	79.0°	81.5°	2.5°	4.38	N	<0.21	N/A	<10%	Lower	Inside	45s	
16	84.1°	88.3°	4.2°	7.36	N	<0.21	N/A	<10%	Lower	Inside	45s	
17	88.3°	90.2°	1.9°	3.33	N	<0.21	N/A	<10%	Lower	Inside	45s	
18	93.0°	96.0°	3.0°	5.26	N	<0.21	N/A	<10%	Lower	Inside	45s	
19	97.0°	99.1°	2.1°	3.88	N	0.24	97.4°	11.2%	Lower	Inside	45s	
20	99.9°	101.8°	1.9°	3.33	N	<0.21	N/A	<10%	Lower	Inside	45s	
21	102.4°	105.9°	3.5°	6.13	N	<0.21	N/A	<10%	Lower	Inside	45s	
22	108.1°	111.2°	5.1°	8.93	N	<0.21	N/A	<10%	Lower	Inside	45s	
23	111.3°	112.3°	1.0°	1.75	N	<0.21	N/A	<10%	Lower	Inside	45s	
24	112.8°	119.3°	6.7°	11.74	N	<0.21	N/A	<10%	Lower	Inside	45s	
25	119.5°	126.4°	6.9°	12.09	Y	<0.21	N/A	<10%	Lower	Inside	45s	
26 <sup>†</sup>	128.4°	129.9°	1.5°	2.63	N	<0.21	N/A	<10%	Lower	Inside	45s	
27	188.9°	190.8°	1.9°	3.33	N	<0.21	N/A	<10%	Lower	Inside	45s	
28	191.7°	194.2°	2.5°	4.38	N	0.24	193.1°	11.2%	Lower	Inside	45s	
29	205.1°	205.8°	0.7°	1.23	N	<0.21	N/A	<10%	Lower	Inside	45s	
30	210.5°	216.0°	5.5°	9.64	N	<0.21	N/A	<10%	Lower	Inside	45s	
31 <sup>†</sup>	216.5°	219.2°	2.7°	4.73	N	<0.21	N/A	<10%	Lower	Inside	45s	
32	232.6°	234.7°	2.1°	3.68	N	<0.21	N/A	<10%	Lower	Inside	45s	
33	240.9°	242.0°	1.1°	1.93	N	<0.21	N/A	<10%	Lower	Inside	45s	
34	243.6°	245.2°	1.6°	2.80	N	<0.21	N/A	<10%	Lower	Inside	45s	
35	257.9°	260.6°	2.7°	4.73	N	<0.21	N/A	<10%	Lower	Inside	45s	
36	279.6°	289.7°	10.1°	17.69	Y	<0.21	N/A	<10%	Lower	Inside	45s	
37	291.4°	293.6°	2.2°	3.85	N	<0.21	N/A	<10%	Lower	Inside	45s	



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**Shroud Weld H6 Indication Data (Lower Side), cont'd**

Ind. No.	Start Deg.	End Deg.	Length Deg.	Length in	Multiple Scans	Depth Max.in	Depth Pos.Deg.	Percent Thruwall	Side of Weld *	Initiating Surface	Length Angle	Depth Angle
38	297.0°	299.3°	2.3°	4.03	N	0.23	279.9°	10.7%	Lower	Inside	45s	
39	302.0°	303.9°	1.9°	3.33	N	<0.21	N/A	<10%	Lower	Inside	45s	
40	304.5°	308.7°	4.2°	7.36	Y	<0.21	N/A	<10%	Lower	Inside	45s	

**Indication Comments:**

- <sup>1</sup> Flaw extends beyond scan area
- \* In reference to the weld
- > Indication depth is measured from initiation surface, either I.D. or O.D., as applicable. Indication length as noted in inches refers to O.D. measurements, regardless of whether the indication is I.D. or O.D..
- ^ In the absence of 60° RL and 45° shear wave flaw tip data, the following shall apply. For inside surface-connected flaws, document the flaw as less than 10% through-wall. For outside surface-connected flaws, document the through-wall dimension as the bounding capability of the 60° RL primary beam in relation to the location of the flaw. Typically, this dimension is 0.30"

**Areas Not Examined (Azimuth References): 130.8° Total Degrees Not Examined By At Least One Detection Angle**

0.0°	to	5.1°	for	5.1°	Core Spray Downcomers, Guide Pin.
39.9°	to	50.1°	for	10.2°	LPCI Line
129.9°	to	185.1°	for	55.2°	LPCI Line, Lifting Lug, CS Downcomers, Guide Pin
219.9°	to	230.1°	for	10.2°	LPCI Line
309.9°	to	360.0°	for	50.1°	LPCI Line, Lifting Lug, CS Downcomers, Guide Pin

**Additional Comments:**

BWRVIP-03 , 4.4.18 Shroud Demonstration 16, scan type 1

**Section 3**

**Summary of ASME Section XI Repairs and Replacements**

**Limerick Generating Station, Unit 2**

**Cycle 8**

**March 24, 2003 to March 18, 2005**

## Summary of ASME Section XI Repairs and Replacements

**System 011 Emergency Service Water (Unit 2)**

R0867552 011-2007; Replaced hinge pin plug in 6" check valve.

C0210393 011-2008; Replace wedge in 6" gate valve.

R0867558 011-2011; Replaced hinge pin plug in 8" check valve.

C0201236 HV-011-206A; Replaced 2" globe valve and adjacent piping.

C0201235 HV-011-206B; Replaced 2" globe valve and adjacent piping.

C0210349 HV-011-232A; Replaced wedge in ESW gate valve.

C0201470 HBC-243-02; Replaced 6" Emergency Service Water piping.

C0201926 HBC-245; Replaced 3" ESW piping and pipe support.

C0209693 HBC-239 & HBC-248; Replaced 'A' Loop ESW unit cooler piping with stainless steel.

C0210924 HBC-239 & HBC-248; Replaced 'B' Loop ESW unit cooler piping with stainless steel.

C0210332 HBC-239; Replaced 4" ESW piping.

C0211875 HBC-251; Replaced ESW piping.

C0210403 HBC-252-2; Repaired pin hole leaks in ESW welds.

C0210991 HBC-239-1; Repaired pin hole leak in ESW weld.

R0886826 HBC-241-E2; Replaced 2" ESW pipe flange.

**System 041 Nuclear Boiler**

R0973250 HV-041-2F074A; Replaced 24" feedwater check valve disc.

C0212348 MSRV S/N 167; Weld repaired MSRV body inlet flange.

C0212779 MSRV S/N 17; Weld repaired MSRV body inlet flange.

R0930754 PSV-041-2F013D; Replaced MSRV body S/N 190 and pilot S/N 017 with reworked body S/N 166 and pilot S/N 001. Replaced main disc.

R0931382 PSV-041-2F013E; Replaced MSRV body S/N 176 and pilot S/N 029 with reworked body S/N 185 and pilot S/N 019.

R0937540 PSV-041-2F013F; Replaced MSRV body S/N 174 and pilot S/N 027 with reworked body S/N 159 and pilot S/N 003. Replaced MSRV bolting.

R0937034 PSV-041-2F013H; Replaced MSRV body S/N 170 and pilot S/N 018 with reworked body S/N 167 and pilot S/N 005.

R0930991 PSV-041-2F013L; Replaced MSRV body S/N 151 and pilot S/N 025 with reworked body S/N 161 and new pilot S/N 002. Replaced MSRV pilot body.

## Summary of ASME Section XI Repairs and Replacements

R0930748 PSV-041-2F013M; Replaced MSRV body S/N 189 and pilot S/N 023 with reworked body S/N 173 and pilot S/N 012.

R0937010 PSV-041-2F013S; Replaced MSRV body S/N 169 and pilot S/N 030 with reworked body S/N 165 and pilot S/N 041. Replaced main disc and seat.

### **System 044 Reactor Water Clean-Up**

C0210883 HV-044-2F039; Replaced 4" flanged valve.

### **System 047 Control Rod Drive**

C0210101 SYSTEM-047; Installed CRD Flush piping.

R0927571 20S299-14-07; Replaced Control Rod Drive and two (2) CRD flange bolts.

20S299-18-07; Replaced Control Rod Drive.

20S299-18-39; Replaced Control Rod Drive.

20S299-18-47; Replaced Control Rod Drive and three (3) CRD flange bolts.

20S299-22-23; Replaced Control Rod Drive.

20S299-26-31; Replaced Control Rod Drive.

20S299-26-43; Replaced Control Rod Drive.

20S299-30-59; Replaced Control Rod Drive.

20S299-34-43; Replaced Control Rod Drive.

20S299-38-15; Replaced Control Rod Drive.

20S299-38-35; Replaced Control Rod Drive and one (1) CRD flange bolt.

20S299-42-07; Replaced Control Rod Drive and four (4) CRD flange bolts.

20S299-42-19; Replaced Control Rod Drive.

20S299-42-35; Replaced Control Rod Drive.

20S299-42-59; Replaced Control Rod Drive and one (1) CRD flange bolt.

20S299-46-31; Replaced Control Rod Drive.

20S299-46-35; Replaced Control Rod Drive.

20S299-50-11; Replaced Control Rod Drive.

20S299-58-43; Replaced Control Rod Drive and four (4) CRD flange bolts.

## Summary of ASME Section XI Repairs and Replacements

### System 048 Standby Liquid Control

- C0202770 ECB-214; Replaced 2" piping.
- C0204809 ECB-214; Replaced 2" piping.
- R0802617 XV-048-2F004A; Replaced explosive valve trigger body and inlet fitting.
- R0973614 XV-048-2F004A; Replaced explosive valve trigger body and inlet fitting.

### System 050 RCIC Pump and Turbine

- C0211953 HBB-204-2; Installed 6" blind and vent.
- R0866336 PSE-050-2D002; Replaced rupture disc.
- R0866711 PSE-050-2D001; Replaced rupture disc.

### System 051 Residual Heat Removal

- R0923832 051-2F046D; Replaced check valve disc.
- C0211739 HV-051-2F016B; Replaced 16" valve and adjacent pipe.
- C0210306 HV-051-2F050A; Replaced disc and seat ring in 12" check valve.
- C0210602 HV-051-2F050B; Replaced disc, cover stud, and bearing cover stud.
- C0209173 HV-051-\*F050A (B); Replaced disc and cover bolting in spare check valve.

### System 052 Core Spray

- R0953440 PSV-052-2F032B; Replaced relief valve and adjacent pipe.
- R0937268 PSV-052-2F032C; Replaced relief valve and adjacent pipe.
- R0953443 PSV-052-2F032D; Replaced relief valve and adjacent pipe.

### System 055 High Pressure Coolant Injection

- C0211211 055-2F019; Installed vent on check valve bonnet.
- C0211323 055-2F045; Installed vent on check valve bonnet.
- R0930323 055-2F045; Installed vent on check valve bonnet.
- C0209579 HV-055-2F093; Replaced 4" HPCI gate valve.

## Summary of ASME Section XI Repairs and Replacements

### System 057 Containment Atmosphere Control

R0931762 PSV-057-237A-1; Replaced (1) flange nut.

### System 090 Control Enclosure Chilled Water

R0942897 0B-K112; Weld build-up repair of heat exchanger water box.

### System 092 Diesel Generators

C0204800 2A-E586; Replaced water box channels, covers, and flange bolting.

C0204822 2C-E586; Replaced water box channels, covers, and flange bolting.

C0208210 2C-P532; Replaced DG Pre-lube pump.

C0208224 2C-P535; Replaced DG Lube Oil standby circulation pump.

### System 103 Snubbers

C0206037 Replaced thrust bearings in spare mechanical shock arrestors.

C0210680 Replaced thrust bearings in spare mechanical shock arrestors.

C0213033 STG-2MS-H007; Replaced mechanical shock arrestor.

R0970701 STG-2MS-H007; Replaced mechanical shock arrestor.

C0213106 VRR-2RP-H002; Replaced mechanical shock arrestor.

C0213106 VRR-2RP-H007; Replaced mechanical shock arrestor.

A1464272 Replaced Mechanical shock arrestors.

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

1. Owner Exelon Generation Company, LLC Date March 30, 2005  
 Name \_\_\_\_\_  
200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
 Address \_\_\_\_\_
2. Plant Limerick Generating Station Unit 2  
 Name \_\_\_\_\_  
3146 Sanatoga Road, Pottstown, PA 19464 Work Order # C0201235  
 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  
3146 Sanatoga Road, Pottstown, PA 19464 Expiration Date N/A  
 Address \_\_\_\_\_
4. Identification of System : Emergency Service Water (System-011) Line No. HBC-240 Valve HV-011-206B
5. (a) Applicable Construction Code ASME III 1974 Edition, Winter 1974 Addenda, N-416-1 Code Case  
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped
HV-011-206B	Flowserve	20 AVS	N/A	* 114-85129 PO# 257797-348124	2002	Replacement	Yes
(4) Foot 2" NPS Pipe	Gulf States Tube Vision Metals	Heat No. 710144	N/A	* 114-90045 PO# 009825-348899	N/A	Replacement	No
(1) 2" NPS Flange	Western Forge & Flange Co.	Heat code BIH	N/A	* 114-90527 PO# 009825-348775	N/A	Replacement	No

\* Traceability per Exelon part code number.

7. Description of Work Replaced 2" valve and adjacent piping.

8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
 Other \_\_\_\_\_ Pressure 113 PSI Test Temp. N/A °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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: Manufacturer's data reports are traceable by Exelon work order package.  
Applicable Manufacturer's Data Reports to be attached

Valve HV-011-206B constructed in accordance with ASME III, 1974 edition, Summer 1975 addenda.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**CERTIFICATE OF COMPLIANCE**

We certify that the statements made in the report are correct and this replacement conforms to the rules of the  
ASME Code, Section XI (repair or replacement)  
Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed  J.H. Kramer, engineer Date March 30, 2005  
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 HSBCT of  
Hartford, CT have inspected the components described  
in this Owner's Report during the period 2 SEP 03 to 7 APR 05, 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.

 Commissions PA-2497 I.N & A, C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 7 APR 20 05

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

1. Owner Exelon Generation Company, LLC Date November 2, 2004  
 Name \_\_\_\_\_  
200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
 Address \_\_\_\_\_
2. Plant Limerick Generating Station Unit 2  
 Name \_\_\_\_\_  
P.O. Box 2300, Pottstown, PA 19464-2300 Work Order # C0201236  
 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  
P.O. Box 2300, Pottstown, PA 19464-2300 Expiration Date N/A  
 Address \_\_\_\_\_
4. Identification of System : Emergency Service Water (System-011) Line No. HBC-240 Valve HV-011-206A
5. (a) Applicable Construction Code ASME III 1974 Edition, Winter 1974 Addenda, N-416-1 Code Case  
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped
HV-011-206A	Flowserve	62AXR	N/A	* 114-85129 PO# 257797-481190	2003	REPLACEMENT	YES
(2) Foot 2" NPS Pipe	United States Steel	Heat No. A43935	N/A	* 114-90045 PO# 009825-348832	N/A	REPLACEMENT	NO
(1) 2" NPS Flange	Ideal Forging	Heat code S1234	N/A	* 114-90527 PO# 009825-348477	N/A	REPLACEMENT	NO

\* Traceability per Exelon part code number.

7. Description of Work Replaced 2" valve and adjacent piping.

8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
 Other \_\_\_\_\_ Pressure 112 PSI Test Temp. 92 °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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: Manufacturer's data reports are traceable by Exelon work order package.  
Applicable Manufacturer's Data Reports to be attached

Valve HV-011-206A constructed in accordance with ASME III, 1974 edition, Summer 1975 addenda.

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI (repair or replacement)  
Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed J. H. Kramer J.H. Kramer, engineer Date November 2, 2004  
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 HSBCT of Hartford, CT

Paul L. Leman have inspected the components described in this Owner's Report during the period 29 APR 03 to 15 NOV 04, 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 L. Leman Commissions PA-2497 I.N & A. C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 15 NOV 20 04

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

1. Owner Exelon Generation Company, LLC Date April 19, 2005  
Name \_\_\_\_\_  
200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
Address \_\_\_\_\_

2. Plant Limerick Generating Station Unit 2  
Name \_\_\_\_\_  
3146 Sanatoga Road, Pottstown PA 19464 Work order # C0210349  
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  
3146 Sanatoga Road, Pottstown PA 19464 Expiration Date N/A  
Address \_\_\_\_\_

4. Identification of System: Emergency Service Water (System-011) Line No. HBC-294 Valve HV-011-232A

5. (a) Applicable Construction Code ASME III 1971 Edition, Summer 1973 Addenda, N/A Code Case  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped
Valve Wedge	Velan Valve	S/N 6830	N/A	* 114-78411 PO# 010230	1993	Replacement	Yes

\* Traceability per Exelon part code number.

7. Description of Work: Replaced 6" gate valve wedge

8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other \_\_\_\_\_ Pressure N/A psi Test Temp. N/A °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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: Manufacturer's data reports are traceable by Exelon work order package.  
Applicable Manufacturer's Data Reports to be attached

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CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI  
Type Code Symbol Stamp NA  
Certificate of Authorization No. NA Expiration Date NA  
Signed J.H. Kramer J.H. Kramer, engineer Date April 19, 2005  
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 HSBCT of Hartford, CT have inspected the components described in this Owner's Report during the period 8 JULY 04 to 21 APR 05, 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 Bernardi Commissions PA-2497 I, N & A, C  
Inspector's Signature National Board, State, Province, and Endorsements  
Date 21 APR 2005

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

1. Owner Exelon Generation Company, LLC Date April 19, 2005  
Name

200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
Address

2. Plant Limerick Generating Station Unit 2  
Name

3146 Sanatoga Road, Pottstown PA 19464 Work order # C0210403  
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

3146 Sanatoga Road, Pottstown PA 19464 Expiration Date N/A  
Address

4. Identification of System Emergency Service Water (System-011) Line No. HBC-252-02

5. (a) Applicable Construction Code ASME III 1974 Edition, Winter 1974 Addenda, N-416-2 Code Case  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 89

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped
6" HBC-252-2 Field Weld# 3	Exelon	N/A	N/A	N/A	N/A	Repair	No
6" HBC-252-2 Field Weld# 13	Exelon	N/A	N/A	N/A	N/A	Repair	No
6" HBC-252-2 Field Weld# 52	Exelon	N/A	N/A	N/A	N/A	Repair	No

7. Description of Work: Weld repair 6" emergency service water pipe welds.

8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other \_\_\_\_\_ Pressure 120 psi Test Temp. N/A °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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: Weld repair completed in accordance with ASME III, 1983 edition with addenda through summer 1983, ND-4453.1.  
Applicable Manufacturer's Data Reports to be attached

Pressure testing completed in accordance with ASME XI, 1992 edition.

NDE completed in accordance with ASME III, 1992 edition.

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this \_\_\_\_\_ repair \_\_\_\_\_ conforms to the rules of the ASME Code, Section XI

Type Code Symbol Stamp \_\_\_\_\_ NA \_\_\_\_\_

Certificate of Authorization No. \_\_\_\_\_ NA \_\_\_\_\_ Expiration Date \_\_\_\_\_ NA \_\_\_\_\_

Signed J. H. Kramer J.H. Kramer, engineer Date April 19, 2005  
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 HSBCT of Hartford, CT

\_\_\_\_\_ have inspected the components described in this Owner's Report during the period 27 AUG 04 to 26 APR 05, 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 Leonard Commissions PA-2497 I, N & A, C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 26 APR 20 05

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

1. Owner Exelon Generation Company, LLC Date June 16, 2003  
 Name  
200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
 Address

2. Plant Limerick Generating Station Unit 2  
 Name  
P.O. Box 2300, Sanatoga, PA 19464-2300 Work Order No. C0201470  
 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  
P.O. Box 2300, Sanatoga, PA 19464-2300 Expiration Date N/A  
 Address

4. Identification of System Emergency Service Water (System 011) Line No. HBC-243-2

5. (a) Applicable Construction Code ASME III 1974 Edition, Winter 1974 Addenda, N-416-1 Code Case  
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 89

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
(6) Feet 6" NPS pipe	U.S. Steel	Heat# C85824	N/A	* 114-90062 PO# 183058	N/A	Replacement	No
(1) 6" NPS 90 degree elbow	Taylor Forge	Heat code# LTJH-3	N/A	* 114-91554 PO# 9825-348432	N/A	Replacement	No
(1) 3/4" NPS Half Coupling	Colonial Machine Co.	Heat# 8860857 Heat code# AFG	N/A	* 114-92667 PO# 164716	N/A	Replacement	No

\* Traceability per Exelon stock code number.

7. Description of work: Replaced 6" HBC-243-2 Emergency service water piping.  
 8. Tests conducted: Hydrostatic Pneumatic Nominal Operating Pressure ;  
 Other 115 psi Test Temp. N/A °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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 Per Code case N-416-1, NDE performed in accordance with ASME III, 1992 edition. Pressure testing completed in  
Applicable Manufacturer's Data Reports to be attached  
accordance with ASME XI, 1992 edition.

Pipe elbow supplied in accordance with ASME II & III, 2001 edition. Pipe coupling supplied in accordance with ASME II & III, 1986 edition.

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the  
ASME Code, Section XI. (repair or replacement)  
Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed J.H. Kramer J.H. Kramer (engineer) Date June 16, 2003  
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 HSBCT of  
Hartford, CT have inspected the components described  
in this Owner's Report during the period 26 JUNE 02 to 2 JULY 03, 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 Servant Commissions PA-2497 I, N & A  
Inspector's Signature National Board, State, Province, and Endorsements

Date 2 JULY 2003

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

1. Owner Exelon Generation Company, LLC Date May 19, 2005  
Name

200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 4  
Address

2. Plant Limerick Generating Station Unit N/A  
Name

3146 Sanatoga Road, Pottstown, PA 19464 Work Order C0209693  
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

3146 Sanatoga Road, Pottstown, PA 19464 Expiration Date N/A  
Address

4. Identification of System Emergency Service Water (System 011) Line No. HBC-239 & HBC-248 'A' Loop ESW

5. (a) Applicable Construction Code ASME III 1974 Edition, Winter 1974 Addenda, N-416-2 Code Case  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 89

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped
Valve HV-011-204A	BNL Industries	A040507-2-1	N/A	* 114-47765 PO 009943	2005	Replacement	Yes
Valve HV-011-204E	BNL Industries	A040507-2-2	N/A	* 114-47765 PO 009943	2005	Replacement	Yes
Valve 011-2014A	BNL Industries	A040507-1-9	N/A	* 114-47767 PO 009943	2005	Replacement	Yes
Valve 011-2018A	BNL Industries	A040507-1-13	N/A	* 114-47767 PO 009943	2005	Replacement	Yes
Valve 011-2015A	Velan Valve	052006-3	N/A	* 114-47766 PO 009953	2005	Replacement	Yes
Valve 011-2015E	Velan Valve	052006-2	N/A	* 114-47766 PO 009953	2005	Replacement	Yes

\* Traceability per Exelon stock code and purchase order number

7. Description of Work: Replaced carbon steel emergency service water "A" loop piping and valves with stainless steel.

8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other  Pressure 120 & 125 psi Test Temp. N/A °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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.

(12/82) This Form (E00030) may be obtained from the Order Dept., ASME, 345 E.47th St., New York, N.Y. 10017

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

1. Owner Exelon Generation Company, LLC Date May 19, 2005  
Name  
200 Exelon Way, Kennett Square, PA 19348 Sheet 2 of 4  
Address
2. Plant Limerick Generating Station Unit N/A  
Name  
3146 Sanatoga Road, Pottstown, PA 19464 Work Order C0209693  
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  
3146 Sanatoga Road, Pottstown, PA 19464 Expiration Date N/A  
Address
4. Identification of System Emergency Service Water (System 011) Line No. HBC-239 & HBC-248 "A" Loop ESW
5. (a) Applicable Construction Code ASME III 1974 Edition, Winter 1974 Addenda, N/A Code Case  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 89
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped
(18 feet) 4" NPS pipe	Tubacex	Heat No. 33687	N/A	* 114-56231 PO 009825- 1670	N/A	Replacement	No
(32 feet) 4" NPS pipe	Tubacex	Heat No. 33721	N/A	* 114-56231 PO 009825- 1670	N/A	Replacement	No
(14 feet) 3" NPS pipe	Tubacex	Heat No. 33628	N/A	* 114-00183 PO 009825- 1638	N/A	Replacement	No
(2 feet) 1-1/2" NPS pipe	Pennsylvania Extruded Tube Co.	Heat No. 459887	N/A	* 114-04899 PO 009825-1632	N/A	Replacement	No
(8) 4" NPS weld neck flanges	Western Forge & Flange	Heat No. 33446	N/A	* 114-56323 PO 009825-1670	N/A	Replacement	No
(8) 3" NPS slip-on flanges	WFI Nuclear	Heat No. 2561 ANE	N/A	* 114-57169 PO 009825-1747	N/A	Replacement	No
(2) 4" NPS cap	Taylor Forge	Heat No. LMZZ-1	N/A	* 114-56641 PO 009825-1670	N/A	Replacement	No
(4) 3" NPS long radius elbow	Taylor Forge	Heat No. LZSY-1	N/A	* 114-56252 PO 009825-1670	N/A	Replacement	No
(4) 4" NPS tee	Taylor Forge	Heat No. MDVX-1	N/A	* 114-56230 PO 009825-1670	N/A	Replacement	No
(4) 4" x 3" NPS reducer	Taylor Forge	Heat No. MDVX-1	N/A	* 114-56375 PO 009825-1670	N/A	Replacement	No



FORM NIS-2 (BACK)

9. Remarks : Manufacturers data reports are traceable by work order package.  
Applicable Manufacturer's Data Reports to be attached

Per Code case N-416-2, NDE performed in accordance with ASME III, 1992 edition.

Pressure testing completed in accordance with ASME XI, 1992 edition.

Work completed in accordance with Exelon design change ECR LG-03-00705.

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the  
ASME Code, Section XI. repair of replacement  
Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed J. H. Kramer J. H. Kramer, Engineer Date May 19, 2005  
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 HSBCT of  
Hartford, CT have inspected the components described  
in this Owner's Report during the period 08 DEC 04 to 01 JUNE 05, 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 Peraino Commissions PA-2497 I.N & A. C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 01 JUNE 2005

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

1. Owner Exelon Generation Company, LLC Date May 16, 2005  
Name \_\_\_\_\_
- 200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 4  
Address \_\_\_\_\_
2. Plant Limerick Generating Station Unit N/A  
Name \_\_\_\_\_
- 3146 Sanatoga Road, Pottstown, PA 19464 Work Order C0210924  
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
- 3146 Sanatoga Road, Pottstown, PA 19464 Expiration Date N/A  
Address \_\_\_\_\_
4. Identification of System Emergency Service Water (System 011) Line No. HBC-239 & HBC-248 "B" Loop ESW
5. (a) Applicable Construction Code ASME III 1974 Edition, Winter 1974 Addenda, N-416-2 Code Case  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 89
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped
Valve HV-011-204B	BNL Industries	A040507-2-3	N/A	* 114-47765 PO 009943	2005	Replacement	Yes
Valve HV-011-204F	BNL Industries	A040507-2-4	N/A	* 114-47765 PO 009943	2005	Replacement	Yes
Valve 011-2014B	BNL Industries	A040507-1-10	N/A	* 114-47767 PO 009943	2005	Replacement	Yes
Valve 011-2018B	BNL Industries	A040507-1-14	N/A	* 114-47767 PO 009943	2005	Replacement	Yes
Valve 011-2015B	Velan Valve	052006-4	N/A	* 114-47766 PO 009953	2005	Replacement	Yes
Valve 011-2015F	Velan Valve	052006-1	N/A	* 114-47766 PO 009953	2005	Replacement	Yes

\* Traceability per Exelon stock code and purchase order number

7. Description of Work: Replaced carbon steel emergency service water "B" loop piping and valves with stainless steel.
8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other  Pressure 120 psi Test Temp. N/A °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS  
As Required by the Provisions of the ASME Code Section XI

1. Owner Exelon Generation Company, LLC Date May 16, 2005  
Name  
200 Exelon Way, Kennett Square, PA 19348 Sheet 2 of 4  
Address
2. Plant Limerick Generating Station Unit N/A  
Name  
3146 Sanatoga Road, Pottstown, PA 19464 Work Order C0210924  
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  
3146 Sanatoga Road, Pottstown, PA 19464 Expiration Date N/A  
Address
4. Identification of System Emergency Service Water (System 011) Line No. HBC-239 & HBC-248 "B" Loop ESW
5. (a) Applicable Construction Code ASME III 1974 Edition, Winter 1974 Addenda, N/A Code Case  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 89
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped
(48 feet) 4" NPS pipe	Tubacex	Heat No. 33687	N/A	* 114-56231 PO 009825- 1670	N/A	Replacement	No
(16 feet) 3" NPS pipe	Tubacex	Heat No. 33628	N/A	* 114-00183 PO 009825- 1638	N/A	Replacement	No
(2 feet) 1-1/2" NPS pipe	Pennsylvania Extruded Tube Co.	Heat No. 459887	N/A	* 114-04899 PO 009825-1632	N/A	Replacement	No
(8) 4" NPS weld neck flanges	Western Forge & Flange	Heat No. 33446	N/A	* 114-56323 PO 009825-1670	N/A	Replacement	No
(8) 3" NPS slip-on flanges	WFI Nuclear	Heat No. 2561 ANE	N/A	* 114-57169 PO 009825-1747	N/A	Replacement	No
(2) 4" NPS cap	Taylor Forge	Heat No. LMZZ-1	N/A	* 114-56641 PO 009825-1670	N/A	Replacement	No
(4) 3" NPS long radius elbow	Taylor Forge	Heat No. LZSY-1	N/A	* 114-56252 PO 009825-1670	N/A	Replacement	No
(4) 4" NPS tee	Taylor Forge	Heat No. MDVX-1	N/A	* 114-56230 PO 009825-1670	N/A	Replacement	No
(4) 4" x 3" NPS reducer	Taylor Forge	Heat No. MDVX-1	N/A	* 114-56375 PO 009825-1670	N/A	Replacement	No
(4) 4" x 3" NPS reducing tee	Taylor Forge	Heat No. MDVX-2	N/A	* 114-56361 PO 009825-1670	N/A	Replacement	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 Generation Company, LLC Date May 16, 2005  
Name  
200 Exelon Way, Kennett Square, PA 19348 Sheet 3 of 4  
Address
2. Plant Limerick Generating Station Unit N/A  
Name  
3146 Sanatoga Road, Pottstown, PA 19464 Work Order C0210924  
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  
3146 Sanatoga Road, Pottstown, PA 19464 Expiration Date N/A  
Address
4. Identification of System Emergency Service Water (System 011) Line No. HBC-239 & HBC-248 "B" Loop ESW
5. (a) Applicable Construction Code ASME III 1974 Edition, Winter 1974 Addenda, N/A Code Case  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19\_89
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped
(2) 4" NPS 45 degree elbow	Taylor Forge	Heat No. MDVX-2	N/A	* 114-56239 PO 009825-1670	N/A	Replacement	No
(5) 4" NPS short radius elbow	Taylor Forge	Heat No. MDVX-2	N/A	* 114-56237 PO 009825-1670	N/A	Replacement	No
(3) 4" NPS long radius elbow	Taylor Forge	Heat No. MDWS-1	N/A	* 114-56238 PO 009825-1670	N/A	Replacement	No
(2) 1-1/2" NPS half coupling	Colonial Machine	Heat No. 56341-1	N/A	* 114-92053 PO 009825-1601	N/A	Replacement	No
(4) 3/4" NPS half coupling	Colonial Machine	Heat No. D80175A-3	N/A	* 114-92051 PO 009825-1601	N/A	Replacement	No
HBC-239-H43 spring cans	Bergen Power	Part No. 3100-B-7	N/A	* 114-90605 PO 182789	N/A	Replacement	No
HBC-239-H43 (4) pipe lugs	Allegheny Ludlum	Heat No. 816618	N/A	* 114-56455 PO 009825-1670	N/A	Replacement	No
HBC-239-H45 (8) pipe lugs	Allegheny Ludlum	Heat No. 816618	N/A	* 114-56443 PO 009825-1670	N/A	Replacement	No
HBC-248-H16 (8) pipe lugs	Allegheny Ludlum	Heat No. 816618	N/A	* 114-56443 PO 009825-1670	N/A	Replacement	No

FORM NIS-2 (BACK)

9. Remarks : Manufacturers data reports are traceable by work order package.  
Applicable Manufacturer's Data Reports to be attached

Per Code case N-416-2, NDE performed in accordance with ASME III, 1992 edition.

Pressure testing completed in accordance with ASME XI, 1992 edition.

Work completed in accordance with Exelon design change ECR LG-03-00705.

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the  
ASME Code, Section XI. repair of replacement

Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed J. H. Kramer J. H. Kramer, Engineer Date May 16, 2005  
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 HSBCT of  
Hartford, CT have inspected the components described  
in this Owner's Report during the period 26 JAN 05 to 23 MAY 05, 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 PA-2497 I.N & A. C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 23 MAY 2005

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

1. Owner Exelon Generation Company, LLC Date June 16, 2003  
Name  
200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
Address
2. Plant Limerick Generating Station Unit 2  
Name  
P.O. Box 2300, Sanatoga, PA 19464-2300 Work Order No. C0201926  
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  
P.O. Box 2300, Sanatoga, PA 19464-2300 Expiration Date N/A  
Address
4. Identification of System Emergency Service Water (System 011) Line No. HBC-245-2
5. (a) Applicable Construction Code ASME III 1974 Edition, Winter 1974 Addenda, N-416-1 Code Case  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19\_89
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
(4) Feet 3" NPS pipe	USS Tubular Products	Heat# L22569	N/A	* 114-90060 PO# 182146	N/A	Replacement	No
(2) 3" NPS 90 Degree elbows	Tube forgings of America	Heat# H497K Trace# 15872	N/A	* 114-91552 PO# 182146	N/A	Replacement	No
(1) 3" NPS flange	Ideal Forging	Heat code S1324	N/A	* 114-91439 PO# 9825-348497	N/A	Replacement	No
3" x 3" x 1/4 Tube steel	Leavitt Tube Co.	Heat# 833V64290	N/A	* 114-99232 PO# 1897-348021	N/A	Replacement	No

\* Traceability per Exelon stock code number.

7. Description of work: Replaced 3" HBC-245-2 Emergency service water piping. Reworked 3" pipe supports.
8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other 115 psi Test Temp. N/A °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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 Per Code case N-416-1, NDE performed in accordance with ASME III, 1992 edition. Pressure testing completed in  
Applicable Manufacturer's Data Reports to be attached  
accordance with ASME XI, 1992 edition. Construction code for pipe supports is ANSI B31.7, 1969 edition, March 10, 1971 addenda.  
Piping supplied in accordance with 1989 and 2001 edition of ASME II and III.  
Pipe supports HBC-245-H16 and H17 modified per Exelon design change ECR# LG-03-00115.

CERTIFICATE OF COMPLIANCE			
We certify that the statements made in the report are correct and this <u>replacement</u> conforms to the rules of the ASME Code, Section XI. (repair or replacement)			
Type Code Symbol Stamp	<u>NA</u>		
Certificate of Authorization No.	<u>NA</u>	Expiration Date	<u>NA</u>
Signed	<u>J.H. Kramer (engineer)</u>	Date	<u>June 16, 2003</u>
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 <u>Pennsylvania</u> and employed by <u>HSBCT</u> of <u>Hartford, CT</u> have inspected the components described in this Owner's Report during the period <u>24 OCT 02</u> to <u>2 JULY 03</u> , 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	<u>Paul Bernat</u> Commissions <u>PA-2497 I.N &amp; A</u> National Board, State, Province, and Endorsements
Date	<u>2 JULY 2003</u>

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

1. Owner Exelon Generation Company, LLC Date March 9, 2005  
Name

200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
Address

2. Plant Limerick Generating Station Unit 2  
Name

3146 Sanatoga Road, Pottstown PA 19464 Work order # C0210332  
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

3146 Sanatoga Road, Pottstown PA 19464 Expiration Date N/A  
Address

4. Identification of System Emergency Service Water (System-011) Line No. HBC-239-06

5. (a) Applicable Construction Code ASME III 1974 Edition, Winter 1974 Addenda, N-416-1 Code Case  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 89

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped
4" Sch 40 Pipe	United States Steel	Heat# C68277	N/A	* 114-90061 PO# 009825-481352	N/A	Replacement	No

7. Description of Work: Replaced 4" Emergency service water pipe section.

8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other    Pressure 100 psi Test Temp. N/A °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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: \_\_\_\_\_  
Applicable Manufacturer's Data Reports to be attached  
\_\_\_\_\_  
Pressure testing completed in accordance with ASME XI, 1992 edition.  
\_\_\_\_\_  
NDE completed in accordance with ASME III, 1992 edition.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this \_\_\_\_\_ replacement \_\_\_\_\_ conforms to the rules of the ASME Code, Section XI

Type Code Symbol Stamp \_\_\_\_\_ NA \_\_\_\_\_

Certificate of Authorization No. \_\_\_\_\_ NA \_\_\_\_\_ Expiration Date \_\_\_\_\_ NA \_\_\_\_\_

Signed J.H. Kramer J.H. Kramer, engineer Date March 9, 2005  
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 HSBCT of Hartford, CT

\_\_\_\_\_ have inspected the components described in this Owner's Report during the period 30 JUL 04 to 28 MAR 05, 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 PA-2497 I,N & A  
Inspector's Signature National Board, State, Province, and Endorsements

Date 28 MAR 20 05

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

1. Owner Exelon Generation Company, LLC Date March 9, 2005  
Name
- 200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
Address
2. Plant Limerick Generating Station Unit 2  
Name
- P.O. Box 2300, Pottstown PA 19464-2300 Work order # C0210393  
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
- P.O. Box 2300, Pottstown PA 19464-2300 Expiration Date N/A  
Address
4. Identification of System : Emergency Service Water (System-011) Line No. HBC-243 Valve 011-2008
5. (a) Applicable Construction Code ASME III 1971 Edition, Summer 1973 Addenda, N/A Code Case  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped
Valve Wedge	Velan Valve	S/N 4153	N/A	* 114-42307 PO# 031128-481366	1993	Replacement	Yes

\* Traceability per Exelon part code number.

7. Description of Work : Replaced 6" valve wedge
8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure |  
Other    Pressure N/A psi Test Temp. N/A °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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: Manufacturer's data reports are traceable by Exelon work order package.  
Applicable Manufacturer's Data Reports to be attached

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CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI  
Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed J. H. Kramer J.H. Kramer, engineer Date March 9, 2005  
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 HSBCT of Hartford, CT have inspected the components described in this Owner's Report during the period 9 MAR 05 to 28 MAR 05, 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 PA-2497 I.N & A  
Inspector's Signature National Board, State, Province, and Endorsements

Date 28 MAR 20 05

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

1. Owner Exelon Generation Company, LLC Name Date April 19, 2005

200 Exelon Way, Kennett Square, PA 19348 Address Sheet 1 of 2

2. Plant Limerick Generating Station Name Unit 2

3146 Sanatoga Road, Pottstown PA 19464 Address Work order # C0210991  
Repair Organization P.O. No., Job No. etc.

3. Work Performed by Exelon Nuclear Name Type Code Symbol Stamp N/A  
Authorization No. N/A

3146 Sanatoga Road, Pottstown PA 19464 Address Expiration Date N/A

4. Identification of System Emergency Service Water (System-011) Line No. HBC-239-01

5. (a) Applicable Construction Code ASME III 1974 Edition, Winter 1974 Addenda, N-416-2 Code Case  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped
4" HBC-239-1 Field Weld# 4	Exelon	N/A	N/A	N/A	N/A	Repair	No

7. Description of Work: Weld repair 4" emergency service water pipe weld.

8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other \_\_\_\_\_ Pressure 120 psi Test Temp. N/A °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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: Weld repair completed in accordance with ASME III, 1983 edition with addenda through summer 1983, ND-4453.1,  
Applicable Manufacturer's Data Reports to be attached

Pressure testing completed in accordance with ASME XI, 1992 edition.

NDE completed in accordance with ASME III, 1992 edition.

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this repair conforms to the rules of the  
ASME Code, Section XI

Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed J.H. Kramer J.H. Kramer, engineer Date April 19, 2005  
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 HSBCT of  
Hartford, CT have inspected the components described

in this Owner's Report during the period 11 OCT 04 to 21 APR 05, 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 Leonard J. Commissions PA-2497 I.N & A. C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 21 APR 2005

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

1. Owner Exelon Generation Company, LLC Date April 28, 2005  
Name  
200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
Address

2. Plant Limerick Generating Station Unit 2  
Name  
3146 Sanatoga Road, Pottstown, PA 19464 Work Order No. C0211875  
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  
3146 Sanatoga Road, Pottstown, PA 19464 Expiration Date N/A  
Address

4. Identification of System Emergency Service Water (System 011) Line No. HBC-251-1 Unit Cooler 2A-V209

5. (a) Applicable Construction Code ASME III 1974 Edition, Winter 1974 Addenda, N-416-2 Code Case  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19\_89

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
(5) Feet 3" NPS pipe	U.S. Steel	Heat No. A21439	N/A	* 114-90060 PO# 009825-481368	N/A	Replacement	No
(3) 3" NPS flanges	Western Forge & Flange	Heat No. 3M40774	N/A	* 114-91439 PO# 009825-001769	N/A	Replacement	No
(1) 3" NPS 90 Degree elbow	B.L.K. Fittings	Heat No. X5757	N/A	* 114-91552 PO# 602793	N/A	Replacement	No
(1) 3" NPS 90 Degree elbow	Tube forgings of America	Heat No. J202G	N/A	* 114-91552 PO# 009825-481327	N/A	Replacement	No
(1) 3" NPS 90 Degree elbow	Tube forgings of America	Heat No. H497AB	N/A	* 114-91552 PO# 009825-348846	N/A	Replacement	No
(1) 3" NPS Tee	Ladish	Heat No. KB6XA	N/A	* 114-91905 PO# 182146	N/A	Replacement	No
(1) 3/4" NPS Half Coupling	Gibson Products	Heat No. DJ17	N/A	* 114-92667 PO# 181161	N/A	Replacement	No

\* Traceability per Exelon stock code number.

7. Description of work: Replaced 3" HBC-251-1 Emergency service water piping.  
8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other  116 psi Test Temp. N/A °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 In. 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 Per Code case N-416-2, NDE performed in accordance with ASME III, 1992 edition,  
Applicable Manufacturer's Data Reports to be attached

Pressure testing completed in accordance with ASME XI, 1992 edition,

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI.  
(repair or replacement)

Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed J.H. Kramer J.H. Kramer (engineer) Date April 28, 2005  
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 HSBCT of Hartford, CT have inspected the components described in this Owner's Report during the period 1 29 JAN 05 to 29 APR 05, 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 PA-2497 I.N & A.C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 29 APR 20 05

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

1. Owner Exelon Generation Company, LLC Date April 18, 2005  
Name  
200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
Address
2. Plant Limerick Generating Station Unit 2  
Name  
3146 Sanatoga Road, Pottstown PA 19464 Work order # R0867552  
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  
3146 Sanatoga Road, Pottstown PA 19464 Expiration Date N/A  
Address
4. Identification of System: Emergency Service Water (System-011) Line No. HBC-238 Valve 011-2007
5. (a) Applicable Construction Code ASME III 1971 Edition, Summer 1971 Addenda, 1516, 1567, 1622 Code Case  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 89
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped
Valve Hinge Pin Plug	Flowserve	Heat No. 61658 Trace No. 20505	N/A	*114-77343 PO# 257797-348162	N/A	Replacement	No

\* Traceability per Exelon part code number.

7. Description of Work: Replaced 6" check valve hinge pin plug
8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other    Pressure 131 psi Test Temp. N/A °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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: None

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI

Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed J.H. Kramer J.H. Kramer, engineer Date April 19, 2005  
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 HSBCT of Hartford, CT have inspected the components described in this Owner's Report during the period 10 AUG 04 to 26 APR 05, 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 Stenavich  
Inspector's Signature

Commissions PA-2497 I.N & A.C  
National Board, State, Province, and Endorsements

Date 26 APR 2005

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

1. Owner Exelon Generation Company, LLC Date April 19, 2005  
Name \_\_\_\_\_
- 200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
Address \_\_\_\_\_
2. Plant Limerick Generating Station Unit 2  
Name \_\_\_\_\_
- 3146 Sanatoga Road, Pottstown PA 19464 Work order # R0867558  
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
- 3146 Sanatoga Road, Pottstown PA 19464 Expiration Date N/A  
Address \_\_\_\_\_
4. Identification of System : Emergency Service Water (System-011) Line No. HBC-238 Valve 011-2011
5. (a) Applicable Construction Code ASME III 1971 Edition, Summer 1971 Addenda, 1516, 1567, 1622 Code Case  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped
Valve Hinge Pin Plug	Flowserve	Heat No. 79797 Trace Code A944	N/A	* 114-77312 PO# 257805-348617	N/A	Replacement	No

\* Traceability per Exelon part code number.

7. Description of Work : Replaced 8" check valve hinge pin plug

8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other    Pressure 118 psi Test Temp. N/A °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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: None

Applicable Manufacturer's Data Reports to be attached

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CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI  
Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed J.H. Kramer J.H. Kramer, engineer Date April 19, 2005  
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 HSBCT of Hartford, CT have inspected the components described in this Owner's Report during the period 30 NOV 04 to 21 APR 05, 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 Demant Commissions PA-2497 I.N & A.C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 21 APR 2005

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

1. Owner Exelon Generation Company, LLC Date March 12, 2005  
Name

200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
Address

2. Plant Limerick Generating Station Unit 2  
Name

3146 Sanatoga Road, Pottstown, PA 19464 Work Order No. R0886826  
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

3146 Sanatoga Road, Pottstown, PA 19464 Expiration Date N/A  
Address

4. Identification of System Emergency Service Water (System 011) Line No. SP-HBC-241-E3 ESW Cooler 2B-V211

5. (a) Applicable Construction Code ASME III 1974 Edition, Winter 1974 Addenda, N-416-1 Code Case  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 89

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
3" 150# RF WN Flange	Western Forge & Flange	Heat# 3M40774	N/A	* 114-91439 PO# 009825-481205	N/A	Replacement	No

\* Traceability per Exelon stock code number.

7. Description of work: Replaced 3" HBC-241 Emergency service water pipe flange

8. Tests conducted:  Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other  115 psi Test Temp. N/A °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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 Per Code case N-416-1, NDE performed in accordance with ASME III, 1992 edition. Pressure testing completed in  
Applicable Manufacturer's Data Reports to be attached  
accordance with ASME XI, 1992 edition.

Pipe flange supplied in accordance with ASME II & III, 1989 edition.

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the  
ASME Code, Section XI. (repair or replacement)

Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed J.H. Kramer J.H. Kramer (engineer) Date March 12, 2005  
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 HSBCT of  
Hartford, CT have inspected the components described  
in this Owner's Report during the period 12 NOV 03 to 28 MAR 05, 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 Sena Commissions PA-2497 I, N & A, C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 28 MAR 05

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

1. Owner Exelon Generation Company, LLC Date April 19, 2005  
Name

200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
Address

2. Plant Limerick Generating Station Unit 2  
Name

3146 Sanatoga Road, Pottstown, PA 19464 Work Order No. R0973250  
Address Repair Organization P.O. No., Job No. etc.

3. Work Performed by Exelon Nuclear Type Code Symbol Stamp None  
Name Authorization No. Not applicable

3146 Sanatoga Road, Pottstown, PA 19464 Expiration Date Not applicable  
Address

4. Identification of System Nuclear Boiler feedwater (System 041) Line No. DLA-205 Valve HV-041-2F074A

5. (a) Applicable Construction Code ASME III 1971 Edition, Winter 1972 Addenda, N/A Code Case  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
Valve Disc Welded Assembly	Weir Valves, Atwood & Morrill	Heat# 51681 S/N 1	N/A	* 114-98541 PO# 257796-348169	2003	Replacement	Yes

\* Traceability per Exelon stock code number.

7. Description of work: Replaced 24" check valve disc.

8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other  1050 psi Test Temp. 172 °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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 Manufacturers data reports are traceable by work order package.  
Applicable Manufacturer's Data Reports to be attached

**CERTIFICATE OF COMPLIANCE**

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI.  
Type Code Symbol Stamp NA (repair or replacement)

Certificate of Authorization No. NA Expiration Date NA

Signed J.H. Kramer J.H. Kramer, engineer Date April 19, 2005  
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 HSBCT of Hartford, CT have inspected the components described in this Owner's Report during the period 27 AUG 04 to 29 APR 05, 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 PA-2497 I.N & A.C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 29 APR 2005

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

1. Owner Exelon Generation Company, LLC Date May 2, 2005  
 Name  
200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
 Address

2. Plant Limerick Generating Station Unit 2  
 Name  
3146 Sanatoga Road, Pottstown, PA 19464 Work Order No. R0930754  
 Address Repair Organization P.O. No., Job No. etc.

3. Work Performed by Exelon Nuclear Type Code Symbol Stamp None  
 Name Authorization No. Not applicable  
3146 Sanatoga Road, Pottstown, PA 19464 Expiration Date Not applicable  
 Address

4. Identification of System Nuclear Boiler (System 041) Line No. APE-2MS PSV-041-2F013D

5. (a) Applicable Construction Code ASME III 1968 Edition, Summer 1970 Addenda, N/A Code Case  
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
MSRV PILOT ASSEMBLY	TARGET ROCK	001	N/A	* 114-18879 PO# 009221	N/A	REPLACEMENT	YES
MSRV BODY	TARGET ROCK	166	N/A	* 114-18879 PO# 009221	N/A	REPLACEMENT	YES
MSRV MAIN DISC	TARGET ROCK	4661	N/A	* 114-76023 PO# 204066-481097	2003	REPLACEMENT	YES

\* Traceability per Exelon Part Code Number.

7. Description of Work: Replaced main steam relief valve main body and pilot with reworked body No. 166 and pilot No. 001.

8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
 Other  Pressure 1050 psi Test Temp. 172 °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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.

(12/82) This Form (E00030) may be obtained from the Order Dept., ASME, 345 E.47th St., New York, N.Y. 10017

FORM NIS-2 (BACK)

9. Remarks: Manufacturers Data Reports are traceable by Exelon Work Order package.  
Applicable Manufacturer's Data Reports to be attached

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CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI. repair or replacement

Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed J.H. Kramer J.H. Kramer, Engineer Date May 2, 2005  
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 HSBCT of Hartford, CT have inspected the components described in this Owner's Report during the period 18 MAY 04 to 9 MAY 05, 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 Penney Commissions PA-2497 I, N & A, C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 9 MAY 20 05

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

1. Owner Exelon Generation Company, LLC Date May 2, 2005  
Name

200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
Address

2. Plant Limerick Generating Station Unit 2  
Name

3146 Sanatoga Road, Pottstown, PA 19464 Work Order No. R0931382  
Address Repair Organization P.O. No., Job No. etc.

3. Work Performed by Exelon Nuclear Type Code Symbol Stamp None  
Name Authorization No. Not applicable

3146 Sanatoga Road, Pottstown, PA 19464 Expiration Date Not applicable  
Address

4. Identification of System Nuclear Boiler, MSRV's (System 041) Line No. APE-2MS PSV-041-2F013E

5. (a) Applicable Construction Code ASME III 1968 Edition, Summer 1970 Addenda, N/A Code Case  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 89

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
MSRV PILOT ASSEMBLY	TARGET ROCK	019	N/A	* 114-18879 PO# 009221	N/A	REPLACEMENT	YES
MSRV BODY	TARGET ROCK	184	N/A	* 114-18879 PO# 009221	N/A	REPLACEMENT	YES

\* Traceability per Exelon Part Code Number.

7. Description of Work: Replaced main steam relief valve main body and pilot with reworked body No. 184 and pilot No. 019.

8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other  Pressure 1050 psi Test Temp. 172 °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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.

(12/82) This Form (E00030) may be obtained from the Order Dept., ASME, 345 E.47th St., New York, N.Y. 10017

FORM NIS-2 (BACK)

9. Remarks: none

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI. repair or replacement

Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed J.H. Kramer J.H. Kramer, Engineer Date May 2, 2005  
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 HSBCT of Hartford, CT have inspected the components described in this Owner's Report during the period 18 MAY 04 to 9 MAY 05, 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 PA-2497 I, N & A, C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 9 MAY 20 05

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

1. Owner Exelon Generation Company, LLC Date May 2, 2005  
Name \_\_\_\_\_
- 200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
Address \_\_\_\_\_
2. Plant Limerick Generating Station Unit 2  
Name \_\_\_\_\_
- 3146 Sanatoga Road, Pottstown, PA 19464 Work Order No. R0937540  
Address \_\_\_\_\_ Repair Organization P.O. No., Job No. etc. \_\_\_\_\_
3. Work Performed by Exelon Nuclear Type Code Symbol Stamp None  
Name \_\_\_\_\_ Authorization No. Not applicable
- 3146 Sanatoga Road, Pottstown, PA 19464 Expiration Date Not applicable  
Address \_\_\_\_\_
4. Identification of System Nuclear Boiler (System 041) Line No. APE-2MS PSV-041-2F013F
5. (a) Applicable Construction Code ASME III 1968 Edition, Summer 1970 Addenda, N/A Code Case  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
MSRV PILOT ASSEMBLY	TARGET ROCK	003	N/A	* 114-18880 PO# 009221	N/A	REPLACEMENT	YES
MSRV BODY	TARGET ROCK	159	N/A	* 114-18880 PO# 009221	N/A	REPLACEMENT	YES
(1) 1-3/8" INLET STUD	CARDINAL INDUSTRIAL	HEAT# 8869139 HEAT CODE D9	N/A	* 114-93783 PO# 628644	N/A	REPLACEMENT	NO
(2) 1-3/8" INLET NUT	ALLIED NUT & BOLT	HEAT# Q2293A TRACE# 216	N/A	* 114-93784 PO# 669338	N/A	REPLACEMENT	NO
(1) 1-1/8" SPLINE NUT	NOVA MACHINE	HEAT# 26324 HEAT CODE PMT	N/A	* 114-56873 PO# 012214	N/A	REPLACEMENT	NO
(1) 1-1/8" 12 POINT BOLT	TARGET ROCK	HEAT# 13350 TRACE# 1WB	N/A	TARGET ROCK PART# 204842-1 PO# 009221	N/A	REPLACEMENT	NO

\* Traceability per Exelon Part Code Number.

7. Description of Work: Replaced main steam relief valve main body and pilot with reworked body No. 159 and pilot No. 003.

8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other  Pressure 1050 psi Test Temp. 172 °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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.

(12/82) This Form (E00030) may be obtained from the Order Dept., ASME, 345 E.47th St., New York, N.Y. 10017

FORM NIS-2 (BACK)

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

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CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI. repair or replacement

Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed JHK J.H. Kramer, Engineer Date May 2, 2005  
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 HSBCT of Hartford, CT have inspected the components described

in this Owner's Report during the period 18 MAY 04 to 9 MAY 05, 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 Konant Jr. Commissions PA-2497 I,N & A, C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 9 MAY 2005

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

1. Owner Exelon Generation Company, LLC Date May 2, 2005  
 Name \_\_\_\_\_  
200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
 Address \_\_\_\_\_

2. Plant Limerick Generating Station Unit 2  
 Name \_\_\_\_\_  
3146 Sanatoga Road, Pottstown, PA 19464 Work Order No. R0937034 and C0212348  
 Address \_\_\_\_\_ Repair Organization P.O. No., Job No. etc. \_\_\_\_\_

3. Work Performed by Exelon Nuclear Type Code Symbol Stamp None  
 Name \_\_\_\_\_ Authorization No. Not applicable  
3146 Sanatoga Road, Pottstown, PA 19464 Expiration Date Not applicable  
 Address \_\_\_\_\_

4. Identification of System Nuclear Boiler (System 041) Line No. APE-2MS PSV-041-2F013H

5. (a) Applicable Construction Code ASME III 1968 Edition, Summer 1970 Addenda, N/A Code Case  
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 89

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
MSRV PILOT ASSEMBLY	TARGET ROCK	005	N/A	* 193-00195 PO# 009221	N/A	REPLACEMENT	YES
MSRV BODY	TARGET ROCK	167	N/A	* 193-00195 PO# 009221	N/A	REPLACEMENT	YES

\* Traceability per Exelon Part Code Number.

7. Description of Work: Replaced main steam relief valve main body and pilot with reworked body No. 167 and pilot No. 005.

8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
 Other  Pressure 1050 psi Test Temp. 172 °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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.

(12/82) This Form (E00030) may be obtained from the Order Dept., ASME, 345 E.47th St., New York, N.Y. 10017

FORM NIS-2 (BACK)

9. Remarks: MSRV main body S/N 167 inlet flange weld repaired by Exelon via work order C0212348.  
Applicable Manufacturer's Data Reports to be attached

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CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI. repair or replacement

Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed J. H. Kramer J.H. Kramer, Engineer Date May 2, 2005  
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 HSBCT of Hartford, CT have inspected the components described in this Owner's Report during the period 26 JAN 05 to 11 MAY 05, 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 PA-2497 I, N & A, C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 11 MAY 2005

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

1. Owner Exelon Generation Company, LLC Date May 2, 2005  
Name  
200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
Address
2. Plant Limerick Generating Station Unit 2  
Name  
3146 Sanatoga Road, Pottstown, PA 19464 Work Order No. R0930991  
Address Repair Organization P.O. No., Job No. etc.
3. Work Performed by Exelon Nuclear Type Code Symbol Stamp None  
Name Authorization No. Not applicable  
3146 Sanatoga Road, Pottstown, PA 19464 Expiration Date Not applicable  
Address
4. Identification of System Nuclear Boiler (System 041) Line No. APE-2MS PSV-041-2F013L
5. (a) Applicable Construction Code ASME III 1968 Edition, Summer 1970 Addenda, N/A Code Case  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 89
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
MSRV PILOT ASSEMBLY	TARGET ROCK	002	N/A	* 114-03966 PO# 009221	N/A	REPLACEMENT	YES
MSRV BODY	TARGET ROCK	161	N/A	* 114-03966 PO# 009221	N/A	REPLACEMENT	YES
MSRV PILOT BODY	TARGET ROCK	2	N/A	TARGET ROCK PART# 303498-1 PO# 009221	2005	REPLACEMENT	YES

\* Traceability per Exelon Part Code Number.

7. Description of Work: Replaced main steam relief valve main body and pilot with reworked body No. 161 and pilot No. 002.

8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other  Pressure 1050 psi Test Temp. 172 °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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.

(12/82) This Form (E00030) may be obtained from the Order Dept., ASME, 345 E.47th St., New York, N.Y. 10017

FORM NIS-2 (BACK)

9. Remarks: Manufacturers Data Reports are traceable by Exelon work order package.  
Applicable Manufacturer's Data Reports to be attached

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CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI. repair or replacement

Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed J.H. Kramer J.H. Kramer, Engineer Date May 2, 2005  
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 HSBCT of Hartford, CT have inspected the components described in this Owner's Report during the period 18 MAY 04 to 9 MAY 05, 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 Herman Commissions PA-2497 I, N & A, C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 9 MAY 20 05

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

1. Owner Exelon Generation Company, LLC Date May 2, 2005  
 Name \_\_\_\_\_  
200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
 Address \_\_\_\_\_
2. Plant Limerick Generating Station Unit 2  
 Name \_\_\_\_\_  
3146 Sanatoga Road, Pottstown, PA 19464 Work Order No. R0930748 and C0212779  
 Address \_\_\_\_\_ Repair Organization P.O. No., Job No. etc. \_\_\_\_\_
3. Work Performed by Exelon Nuclear Type Code Symbol Stamp None  
 Name \_\_\_\_\_ Authorization No. Not applicable  
3146 Sanatoga Road, Pottstown, PA 19464 Expiration Date Not applicable  
 Address \_\_\_\_\_
4. Identification of System Nuclear Boiler (System 041) Line No. APE-2MS PSV-041-2F013M
5. (a) Applicable Construction Code ASME III 1968 Edition, Summer 1970 Addenda, N/A Code Case  
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 89
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
MSRV PILOT ASSEMBLY	TARGET ROCK	012	N/A	* 114-18879 PO# 009221	N/A	REPLACEMENT	YES
MSRV BODY	TARGET ROCK	173	N/A	* 114-18879 PO# 009221	N/A	REPLACEMENT	YES

\* Traceability per Exelon Part Code Number.

7. Description of Work: Replaced main steam relief valve main body and pilot with reworked body No. 173 and pilot No. 012.

8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
 Other  Pressure 1050 psi Test Temp. 172 °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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.

(12/82) This Form (E00030) may be obtained from the Order Dept., ASME, 345 E.47th St., New York, N.Y. 10017

FORM NIS-2 (BACK)

9. Remarks: MSRV main body S/N 173 inlet flange weld repaired by Exelon via work order C0212779.  
Applicable Manufacturer's Data Reports to be attached

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CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI. repair or replacement

Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed J.H. Kramer J.H. Kramer, Engineer Date May 2, 2005  
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 HSBCT of Hartford, CT

have inspected the components described in this Owner's Report during the period 16 FEB 05 to 11 MAY 05, 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 Henry J. Commissions PA-2497 I, N & A, C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 11 MAY 2005

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

1. Owner Exelon Generation Company, LLC Date May 2, 2005  
 Name  
200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
 Address

2. Plant Limerick Generating Station Unit 2  
 Name  
3146 Sanatoga Road, Pottstown, PA 19464 Work Order No. R0937010  
 Address Repair Organization P.O. No., Job No. etc.

3. Work Performed by Exelon Nuclear Type Code Symbol Stamp None  
 Name 3146 Sanatoga Road, Pottstown, PA 19464 Authorization No. Not applicable  
 Address 3146 Sanatoga Road, Pottstown, PA 19464 Expiration Date Not applicable  
 Address

4. Identification of System Nuclear Boiler (System 041) Line No. APE-2MS PSV-041-2F013S

5. (a) Applicable Construction Code ASME III 1968 Edition, Summer 1970 Addenda, N/A Code Case  
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
MSRV PILOT ASSEMBLY	TARGET ROCK	041	N/A	* 114-18879 PO# 013269	N/A	REPLACEMENT	YES
MSRV BODY	TARGET ROCK	165	N/A	* 114-18879 PO# 009221	N/A	REPLACEMENT	YES
MSRV MAIN DISC	TARGET ROCK	4553	N/A	* 114-76023 PO# PL350395-15 & 031128-396	1992	REPLACEMENT	YES
MSRV MAIN SEAT INSERT	TARGET ROCK	73	N/A	* 114-76024 PO# 204066-481103	N/A	REPLACEMENT	NO

\* Traceability per Exelon Part Code Number.

7. Description of Work: Replaced main steam relief valve main body and pilot with reworked body No. 165 and pilot No. 041

8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
 Other  Pressure 1050 psi Test Temp. 172 °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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.

(12/82) This Form (E00030) may be obtained from the Order Dept., ASME, 345 E.47th St., New York, N.Y. 10017

FORM NIS-2 (BACK)

9. Remarks: Manufacturers Data Reports are traceable by Exelon work order package.  
Applicable Manufacturer's Data Reports to be attached

**CERTIFICATE OF COMPLIANCE**

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI. repair or replacement

Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed J.H. Kramer J.H. Kramer, Engineer Date May 2, 2005  
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 HSBCT of Hartford, CT have inspected the components described in this Owner's Report during the period 18 MAY 04 to 9 MAY 05, 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 PA-2497 I, N & A, C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 9 MAY 2005

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

1. Owner Exelon Generation Company, LLC Date April 19, 2005  
 Name \_\_\_\_\_  
200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
 Address \_\_\_\_\_

2. Plant Limerick Generating Station Unit 2  
 Name \_\_\_\_\_  
3146 Sanatoga Road, Sanatoga, PA 19464 Work Order No. C0210883  
 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  
3146 Sanatoga Road, Sanatoga, PA 19464 Expiration Date N/A  
 Address \_\_\_\_\_

4. Identification of System Reactor Water Clean-up (System 044) Line No. DBB-205 Valve HV-044-2F039

5. (a) Applicable Construction Code ASME III 1971 Edition, Winter 1972 Addenda, 1516-2, 1567, 1622, 1682 Code Case  
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19\_89

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
4" Valve HV-044-2F039	Anchor/Darling Valve Co.	EZ453-1-1	N/A	* 114-98630 PO# 257805-348008	1995	Replacement	Yes

\* Traceability per Exelon stock code number.

7. Description of work: Replaced 4" flanged check valve.

8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
 Other  1040 psi Test Temp. N/A °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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 Manufacturer's data reports are traceable by Exelon work order package.  
Applicable Manufacturer's Data Reports to be attached

Valve S/N EZ453-1-1 was repaired and disc replaced under work order C0206257.

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI.  
(repair or replacement)

Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed J.H. Kramer J.H. Kramer (engineer) Date April 19, 2005  
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 HSBCT of Hartford, CT

have inspected the components described in this Owner's Report during the period 20 AUG 04 to 21 APR 05, 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 R. ... Commissions PA-2497 I.N & A.C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 21 APR 2005

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

1. Owner Exelon Generation Company, LLC Date May 9, 2005  
Name

200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
Address

2. Plant Limerick Generating Station Unit 2  
Name

3146 Sanatoga Road, Pottstown, PA 19464 Work Order # C0210101  
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

3146 Sanatoga Road, Pottstown, PA 19464 Expiration Date N/A  
Address

4. Identification of System Control Rod Drives (System-047) Line No. EBB-242

5. (a) Applicable Construction Code ASME III 1974 Edition Summer 1976 Addenda N/A Code Case  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped
(6) 8" NPS Blind Flanges	WFI Nuclear	Heat No. 3342ANF	N/A	* 114-37790 PO# 009825-481540	N/A	Replacement	No
(6) 1" NPS Half Couplings	WFI Nuclear	Heat No. 3117ANB	N/A	* 114-92668 PO# 009825-481540	N/A	Replacement	No

\* Traceability per Exelon part code number.

7. Description of Work Replaced CRD blind flanges with new flanges and welded couplings to allow decontamination flushing.

8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other \_\_\_\_\_ Pressure 1610/280 psi Test Temp. 100/78 °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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: Work completed in accordance with Exelon design change ECR LG-04-00215.  
Applicable Manufacturer's Data Reports to be attached

ASME XI hydrostatic bench pressure test of coupling to flange welds completed at 1610 PSI and 100 Degrees F.

ASME XI hydrostatic pressure test of flanged joint completed at 280 PSI and 78 Degrees F.

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the  
ASME Code, Section XI (repair or replacement)  
Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed J.H. Kramer J.H. Kramer, engineer Date May 9, 2005  
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 HSBCT of  
Hartford, CT have inspected the components described  
in this Owner's Report during the period 11 OCT 04 to 10 MAY 05, 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 PA-2497 I, N & A, C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 10 MAY 2005

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

1. Owner Exelon Generation Co., LLC Date April 08, 2005  
 Name  
200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
 Address

2. Plant Limerick Generating Station Unit 2  
 Name  
3146 Sanatoga Road, Pottstown, PA 19464 Work Order No. R0927571  
 Address Repair Organization P.O. No., Job No. etc.

3. Work Performed by Exelon Generation Co., LLC Type Code Symbol Stamp N/A  
 Name Authorization No. N/A  
200 Exelon Way, Kennett Square, PA 19348 Expiration Date N/A  
 Address

4. Identification of System 047 Control Rod Drive Line No. 20-S299-14-07

5. (a) Applicable Construction Code ASME Section III 1974 Edition, W75 Addenda, N-207, 1361-2 Code Case  
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
Control Rod Drive	General Electric	A8497	N/A	N/A	1988	Replacement	Yes
(2) Cap Screws 1"-8 UNC 2A x 5 1/2	NOVA Machine Products	Heat No. B917	N/A	Exelon Stock Code 111-02622	N/A	Replacement	No

7. Description of Work Replaced one (1) Control Rod Drive and two (2) CRD flange bolts.

8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
 Other  Pressure 1050 psi Test Temp. 150 °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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 Manufacturers' Data Reports are traceable by work order package.  
Applicable Manufacturer's Data Reports to be attached

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CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI.  
repair or replacement

Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed DL Schmidt David L. Schmidt, Sr. Engineer Date April 08, 20 05  
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 HSBCT of Hartford, CT have inspected the components described in this Owner's Report during the period 5 AUG 04 to 9 JUNE 05, 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.

San Bernat Commissions PA-2497 I, N, A & C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 9 JUNE 20 05

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

1. Owner Exelon Generation Co., LLC Date April 08, 2005  
 Name  
200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
 Address
2. Plant Limerick Generating Station Unit 2  
 Name  
3146 Sanatoga Road, Pottstown, PA 19464 Work Order No. R0927571  
 Address Repair Organization P.O. No., Job No. etc.
3. Work Performed by Exelon Generation Co., LLC Type Code Symbol Stamp N/A  
 Name Authorization No. N/A  
200 Exelon Way, Kennett Square, PA 19348 Expiration Date N/A  
 Address
4. Identification of System 047 Control Rod Drive Line No. 20-S299-18-07
5. (a) Applicable Construction Code ASME Section III 19 71 Edition, S73 Addenda, 1361-2 Code Case  
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 89
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
Control Rod Drive	General Electric	A4691	N/A	N/A	1987	Replacement	Yes

7. Description of Work Replaced one (1) Control Rod Drive.
8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
 Other  Pressure 1050 psi Test Temp. 150 °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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 Manufacturers' Data Reports are traceable by work order package.  
Applicable Manufacturer's Data Reports to be attached

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CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI.  
repair or replacement

Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed D.L. Schmidt David L. Schmidt, Sr. Engineer Date April 08, 20 05  
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 HSBCT of Hartford, CT have inspected the components described in this Owner's Report during the period 5 AUG 04 to 9 JUNE 05, 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 Bernier Commissions PA-2497 I, N, A & C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 9 JUNE 2005

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

1. Owner Exelon Generation Co., LLC Date April 08, 2005  
 Name  
200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
 Address
2. Plant Limerick Generating Station Unit 2  
 Name  
3146 Sanatoga Road, Pottstown, PA 19464 Work Order No. R0927571  
 Address Repair Organization P.O. No., Job No. etc.
3. Work Performed by Exelon Generation Co., LLC Type Code Symbol Stamp N/A  
 Name Authorization No. N/A  
200 Exelon Way, Kennett Square, PA 19348 Expiration Date N/A  
 Address
4. Identification of System 047 Control Rod Drive Line No. 20-S299-18-39
5. (a) Applicable Construction Code ASME Section III 19 68 Edition, W'69 Addenda, 1361-1 Code Case  
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 89
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
Control Rod Drive	General Electric	6078	N/A	N/A	1974	Replacement	Yes

7. Description of Work Replaced one (1) Control Rod Drive.
8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
 Other  Pressure 1050 psi Test Temp. 150 °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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 Manufacturers' Data Reports are traceable by work order package.  
Applicable Manufacturer's Data Reports to be attached

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CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI.  
repair or replacement

Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed D.L. Schmidt David L. Schmidt, Sr. Engineer Date April 08, 20 05  
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 HSBCT of Hartford, CT have inspected the components described in this Owner's Report during the period 5 AUG 04 to 9 JUNE 05, 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.

David L. Schmidt Commissions PA-2497 I, N, A & C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 9 JUNE 20 05

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

1. Owner Exelon Generation Co., LLC Date April 08, 2005  
 Name  
200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
 Address
2. Plant Limerick Generating Station Unit 2  
 Name  
3146 Sanatoga Road, Pottstown, PA 19464 Work Order No. R0927571  
 Address Repair Organization P.O. No., Job No. etc.
3. Work Performed by Exelon Generation Co., LLC Type Code Symbol Stamp N/A  
 Name Authorization No. N/A  
200 Exelon Way, Kennett Square, PA 19348 Expiration Date N/A  
 Address
4. Identification of System 047 Control Rod Drive Line No. 20-S299-18-47
5. (a) - Applicable Construction Code ASME Section III 19 68 Edition, W'69 Addenda, 1361-1 Code Case  
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 89
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
Control Rod Drive	General Electric	6414	N/A	N/A	1974	Replacement	Yes
(3) Cap Screws 1"-8 UNC 2A x 5 1/2	NOVA Machine Products	Heat No. B917	N/A	Exelon Stock Code 111-02622	N/A	Replacement	No

7. Description of Work Replaced one (1) Control Rod Drive and three (3) CRD flange bolts.
8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
 Other  Pressure 1050 psi Test Temp. 150 °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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 Manufacturers' Data Reports are traceable by work order package.  
Applicable Manufacturer's Data Reports to be attached

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CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI.  
repair or replacement

Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed D.L. Schmidt David L. Schmidt, Sr. Engineer Date April 08, 20 05  
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 HSBCT of Hartford, CT have inspected the components described in this Owner's Report during the period 5 AUG 04 to 9 JUNE 05, 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.

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[Signature] Commissions PA-2497 I, N, A & C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 9 JUNE 20 05

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

1. Owner Exelon Generation Co., LLC Date April 08, 2005  
Name  
200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
Address
2. Plant Limerick Generating Station Unit 2  
Name  
3146 Sanatoga Road, Pottstown, PA 19464 Address  
Work Order No. R0927571  
Repair Organization P.O. No., Job No. etc.
3. Work Performed by Exelon Generation Co., LLC Type Code Symbol Stamp N/A  
Name Authorization No. N/A  
200 Exelon Way, Kennett Square, PA 19348 Address Expiration Date N/A  
Address
4. Identification of System 047 Control Rod Drive Line No. 20-S299-22-23
5. (a) Applicable Construction Code ASME Section III 19 71 Edition, S73 Addenda, 1361-2 Code Case  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 89
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
Control Rod Drive	General Electric	A6561	N/A	N/A	1983	Replacement	Yes

7. Description of Work Replaced one (1) Control Rod Drive.
8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other  Pressure 1050 psi Test Temp. 150 °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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 Manufacturers' Data Reports are traceable by work order package.  
Applicable Manufacturer's Data Reports to be attached

**CERTIFICATE OF COMPLIANCE**

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI.  
repair or replacement

Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed D.L. Schmidt David L. Schmidt, Sr. Engineer Date April 08, 20 05  
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 HSBCT of Hartford, CT have inspected the components described in this Owner's Report during the period 5 AUG 04 to 9 JUNE 05, 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.

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[Signature] Commissions PA-2497 I, N, A & C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 9 JUNE 20 05

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

1. Owner Exelon Generation Co., LLC Date April 08, 2005  
 Name  
200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
 Address
2. Plant Limerick Generating Station Unit 2  
 Name  
3146 Sanatoga Road, Pottstown, PA 19464 Address  
Work Order No. R0927571  
 Repair Organization P.O. No., Job No. etc.
3. Work Performed by Exelon Generation Co., LLC Type Code Symbol Stamp N/A  
 Name Authorization No. N/A  
200 Exelon Way, Kennett Square, PA 19348 Address Expiration Date N/A
4. Identification of System 047 Control Rod Drive Line No. 20-S299-26-31
5. (a) Applicable Construction Code ASME Section III 19 68 Edition, W69 Addenda, 1361-1 Code Case  
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 89
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
Control Rod Drive	General Electric	7263	N/A	N/A	1975	Replacement	Yes

7. Description of Work Replaced one (1) Control Rod Drive.
8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
 Other  Pressure 1050 psi Test Temp. 150 °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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 Manufacturers' Data Reports are traceable by work order package.  
Applicable Manufacturer's Data Reports to be attached

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CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI.  
repair or replacement

Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed D.L. Schmidt David L. Schmidt, Sr. Engineer Date April 08, 20 05  
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 HSBCT of Hartford, CT have inspected the components described in this Owner's Report during the period 5 AUG 04 to 9 JUNE 05, 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.

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[Signature] Commissions PA-2497 I, N, A & C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 9 JUNE 20 05

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

1. Owner Exelon Generation Co., LLC Date April 08, 2005  
 Name  
200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
 Address
2. Plant Limerick Generating Station Unit 2  
 Name  
3146 Sanatoga Road, Pottstown, PA 19464 Work Order No. R0927571  
 Address Repair Organization P.O. No., Job No. etc.
3. Work Performed by Exelon Generation Co., LLC Type Code Symbol Stamp N/A  
 Name Authorization No. N/A  
200 Exelon Way, Kennett Square, PA 19348 Expiration Date N/A  
 Address
4. Identification of System 047 Control Rod Drive Line No. 20-S299-26-43
5. (a) Applicable Construction Code ASME Section III 19 68 Edition, W69 Addenda, 1361-1 Code Case  
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 89
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
Control Rod Drive	General Electric	5686	N/A	N/A	1974	Replacement	Yes

7. Description of Work Replaced one (1) Control Rod Drive.
8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
 Other  Pressure 1050 psi Test Temp. 150 °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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 Manufacturers' Data Reports are traceable by work order package.  
Applicable Manufacturer's Data Reports to be attached

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CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI.  
repair or replacement

Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed D.L. Schmidt David L. Schmidt, Sr. Engineer Date April 08, 20 05  
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 HSBCT of Hartford, CT have inspected the components described in this Owner's Report during the period 5 AUG 04 to 9 JUNE 05, 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.

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[Signature] Commissions PA-2497 I, N, A & C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 9 JUNE 20 05

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

1. Owner Exelon Generation Co., LLC Date April 08, 2005  
 Name

200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
 Address

2. Plant Limerick Generating Station Unit 2  
 Name

3146 Sanatoga Road, Pottstown, PA 19464 Work Order No. R0927571  
 Address Repair Organization P.O. No., Job No. etc.

3. Work Performed by Exelon Generation Co., LLC Type Code Symbol Stamp N/A  
 Name Authorization No. N/A

200 Exelon Way, Kennett Square, PA 19348 Expiration Date N/A  
 Address

4. Identification of System 047 Control Rod Drive Line No. 20-S299-30-59

5. (a) Applicable Construction Code ASME Section III 19 68 Edition, W69 Addenda, 1361-1 Code Case  
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 89

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
Control Rod Drive	General Electric	4838	N/A	N/A	1974	Replacement	Yes

7. Description of Work Replaced one (1) Control Rod Drive.

8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
 Other  Pressure 1050 psi Test Temp. 150 °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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 Manufacturers' Data Reports are traceable by work order package.  
Applicable Manufacturer's Data Reports to be attached

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CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI.  
repair or replacement

Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed D.L. Schmidt David L. Schmidt, Sr. Engineer Date April 08, 20 05  
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 HSBCT of Hartford, CT have inspected the components described in this Owner's Report during the period 5 AUG 04 to 9 JUNE 05, 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.

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[Signature] Commissions PA-2497 I, N, A & C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 9 JUNE 2005

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

1. Owner Exelon Generation Co., LLC Date April 08, 2005  
 Name \_\_\_\_\_  
200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
 Address \_\_\_\_\_
2. Plant Limerick Generating Station Unit 2  
 Name \_\_\_\_\_  
3146 Sanatoga Road, Pottstown, PA 19464 Work Order No. R0927571  
 Address \_\_\_\_\_ Repair Organization P.O. No., Job No. etc. \_\_\_\_\_
3. Work Performed by Exelon Generation Co., LLC Type Code Symbol Stamp N/A  
 Name \_\_\_\_\_ Authorization No. N/A  
200 Exelon Way, Kennett Square, PA 19348 Expiration Date N/A  
 Address \_\_\_\_\_
4. Identification of System 047 Control Rod Drive Line No. 20-S299-34-43
5. (a) Applicable Construction Code ASME Section III 19 68 Edition, W69 Addenda, 1361-1 Code Case  
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 89
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
Control Rod Drive	General Electric	6053	N/A	N/A	1974	Replacement	Yes

7. Description of Work Replaced one (1) Control Rod Drive.
8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
 Other  Pressure 1050 psi Test Temp. 150 °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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 Manufacturers' Data Reports are traceable by work order package.  
Applicable Manufacturer's Data Reports to be attached

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CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI.  
repair or replacement

Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed D.L. Schmidt David L. Schmidt, Sr. Engineer Date April 08, 20 05  
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 HSBCT of Hartford, CT have inspected the components described in this Owner's Report during the period 5 AUG 04 to 9 JUNE 05, 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.

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Paul Henning Jr. Commissions PA-2497 I, N, A & C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 9 JUNE 20 05

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

1. Owner Exelon Generation Co., LLC Date April 08, 2005  
 Name  
200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
 Address
2. Plant Limerick Generating Station Unit 2  
 Name  
3146 Sanatoga Road, Pottstown, PA 19464 Work Order No. R0927571  
 Address Repair Organization P.O. No., Job No. etc.
3. Work Performed by Exelon Generation Co., LLC Type Code Symbol Stamp N/A  
 Name Authorization No. N/A  
200 Exelon Way, Kennett Square, PA 19348 Expiration Date N/A  
 Address
4. Identification of System 047 Control Rod Drive Line No. 20-S299-38-15
5. (a) Applicable Construction Code ASME Section III 19 71 Edition, S73 Addenda, 1361-2 Code Case  
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 89
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
Control Rod Drive	General Electric	8847	N/A	N/A	1987	Replacement	Yes

7. Description of Work Replaced one (1) Control Rod Drive.
8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
 Other  Pressure 1050 psi Test Temp. 150 °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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 Manufacturers' Data Reports are traceable by work order package.  
Applicable Manufacturer's Data Reports to be attached

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CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI.  
repair or replacement

Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed David L. Schmidt David L. Schmidt, Sr. Engineer Date April 08, 20 05  
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

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Paul Bennett Commissions PA-2497 I, N, A & C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 9 JUNE 20 05

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

1. Owner Exelon Generation Co., LLC Date April 08, 2005  
 Name  
200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
 Address
2. Plant Limerick Generating Station Unit 2  
 Name  
3146 Sanatoga Road, Pottstown, PA 19464 Work Order No. R0927571  
 Address Repair Organization P.O. No., Job No. etc.
3. Work Performed by Exelon Generation Co., LLC Type Code Symbol Stamp N/A  
 Name Authorization No. N/A  
200 Exelon Way, Kennett Square, PA 19348 Expiration Date N/A  
 Address
4. Identification of System 047 Control Rod Drive Line No. 20-S299-38-35
5. (a) Applicable Construction Code ASME Section III 1968 Edition, W'69 Addenda, 1361-1 Code Case  
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
Control Rod Drive	General Electric	5000	N/A	N/A	1974	Replacement	Yes
(1) Cap Screw 1"-8 UNC 2A x 5 1/2	NOVA Machine Products	Heat No. B917	N/A	Exelon Stock Code 111-02622	N/A	Replacement	No

7. Description of Work Replaced one (1) Control Rod Drive and one (1) CRD flange bolt.
8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
 Other  Pressure 1050 psi Test Temp. 150 °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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 Manufacturers' Data Reports are traceable by work order package.  
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**CERTIFICATE OF COMPLIANCE**

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI.  
repair or replacement

Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed DL Schmidt David L. Schmidt, Sr. Engineer Date April 08, 20 05  
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 HSBCT of Hartford, CT have inspected the components described in this Owner's Report during the period 5 AUG 04 to 9 JUNE 05, 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.

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[Signature] Commissions PA-2497 I, N, A & C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 9 JUNE 20 05

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

1. Owner Exelon Generation Co., LLC Date April 08, 2005  
 Name  
200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
 Address
2. Plant Limerick Generating Station Unit 2  
 Name  
3146 Sanatoga Road, Pottstown, PA 19464 Work Order No. R0927571  
 Address Repair Organization P.O. No., Job No. etc.
3. Work Performed by Exelon Generation Co., LLC Type Code Symbol Stamp N/A  
 Name Authorization No. N/A  
200 Exelon Way, Kennett Square, PA 19348 Expiration Date N/A  
 Address
4. Identification of System 047 Control Rod Drive Line No. 20-S299-42-07
5. (a) Applicable Construction Code ASME Section III 19 68 Edition, W69 Addenda, 1361-1 Code Case  
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 89
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
Control Rod Drive	General Electric	6198	N/A	N/A	1974	Replacement	Yes
(4) Cap Screws 1"- 8 UNC 2A x 5 1/2	NOVA Machine Products	Heat No. B917	N/A	Exelon Stock Code 111-02622	N/A	Replacement	No

7. Description of Work Replaced one (1) Control Rod Drive and four (4) CRD flange bolts.
8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
 Other  Pressure 1050 psi Test Temp. 150 °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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 Manufacturers' Data Reports are traceable by work order package.  
Applicable Manufacturer's Data Reports to be attached

**CERTIFICATE OF COMPLIANCE**

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI.  
repair or replacement

Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed DL Schmidt David L. Schmidt, Sr. Engineer Date April 08, 20 05  
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 HSBCT of Hartford, CT have inspected the components described in this Owner's Report during the period 5 AUG 04 to 9 JUNE 05, 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 Penney Commissions PA-2497 I, N, A & C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 9 JUNE 20 05

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

1. Owner Exelon Generation Co., LLC Date April 08, 2005  
 Name  
200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
 Address
2. Plant Limerick Generating Station Unit 2  
 Name  
3146 Sanatoga Road, Pottstown, PA 19464 Work Order No. R0927571  
 Address Repair Organization P.O. No., Job No. etc.
3. Work Performed by Exelon Generation Co., LLC Type Code Symbol Stamp N/A  
 Name Authorization No. N/A  
200 Exelon Way, Kennett Square, PA 19348 Expiration Date N/A  
 Address
4. Identification of System 047 Control Rod Drive Line No. 20-S299-42-19
5. (a) Applicable Construction Code ASME Section III 19 68 Edition, W'69 Addenda, 1361-1 Code Case  
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 89
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
Control Rod Drive	General Electric	5006	N/A	N/A	1973	Replacement	Yes

7. Description of Work Replaced one (1) Control Rod Drive.
8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
 Other  Pressure 1050 psi Test Temp. 150 °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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 Manufacturers' Data Reports are traceable by work order package.  
Applicable Manufacturer's Data Reports to be attached

**CERTIFICATE OF COMPLIANCE**

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI.  
repair or replacement

Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed DL Schmidt David L. Schmidt, Sr. Engineer Date April 08, 20 05  
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 HSBCT of Hartford, CT have inspected the components described in this Owner's Report during the period 5 AUG 04 to 9 JUNE 05, 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 Bernier Commissions PA-2497 I, N, A & C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 9 JUNE 20 05

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

1. Owner Exelon Generation Co., LLC Date April 08, 2005  
 Name  
200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
 Address
2. Plant Limerick Generating Station Unit 2  
 Name  
3146 Sanatoga Road, Pottstown, PA 19464 Work Order No. R0927571  
 Address Repair Organization P.O. No., Job No. etc.
3. Work Performed by Exelon Generation Co., LLC Type Code Symbol Stamp N/A  
 Name Authorization No. N/A  
200 Exelon Way, Kennett Square, PA 19348 Expiration Date N/A  
 Address
4. Identification of System 047 Control Rod Drive Line No. 20-S299-42-35
5. (a) Applicable Construction Code ASME Section III 19 68 Edition, W'69 Addenda, 1361-1 Code Case  
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 89
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
Control Rod Drive	General Electric	5076	N/A	N/A	1973	Replacement	Yes

7. Description of Work Replaced one (1) Control Rod Drive.
8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
 Other  Pressure 1050 psi Test Temp. 150 °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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 Manufacturers' Data Reports are traceable by work order package.  
Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI.  
repair or replacement

Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed D.L. Schmidt David L. Schmidt, Sr. Engineer Date April 08, 20 05  
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 HSBCT of Hartford, CT have inspected the components described in this Owner's Report during the period 5 AUG 04 to 9 JUNE 05, 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 PA-2497 I, N, A & C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 9 JUNE 2005

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

1. Owner Exelon Generation Co., LLC Date April 08, 2005  
 Name  
200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
 Address
2. Plant Limerick Generating Station Unit 2  
 Name  
3146 Sanatoga Road, Pottstown, PA 19464 Work Order No. R0927571  
 Address Repair Organization P.O. No., Job No. etc.
3. Work Performed by Exelon Generation Co., LLC Type Code Symbol Stamp N/A  
 Name Authorization No. N/A  
200 Exelon Way, Kennett Square, PA 19348 Expiration Date N/A  
 Address
4. Identification of System 047 Control Rod Drive Line No. 20-S299-42-59
5. (a) Applicable Construction Code ASME Section III 19 68 Edition, W69 Addenda, 1361-1 Code Case  
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 89
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
Control Rod Drive	General Electric	2978	N/A	N/A	1974	Replacement	Yes
(1) Cap Screw 1" - 8 UNC 2A x 5 1/2	NOVA Machine Products	Heat No. B917	N/A	Exelon Stock Code 111-02622	N/A	Replacement	No

7. Description of Work Replaced one (1) Control Rod Drive and one (1) CRD flange bolt.
8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
 Other  Pressure 1050 psi Test Temp. 150 °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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 Manufacturers' Data Reports are traceable by work order package.  
Applicable Manufacturer's Data Reports to be attached

**CERTIFICATE OF COMPLIANCE**

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI.  
repair or replacement

Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed DL Schmidt David L. Schmidt, Sr. Engineer Date April 08, 20 05  
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 HSBCT of Hartford, CT have inspected the components described in this Owner's Report during the period 5 AUG 04 to 9 JUNE 05, 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 PA-2497 I, N, A & C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 9 JUNE 2005

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

1. Owner Exelon Generation Co., LLC Date April 08, 2005  
 Name  
200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
 Address
2. Plant Limerick Generating Station Unit 2  
 Name  
3146 Sanatoga Road, Pottstown, PA 19464 Work Order No. R0927571  
 Address Repair Organization P.O. No., Job No. etc.
3. Work Performed by Exelon Generation Co., LLC Type Code Symbol Stamp N/A  
 Name Authorization No. N/A  
200 Exelon Way, Kennett Square, PA 19348 Expiration Date N/A  
 Address
4. Identification of System 047 Control Rod Drive Line No. 20-S299-46-31
5. (a) Applicable Construction Code ASME Section III 1971 Edition, S73 Addenda, 1361-2 Code Case  
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
Control Rod Drive	General Electric	A6544	N/A	N/A	1983	Replacement	Yes

7. Description of Work Replaced one (1) Control Rod Drive.
8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
 Other  Pressure 1050 psi Test Temp. 150 °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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 Manufacturers' Data Reports are traceable by work order package.  
Applicable Manufacturer's Data Reports to be attached

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CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI.  
repair or replacement

Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed DL Schmidt David L. Schmidt, Sr. Engineer Date April 08, 20 05  
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 HSBCT of Hartford, CT have inspected the components described in this Owner's Report during the period 5 AUG 04 to 9 JUNE 05, 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 PA-2497 I, N, A & C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 9 JUNE 2005

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

1. Owner Exelon Generation Co., LLC Date April 08, 2005  
 Name  
200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
 Address
2. Plant Limerick Generating Station Unit 2  
 Name  
3146 Sanatoga Road, Pottstown, PA 19464 Work Order No. R0927571  
 Address Repair Organization P.O. No., Job No. etc.
3. Work Performed by Exelon Generation Co., LLC Type Code Symbol Stamp N/A  
 Name Authorization No. N/A  
200 Exelon Way, Kennett Square, PA 19348 Expiration Date N/A  
 Address
4. Identification of System 047 Control Rod Drive Line No. 20-S299-46-35
5. (a) Applicable Construction Code ASME Section III 19 68 Edition, W69 Addenda, 1361-1 Code Case  
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 89
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
Control Rod Drive	General Electric	6259	N/A	N/A	1974	Replacement	Yes

7. Description of Work Replaced one (1) Control Rod Drive.
8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
 Other  Pressure 1050 psi Test Temp. 150 °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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 Manufacturers' Data Reports are traceable by work order package.  
Applicable Manufacturer's Data Reports to be attached

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CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI.  
repair or replacement

Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed D.L. Schmidt David L. Schmidt, Sr. Engineer Date April 08, 20 05  
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 HSBCT of Hartford, CT have inspected the components described in this Owner's Report during the period 05 AUG 04 to 9 JUNE 05, 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 PA-2497 I, N, A & C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 9 JUNE 2005

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

1. Owner Exelon Generation Co., LLC Date April 08, 2005  
 Name  
200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
 Address
2. Plant Limerick Generating Station Unit 2  
 Name  
3146 Sanatoga Road, Pottstown, PA 19464 Work Order No. R0927571  
 Address Repair Organization P.O. No., Job No. etc.
3. Work Performed by Exelon Generation Co., LLC Type Code Symbol Stamp N/A  
 Name Authorization No. N/A  
200 Exelon Way, Kennett Square, PA 19348 Expiration Date N/A  
 Address
4. Identification of System 047 Control Rod Drive Line No. 20-S299-50-11
5. (a) Applicable Construction Code ASME Section III 19 68 Edition, W'69 Addenda, 1361-1 Code Case  
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 89
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
Control Rod Drive	General Electric	6256	N/A	N/A	1974	Replacement	Yes

7. Description of Work Replaced one (1) Control Rod Drive.
8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
 Other  Pressure 1050 psi Test Temp. 150 °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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 Manufacturers' Data Reports are traceable by work order package.  
Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI.  
repair or replacement

Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed D.L. Schmidt David L. Schmidt, Sr. Engineer Date April 08, 20 05  
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 HSBCT of Hartford, CT have inspected the components described in this Owner's Report during the period 5 AUG 04 to 9 JUNE 05, 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 PA-2497 I, N, A & C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 9 JUNE 20 05

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

1. Owner Exelon Generation Co., LLC Date April 08, 2005  
 Name  
200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
 Address
2. Plant Limerick Generating Station Unit 2  
 Name  
3146 Sanatoga Road, Pottstown, PA 19464 Work Order No. R0927571  
 Address Repair Organization P.O. No., Job No. etc.
3. Work Performed by Exelon Generation Co., LLC Type Code Symbol Stamp N/A  
 Name Authorization No. N/A  
200 Exelon Way, Kennett Square, PA 19348 Expiration Date N/A  
 Address
4. Identification of System 047 Control Rod Drive Line No. 20-S299-58-43
5. (a) Applicable Construction Code ASME Section III 19 68 Edition, W'69 Addenda, 1361-1 Code Case  
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 89
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
Control Rod Drive	General Electric	5011	N/A	N/A	1973	Replacement	Yes
(4) Cap Screws 1"- 8 UNC 2A x 5 1/2	NOVA Machine Products	Heat No. B917	N/A	Exelon Stock Code 111-02622	N/A	Replacement	No

7. Description of Work Replaced one (1) Control Rod Drive and four (4) CRD flange bolts.
8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
 Other  Pressure 1050 psi Test Temp. 150 °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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 Manufacturers' Data Reports are traceable by work order package.  
Applicable Manufacturer's Data Reports to be attached

**CERTIFICATE OF COMPLIANCE**

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI.  
repair or replacement

Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed D.L. Schmidt David L. Schmidt, Sr. Engineer Date April 08, 20 05  
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 HSBCT of Hartford, CT have inspected the components described in this Owner's Report during the period 5 AUG 04 to 9 JUNE 05, 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 PA-2497 I, N, A & C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 9 JUNE 20 05

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

1. Owner Exelon Generation Company, LLC Date March 12, 2005  
 Name \_\_\_\_\_  
200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
 Address \_\_\_\_\_
2. Plant Limerick Generating Station Unit 2  
 Name \_\_\_\_\_  
3146 Sanatoga Road, Pottstown, PA 19464 Work order # C0202770 and C0204809  
 Address \_\_\_\_\_ Repair Organization P.O. No., Job No. etc. \_\_\_\_\_
3. Work Performed by Exelon Nuclear Type Code Symbol Stamp None  
 Name \_\_\_\_\_ Authorization No. None  
3146 Sanatoga Road, Pottstown, PA 19464 Expiration Date None  
 Address \_\_\_\_\_
4. Identification of System Stand By Liquid Control (System-048) Line No. SP-ECB-214-E8
5. (a) Applicable Construction Code ASME III 1974 Edition, Winter 1974 Addenda, N/A Code Case  
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped
(5) Feet 2" ECB-214 Pipe	Sanvik Steel	Heat# 462117	N/A	* 114-90026 PO# LS628285	N/A	Replacement	No
2" ECB-214 Pipe Coupling	Alloy Stainless Products	Heat Code HBZ	N/A	* 114-92841 PO# LS628642	N/A	Replacement	No

\* Traceability per Exelon part code number.

7. Description of Work Replaced 2" pipe flange with a 2" pipe coupling.

8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure  |  
 Other \_\_\_\_\_ Pressure 2265 psi Test Temp. 73 °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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: Work completed in accordance with Exelon design change ECR LG-02-00521.  
Applicable Manufacturer's Data Reports to be attached

**CERTIFICATE OF COMPLIANCE**

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI  
Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed J.H. Kramer J.H. Kramer, engineer Date March 12, 2005  
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 HSBCT of Hartford, CT have inspected the components described in this Owner's Report during the period 24 OCT 02 to 28 MAR 05, 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 Penanti Commissions PA-2497 I, N & A, C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 28 MAR 20 05

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

1. Owner Exelon Generation Company, LLC Date March 11, 2005  
 Name  
200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
 Address
2. Plant Limerick Generating Station Unit 2  
 Name  
3146 Sanatoga Road, Pottstown, PA 19464 Work order # R0802617  
 Address Repair Organization P.O. No., Job No. etc.
3. Work Performed by Exelon Nuclear Type Code Symbol Stamp None  
 Name Authorization No. None  
3146 Sanatoga Road, Pottstown, PA 19464 Expiration Date None  
 Address
4. Identification of System Stand By Liquid Control (System-048) Line No. ECB-214 Valve XV-048-2F004A
5. (a) Applicable Construction Code ASME III 1968 Edition, N/A Addenda, N/A Code Case  
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 89
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped
INLET FITTING	IST CONAX	6918	6918	* 114-77023 PO# 003073	2003	REPLACEMENT	NO
TRIGGER BODY	IST CONAX	6916	6916	* 114-77023 PO# 003073	2003	REPLACEMENT	NO

\* Traceability per Exelon part code number.

7. Description of Work Replaced explosive valve inlet fitting and trigger body.
8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
 Other          Pressure 1250 psi Test Temp. N/A °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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: Manufacturer's data reports are traceable by Exelon work order package.  
Applicable Manufacturer's Data Reports to be attached

Inlet fitting and trigger body fabricated in accordance with ASME III, 1977 edition with summer 1977 addenda.

**CERTIFICATE OF COMPLIANCE**

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI  
Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed J.H. Kramer J.H. Kramer, engineer Date March 11, 2005  
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 HSBCT of Hartford, CT have inspected the components described in this Owner's Report during the period 13 JUN 03 to 28 MAR 05, 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 PA-2497 I.N & A.C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 28 MAR 20 05

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

1. Owner Exelon Generation Company, LLC Date May 19, 2005  
Name

200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
Address

2. Plant Limerick Generating Station Unit 2  
Name

3146 Sanatoga Road, Pottstown, PA 19464 Work order # R0973614  
Address Repair Organization P.O. No., Job No. etc.

3. Work Performed by Exelon Nuclear Type Code Symbol Stamp None  
Name Authorization No. None

3146 Sanatoga Road, Pottstown, PA 19464 Expiration Date None  
Address

4. Identification of System Stand By Liquid Control (System-048) Line No. ECB-214 Valve XV-048-2F004A

5. (a) Applicable Construction Code ASME III 1968 Edition, N/A Addenda, N/A Code Case  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped
INLET FITTING	IST CONAX	7127	7127	* 114-77023 PO# 009139	2004	REPLACEMENT	NO
TRIGGER BODY	IST CONAX	7129	7129	* 114-77023 PO# 009139	2004	REPLACEMENT	NO

\* Traceability per Exelon part code number.

7. Description of Work Replaced explosive valve Inlet fitting and trigger body.

8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other \_\_\_\_\_ Pressure 1210 psi Test Temp. N/A °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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: Manufacturer's data reports are traceable by Exelon work order package.  
Applicable Manufacturer's Data Reports to be attached

Inlet fitting and trigger body fabricated in accordance with ASME III, 1977 edition with summer 1977 addenda.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI  
Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed  J.H. Kramer, engineer Date May 19, 2005  
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 HSBCT of Hartford, CT have inspected the components described

in this Owner's Report during the period 5 FEB 05 to 24 MAY 05, 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-2497 I.N & A, C  
National Board, State, Province, and Endorsements

Date 24 MAY 20 05

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

1. Owner Exelon Generation Company, LLC Date April 19, 2005  
Name \_\_\_\_\_  
200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
Address \_\_\_\_\_
2. Plant Limerick Generating Station Unit 2  
Name \_\_\_\_\_  
3146 Sanatoga Road, Pottstown, PA 19464 Work Order # C0211953  
Address \_\_\_\_\_ Repair Organization P.O. No., Job No. etc. \_\_\_\_\_
3. Work Performed by Exelon Nuclear Type Code Symbol Stamp \_\_\_\_\_ None  
Name \_\_\_\_\_ Authorization No. \_\_\_\_\_ None  
3146 Sanatoga Road, Pottstown, PA 19464 Expiration Date \_\_\_\_\_ None  
Address \_\_\_\_\_
4. Identification of System RCIC pump and turbine (System-050) Line No. HBB-204-2
5. (a) Applicable Construction Code ASME III 1974 Edition, Winter 1974 Addenda, N/A Code Case  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped
6" HBB-204-2 Pipe	United States Steel	Heat Code X05937	N/A	* 114-90062 PO# LS 647751	N/A	Replacement	No
6" HBB-204-2 Blind Plate	American Alloy Steel	Heat No. T5572	N/A	* 114-57222 PO# 009825-001762	N/A	Replacement	No
3/4" Half Coupling	Colonial Machine	Heat Code AGB	N/A	* 114-92679 PO# 009825-001721	N/A	Replacement	No
3/4" Pipe	Gulf States Tube / Vision Metals	Heat No. 775784	N/A	* 114-90041 PO# 009825-348364	N/A	Replacement	No
3/4" Valve 050-2043	Flowserve	54 BAW	N/A	* 114-98825 PO# 257797-000286	2005	Replacement	Yes

\* Traceability per Exelon part code number.

7. Description of Work Installed blind and vent in 6" HBB-204 RCIC piping.

8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other \_\_\_\_\_ Pressure 37 feet water head Test Temp. N/A °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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: Manufacturer's data reports are traceable by Exelon work order package.  
Applicable Manufacturer's Data Reports to be attached

NDE completed in accordance with ASME III, 1992 edition (code case N-416-2)

Pressure testing completed in accordance with ASME XI, 1992 edition (code case N-416-2)

Work completed in accordance with Exelon design change ECR 04-00419.

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI  
Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed J.H. Kramer J.H. Kramer, engineer Date April 19, 2005  
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 HSBCT of Hartford, CT have inspected the components described in this Owner's Report during the period 26 JAN 05 to 26 APR 05, 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 Herand Commissions PA-2497 I.N & A. C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 26 APR 2005

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

1. Owner Exelon Generation Company, LLC Date April 27, 2005  
 Name  
200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
 Address

2. Plant Limerick Generating Station Unit 2  
 Name  
3146 Sanatoga Road, Pottstown, PA 19464 Work Order No. R0866336  
 Address Repair Organization P.O. No., Job No. etc.

3. Work Performed by Exelon Nuclear Type Code Symbol Stamp None  
 Name Authorization No. Not applicable  
3146 Sanatoga Road, Pottstown, PA 19464 Expiration Date Not applicable  
 Address

4. Identification of System RCIC Pump and Turbine (System 050) Line No. HBB-207 PSE-050-2D002

5. (a) Applicable Construction Code ASME III 1998 Edition, N/A Addenda, N/A Code Case  
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
PSE-050-2D002	Continental Disc	8017787A	N/A	* 114-34519 PO# 004410	N/A	Replacement	No

\* Traceability per Exelon stock code number.

7. Description of work: Replace 8" HPCI Rupture Disc

8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
 Other  1040 psi Test Temp. N/A °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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 Manufacturers data reports are traceable by work order package.  
Applicable Manufacturer's Data Reports to be attached

**CERTIFICATE OF COMPLIANCE**

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI. (repair or replacement)  
Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed J.H. Kramer J.H. Kramer (engineer) Date April 27, 2005  
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 HSBCT of Hartford, CT have inspected the components described in this Owner's Report during the period 29 APR 04 to 27 APR 05, 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. ... Commissions PA-2497 I.N & A. C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 27 APR 2005

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

1. Owner Exelon Generation Company, LLC Date April 27, 2005  
Name \_\_\_\_\_
- 200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
Address \_\_\_\_\_
2. Plant Limerick Generating Station Unit 2  
Name \_\_\_\_\_
- 3146 Sanatoga Road, Pottstown, PA 19464 Work Order No. R0866711  
Address \_\_\_\_\_ Repair Organization P.O. No., Job No. etc. \_\_\_\_\_
3. Work Performed by Exelon Nuclear Type Code Symbol Stamp None  
Name \_\_\_\_\_ Authorization No. Not applicable
- 3146 Sanatoga Road, Pottstown, PA 19464 Expiration Date Not applicable  
Address \_\_\_\_\_
4. Identification of System RCIC Pump and Turbine (System 050) Line No. HBB-207 PSE-050-2D001
5. (a) Applicable Construction Code ASME III 1998 Edition, N/A Addenda, N/A Code Case  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 89
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
PSE-050-2D001	Continental Disc	8017787A	N/A	* 114-34519 PO# 004410	N/A	Replacement	No

\* Traceability per Exelon stock code number.

7. Description of work: Replace 8" HPCI Rupture Disc
8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other  1040 psi Test Temp. N/A °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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 Manufacturers data reports are traceable by work order package.  
Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI. (repair or replacement)

Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed J.H. Kramer J.H. Kramer (engineer) Date April 27, 2005  
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 HSBCT of Hartford, CT have inspected the components described in this Owner's Report during the period 29 APR 04 to 27 APR 05, 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 Bennett Commissions PA-2497 I,N & A, C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 27 APR 2005

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

1. Owner Exelon Generation Company, LLC Date March 15, 2005  
Name

200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
Address

2. Plant Limerick Generating Station Unit 2  
Name

3146 Sanatoga Road, Pottstown, PA 19464 Work Order No. C0210306  
Address Repair Organization P.O. No., Job No. etc.

3. Work Performed by Exelon Nuclear Type Code Symbol Stamp None  
Name Authorization No. Not applicable

3146 Sanatoga Road, Pottstown, PA 19464 Expiration Date Not applicable  
Address

4. Identification of System Residual Heat Removal (System 051) Line No. DCA-204 Valve HV-051-2F050A

5. (a) Applicable Construction Code ASME III 1974 Edition, Summer 1974 Addenda, N/A Code Case  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 89

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
Valve Disc	Weir Valves, Atwood & Morrill	Heat# 9142504 S/N CN-10323-1	N/A	* 114-02791 PO# 257796-222	2005	Replacement	Yes
Valve Seat Ring	Weir Valves, Atwood & Morrill	Heat# 603155 S/N 1	N/A	* 114-54675 PO# 257796-219	2004	Replacement	No

\* Traceability per Exelon stock code number.

7. Description of work: Replaced 12" check valve disc and seat ring.

8. Tests conducted:  Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other  1045 psi Test Temp. 172 °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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 Manufacturers data reports are traceable by work order package.  
Applicable Manufacturer's Data Reports to be attached

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CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI. (repair or replacement)  
Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed J.H. Kramer J.H. Kramer, engineer Date March 15, 2005  
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 HSBCT of Hartford, CT have inspected the components described in this Owner's Report during the period 01 NOV 04 to 7 APR 05, 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 PA-2497 I.N & A, C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 7 APR 18 2005

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

1. Owner Exelon Generation Company, LLC Date April 25, 2005  
Name \_\_\_\_\_  
200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
Address \_\_\_\_\_
2. Plant Limerick Generating Station Unit 2  
Name \_\_\_\_\_  
3146 Sanatoga Road, Pottstown, PA 19464 Work Order No. C0210602  
Address \_\_\_\_\_ Repair Organization P.O. No., Job No. etc. \_\_\_\_\_
3. Work Performed by Exelon Nuclear Type Code Symbol Stamp None  
Name \_\_\_\_\_ Authorization No. Not applicable  
3146 Sanatoga Road, Pottstown, PA 19464 Expiration Date Not applicable  
Address \_\_\_\_\_
4. Identification of System Residual Heat Removal (System 051) Line No. DCA-204 Valve HV-051-2F050B
5. (a) Applicable Construction Code ASME III 1974 Edition, Summer 1974 Addenda, N/A Code Case  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 89
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
Valve Disc	Weir Valves, Atwood & Morrill	Heat# 982103 S/N CN-62461-1	N/A	* 114-02791 PO# 257796-481201	2004	Replacement	Yes
(3) 1-3/4" Bonnet Studs	Attwood & Morrill (Ronson Manufacturing)	Heat# 61586 Trace# V121	N/A	* 114-15108 PO# 180882	N/A	Replacement	No
(1) 5/8" Bearing Cover Stud	Attwood & Morrill (Ronson Manufacturing)	Heat# M73104 Trace# V119	N/A	* 114-15108 PO# 180882	N/A	Replacement	No

\* Traceability per Exelon stock code number.

7. Description of work: Replaced 12" check valve disc and bolting.
8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure  |  
Other  1045 psi Test Temp. 172 °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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 Manufacturers data reports are traceable by work order package.  
Applicable Manufacturer's Data Reports to be attached

Bonnet studs & bearing cover studs were taken from spare valve Exelon# 114-15108. Atwood & Morrill S/N 2-50301-A.

**CERTIFICATE OF COMPLIANCE**

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI.  
(repair or replacement)

Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed J.H. Kramer J.H. Kramer, engineer Date April 25, 2005  
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 HSBCT of Hartford, CT have inspected the components described in this Owner's Report during the period 3 AUG 04 to 27 APR 05, 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 Bernart Commissions PA-2497 I.N & A.C.  
Inspector's Signature National Board, State, Province, and Endorsements

Date 27 APR 20 05

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

1. Owner Exelon Generation Company, LLC Date April 15, 2005  
Name  
200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
Address
2. Plant Limerick Generating Station Unit 2  
Name  
3146 Sanatoga Road, Pottstown, PA 19464 Work Order No. C0209173  
Address Repair Organization P.O. No., Job No. etc.
3. Work Performed by Exelon Nuclear Type Code Symbol Stamp None  
Name Authorization No. Not applicable  
3146 Sanatoga Road, Pottstown, PA 19464 Address Expiration Date Not applicable
4. Identification of System Residual Heat Removal (System 051) Line No. DCA-104 / 204 Valve HV- 051-F050A, B
5. (a) Applicable Construction Code ASME III 1974 Edition, Summer 1974 Addenda, N/A Code Case  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 89
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
Valve Disc	Weir Valves, Atwood & Morrill	Heat# 993204 S/N CN-680491	N/A	* 114-48551 PO# 257796-481207	2004	Replacement	Yes
(1) 1-3/4" Cover Stud	Weir Valves, Atwood & Morrill	Heat# 8963073 Trace# V130	N/A	* 114-48552 PO# 257796-481207	N/A	Replacement	No
(1) 1-3/4" Cover Nut	Weir Valves, Atwood & Morrill	Heat# 8960756 Trace# V127	N/A	* 114-77637 PO# 257796-481210	N/A	Replacement	No

\* Traceability per Exelon stock code number.

7. Description of work: Replaced 12" check valve disc and cover bolting in spare valve S/N 2-50301-A

8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure  |  
Other  N/A psi Test Temp. N/A °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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 Manufacturers data reports are traceable by work order package.  
Applicable Manufacturer's Data Reports to be attached

Valve S/N 2-50301-A was refurbished and returned to the warehouse.

Pressure testing per ASME XI will be completed when the valve is installed at HV-051-1F050B or 2F050B.

**CERTIFICATE OF COMPLIANCE**

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI. (repair or replacement)

Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed J.H. Kramer J.H. Kramer, engineer Date April 15, 2005  
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 HSBCT of Hartford, CT have inspected the components described in this Owner's Report during the period 5 OCT 04 to 27 APR 05, 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 PA-2497 I.N & A, C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 27 APR 20 05

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

1. Owner Exelon Generation Company, LLC Date April 20, 2005  
Name  
200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
Address
2. Plant Limerick Generating Station Unit 2  
Name  
3146 Sanatoga Road, Pottstown, PA 19464 Work Orders # C0211739 and C0213102  
Address Repair Organization P.O. No., Job No. etc.
3. Work Performed by Exelon Nuclear Type Code Symbol Stamp None  
Name Authorization No. None  
3146 Sanatoga Road, Pottstown, PA 19464 Expiration Date None  
Address
4. Identification of System Residual Heat Removal (System-051) Line No. GBB-205 Valve HV-051-2F016B
5. (a) Applicable Construction Code ASME III 1974 Edition, Winterer 1974 Addenda, N-416-2 Code Case  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 89
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped
16" Valve HV-051-2F016B	Flowserve	AY 237	N/A	* 114-53705 PO# 257797-481275	2005	Replacement	Yes
(3) Feet of 16" Pipe	United States Steel	Heat No. RY5576	N/A	* 114-57228 PO# 009825-001779	N/A	Replacement	No
(2) Pipe Half Couplings	WFI Nuclear	Heat No. 3156ANB	N/A	* 114-92668 PO# 009825-001754	N/A	Replacement	No
GBB-205-H033 4" x 4" x 3/4" Angle	Bayou Steel	Heat No. 25906	N/A	* 114-92751 PO# 009825-001910	N/A	Replacement	No
GBB-205-H033 3/4" Plate	ISG Plate	Heat No. T5569	N/A	* 114-04934 PO# 009825-001911	N/A	Replacement	No

\* Traceability per Exelon part code number.

7. Description of Work Replaced 16" RHR gate valve, adjacent piping and pipe support.
8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other      Pressure 226 psi Test Temp. 68 °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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: Manufacturer's data reports are traceable by Exelon work order package.  
Applicable Manufacturer's Data Reports to be attached

NDE completed in accordance with ASME III, 1992 edition (code case N-416-2)

Pressure testing completed in accordance with ASME XI, 1992 edition (code case N-416-2)

Valve S/N AY237 manufactured in accordance with ASME III, 1974 edition, Summer 1974 addenda and code cases 1516-1, 1567 & 1682.

Work completed in accordance with Exelon design changes ECR 04-00360 and ECR 05-00136.

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI  
Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed Jan H. Kramer J.H. Kramer, engineer Date April 20, 2005  
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 HSBCT of Hartford, CT have inspected the components described in this Owner's Report during the period 5 FEB 05 to 6 MAY 05, 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 Bernard Jr. Commissions PA-2497 I, N & A, C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 6 MAY 20 05

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

1. Owner Exelon Generation Company, LLC Date March 11, 2005  
Name \_\_\_\_\_  
200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
Address \_\_\_\_\_
2. Plant Limerick Generating Station Unit 2  
Name \_\_\_\_\_  
3146 Sanatoga Road, Pottstown, PA 19464 Work Order No. R0923832  
Address \_\_\_\_\_ Repair Organization P.O. No., Job No. etc. \_\_\_\_\_
3. Work Performed by Exelon Nuclear Type Code Symbol Stamp None  
Name \_\_\_\_\_ Authorization No. Not applicable  
3146 Sanatoga Road, Pottstown, PA 19464 Expiration Date Not applicable  
Address \_\_\_\_\_
4. Identification of System Residual Heat Removal (System 051) Line No. GBB-209 Valve 051-2F046D
5. (a) Applicable Construction Code ASME III 1971 Edition, Winter 1973 Addenda, N/A Code Case  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 89
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
Valve Disc	Velan	7446	N/A	* 114-33943 PO# 184729	2001	Replacement	Yes

\* Traceability per Exelon stock code number.

7. Description of work: Replaced 4" check valve disc
8. Tests conducted: Hydrostatic  Pneumatic  -- Nominal Operating Pressure  |  
Other  230 psi Test Temp. N/A °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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 Manufacturers data reports are traceable by work order package.  
Applicable Manufacturer's Data Reports to be attached

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**CERTIFICATE OF COMPLIANCE**

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI. (repair or replacement)

Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed J.H. Kramer J.H. Kramer, engineer Date March 11, 2005  
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 HSBCT of Hartford, CT have inspected the components described in this Owner's Report during the period 24 FEB 03 to 28 MAR 05, 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 PA-2497 I.N & A. C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 28 MAR 18 2005

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

1. Owner Exelon Generation Company, LLC Date May 5, 2004  
Name

200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
Address

2. Plant Limerick Generating Station Unit 2  
Name

P.O. Box 2300, Pottstown, PA 19464-2300 Work Order # R0953440  
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

P.O. Box 2300, Pottstown, PA 19464-2300 Expiration Date N/A  
Address

4. Identification of System Core Spray (System-052) Line No. HBB-220 Valve PSV-052-2F032B

5. (a) Applicable Construction Code ASME III 1974 Edition, Winter 1974 Addenda, N-416-1 Code Case  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 89

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped
PSV-052-2F032B	Anderson Greenwood Crosby	N95709-00-0003	N/A	* 114-18171 PO# 188361	2004	REPLACEMENT	YES
(1) Foot 2" NPS Pipe	Gulf States Steel Vislon Metals	Heat No. 710144	N/A	* 114-90045 PO# 009825-348899	N/A	REPLACEMENT	NO
(1) 2" NPS Flange	Western Forge and Flange	Heat No. 3M40774 Lot No. 8689	N/A	* 114-90527 PO# 009825-481096	N/A	REPLACEMENT	NO

\* Traceability per Exelon part code number.

7. Description of Work Replaced relief valve and inlet piping.

8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other  Pressure 23.0 Feet Water Test Temp. 73 °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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: Manufacturer's data reports are traceable by Exelon work order package.  
Applicable Manufacturer's Data Reports to be attached

Relief valve PSV-052-2F032B constructed in accordance with ASME III, 1974 edition, Summer 1974 addenda.

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI (repair or replacement)  
Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed J.H. Kramer J.H. Kramer, engineer Date May 5, 2004  
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 HSBCT of Hartford, CT have inspected the components described in this Owner's Report during the period 27 JAN 04 to 6 MAY 04, 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 Lenczewski Commissions PA-2497 I, N & A, C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 6 MAY 20 04

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

1. Owner Exelon Generation Company, LLC Date November 2, 2004  
Name  
200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
Address
2. Plant Limerick Generating Station Unit 2  
Name  
P.O. Box 2300, Pottstown, PA 19464-2300 Work Order # R0937268  
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  
P.O. Box 2300, Pottstown, PA 19464-2300 Expiration Date N/A  
Address
4. Identification of System Core Spray (System-052) Line No. HBB-220 Valve PSV-052-2F032C
5. (a) Applicable Construction Code ASME III 19 74 Edition, Winter 1974 Addenda, N-416-1 Code Case  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 89
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped
PSV-052-2F032C	Anderson Greenwood Crosby	N95709-00-0004	N/A	* 114-18171 PO# 188361	2004	REPLACEMENT	YES
(1) Foot 2" NPS Pipe	United States Steel	Heat No. A43935	N/A	* 114-90045 PO# 009825-348832	N/A	REPLACEMENT	NO
(1) 2" NPS Flange	Western Forge and Flange	Heat No. 4M38343 Lot No. 8128	N/A	* 114-90527 PO# 009825-348757	N/A	REPLACEMENT	NO

\* Traceability per Exelon part code number.

7. Description of Work Replaced relief valve and inlet piping.
8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other Pressure 23.5 Feet Water Test Temp. 83 °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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: Manufacturer's data reports are traceable by Exelon work order package.  
Applicable Manufacturer's Data Reports to be attached

Relief valve PSV-052-2F032C constructed in accordance with ASME III, 1974 edition, Summer 1974 addenda.

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the  
ASME Code, Section XI (repair or replacement)  
Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed Jean H. Kramer J.H. Kramer, engineer Date November 2, 2004  
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 HSBCT of  
Hartford, CT

have inspected the components described  
in this Owner's Report during the period 23 JAN 04 to 15 NOV 04, 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 Penard Commissions PA-2497 I, N & A, C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 15 NOV 2004

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

1. Owner Exelon Generation Company, LLC Date May 5, 2004  
Name  
200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
Address
2. Plant Limerick Generating Station Unit 2  
Name  
P.O. Box 2300, Pottstown, PA 19464-2300 Work Order # R0953443  
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  
P.O. Box 2300, Pottstown, PA 19464-2300 Expiration Date N/A  
Address
4. Identification of System Core Spray (System-052) Line No. HBB-220 Valve PSV-052-2F032D
5. (a) Applicable Construction Code ASME III 1974 Edition, Winter 1974 Addenda, N-416-1 Code Case  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 89

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped
PSV-052-2F032D	Anderson Greenwood Crosby	N95709-00-0005	N/A	* 114-18171 PO# 188361	2004	REPLACEMENT	YES
(1) Foot 2" NPS Pipe	Gulf States Steel Vision Metals	Heat No. 710144	N/A	* 114-90045 PO# 009825-348899	N/A	REPLACEMENT	NO
(1) 2" NPS Flange	Western Forge and Flange	Heat No. 3M40774 Lot No. 8689	N/A	* 114-90527 PO# 009825-481096	N/A	REPLACEMENT	NO

\* Traceability per Exelon part code number.

7. Description of Work Replaced relief valve and inlet piping.
8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other Pressure 23.0 Feet Water Test Temp. 73 °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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: Manufacturer's data reports are traceable by Exelon work order package.  
Applicable Manufacturer's Data Reports to be attached  
Relief valve PSV-052-2F032D constructed in accordance with ASME III, 1974 edition, Summer 1974 addenda.

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the  
ASME Code, Section XI (repair or replacement)  
Type Code Symbol Stamp NA  
Certificate of Authorization No. NA Expiration Date NA  
Signed Jam H. Kramer J.H. Kramer, engineer Date May 5, 2004  
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 HSBCT of  
Hartford, CT have inspected the components described  
in this Owner's Report during the period 27 JAN 04 to 6 MAY 04, 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. Kramer Commissions PA-2497 I.N. & A.C.  
Inspector's Signature National Board, State, Province, and Endorsements  
Date 6 MAY 20 04

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

1. Owner Exelon Generation Company, LLC Date April 12, 2005  
Name  
200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
Address
2. Plant Limerick Generating Station Unit 2  
Name  
3146 Sanatoga Road, Pottstown, PA 19464 Work order # C0209579  
Address Repair Organization P.O. No., Job No. etc.
3. Work Performed by Exelon Nuclear Type Code Symbol Stamp None  
Name Authorization No. None  
3146 Sanatoga Road, Pottstown, PA 19464 Expiration Date None  
Address
4. Identification of System High Pressure Coolant Injection (System-055) Line No. HBB-244 Valve HV-055-2F093
5. (a) Applicable Construction Code ASME III 1971 Edition, Summer 1971 Addenda, 1516-1, 1567, N-416-2 Code Case  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 89
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped
4" Valve HV-055-2F093	Flowserve	AX 137	N/A	* 114-26544 PO# 257797-481255	2005	Replacement	Yes
1/2" NPS Pipe plug	Colonial Machine	Heat Code AFV	N/A	* 114-00618 PO# 177949	N/A	Replacement	No

\* Traceability per Exelon part code number.

7. Description of Work Replaced 4" HPCI Gate valve. Replace commercial steel packing leakoff plug with ASME material.
8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other  Pressure 975 psi Test Temp. N/A °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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: Manufacturer's data reports are traceable by Exelon work order package.  
Applicable Manufacturer's Data Reports to be attached

NDE completed in accordance with ASME III, 1992 edition (code case N-416-2)

Pressure testing completed in accordance with ASME XI, 1992 edition (code case N-416-2)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI  
Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed J. H. Kramer J.H. Kramer, engineer Date April 12, 2005  
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 HSBCT of Hartford, CT have inspected the components described

in this Owner's Report during the period 26 AUG 04 to 25 APR 05, 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 Lemaire Commissions PA-2497 I.N & A, C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 25 APR 20 05

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

1. Owner Exelon Generation Company, LLC Date April 21, 2005  
Name  
200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
Address
2. Plant Limerick Generating Station Unit 2  
Name  
3146 Sanatoga Road, Pottstown, PA 19464 Address Work Order # C0211211  
Repair Organization P.O. No., Job No. etc.
3. Work Performed by Exelon Nuclear Type Code Symbol Stamp None  
Name Authorization No. None  
3146 Sanatoga Road, Pottstown, PA 19464 Address Expiration Date None
4. Identification of System High Pressure Coolant Injection (System-055) Line No. HBB-210 Valve 055-2F019
5. (a) Applicable Construction Code ASME III 19 74 Edition, Winter 1974 Addenda, N-416-2 Code Case  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 89

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped
3/4" Half Coupling	Colonial Machine	Heat Code AGB	N/A	* 114-92679 PO# 166158	N/A	Replacement	No
3/4" Pipe	Michigan Seamless Tube	Heat No. 001M35684	N/A	* 114-90041 PO# 009825-481307	N/A	Replacement	No
3/4" Valve 055-2003	Flowserve	52 BAW	N/A	* 114-98825 PO# 257797-000286	2005	Replacement	Yes

\* Traceability per Exelon part code number.

7. Description of Work Installed bonnet vent on 16" HPCI check valve 055-2F019.
8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other Pressure 37 feet water head Test Temp. N/A °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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: Manufacturer's data reports are traceable by Exelon work order package.  
Applicable Manufacturer's Data Reports to be attached

NDE completed in accordance with ASME III, 1992 edition (code case N-416-2)

Pressure testing completed in accordance with ASME XI, 1992 edition (code case N-416-2)

Work completed in accordance with Exelon design change ECR 04-00428.

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI  
Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed Jan H. K. J.H. Kramer, engineer Date April 19, 2005  
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 HSBCT of Hartford, CT have inspected the components described in this Owner's Report during the period 8 DEC 04 to 25 APR 05, 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 Bennett Commissions PA-2497 I.N & A. C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 25 APR 20 05

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

1. Owner Exelon Generation Company, LLC Date April 21, 2005  
Name \_\_\_\_\_  
200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
Address \_\_\_\_\_
2. Plant Limerick Generating Station Unit 2  
Name \_\_\_\_\_  
3146 Sanatoga Road, Pottstown, PA 19464 Work Orders # C0211323 and R0930574  
Address \_\_\_\_\_ Repair Organization P.O. No., Job No. etc. \_\_\_\_\_
3. Work Performed by Exelon Nuclear Type Code Symbol Stamp None  
Name \_\_\_\_\_ Authorization No. None  
3146 Sanatoga Road, Pottstown, PA 19464 Expiration Date None  
Address \_\_\_\_\_
4. Identification of System High Pressure Coolant Injection (System-055) Line No. HBB-209 Valve 055-2F045
5. (a) Applicable Construction Code ASME III 19 74 Edition, Winter 1974 Addenda, N-416-2 Code Case  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 89

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped
3/4" Half Coupling	Colonial Machine	Heat Code AGB	N/A	* 114-92679 PO# 166158	N/A	Replacement	No
3/4" Pipe	Michigan Seamless Tube	Heat No. 001M35684	N/A	* 114-90041 PO# 009825-481307	N/A	Replacement	No
3/4" Valve 055-2045	Flowserve	53 BAW	N/A	* 114-98825 PO# 257797-000286	2005	Replacement	Yes

\* Traceability per Exelon part code number.

7. Description of Work Installed bonnet vent on 16" HPCI check valve 055-2F045.
8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other Pressure 23 feet suppression pool water head Test Temp. N/A °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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: Manufacturer's data reports are traceable by Exelon work order package.  
Applicable Manufacturer's Data Reports to be attached

NDE completed in accordance with ASME III, 1992 edition (code case N-416-2)

Pressure testing completed in accordance with ASME XI, 1992 edition (code case N-416-2)

Work completed in accordance with Exelon design change ECR 04-00428.

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI  
Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed J.H. Kramer J.H. Kramer, engineer Date April 19, 2005  
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 HSBCT of Hartford, CT have inspected the components described in this Owner's Report during the period 9 NOV 04 to 25 APR 05, 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 PA-2497 I.N & A. C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 25 APR 20 05

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

1. Owner Exelon Generation Company, LLC Date April 21, 2005  
Name

200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
Address

2. Plant Limerick Generating Station Unit 2  
Name

3146 Sanatoga Road, Pottstown, PA 19464 Work Order No. R0931762  
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

3146 Sanatoga Road, Pottstown, PA 19464 Expiration Date N/A  
Address

4. Identification of System Containment Atmosphere Control (System 057) Line No. HBD-815 Vacuum Breaker PSV-057-237A-1

5. (a) Applicable Construction Code ASME III 1971 Edition, Summer 1973 Addenda, N/A Code Case

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 89

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
(1) 1-1/4" Flange Nut	Nova Machine	Trace Code A201	N/A	* 114-14615 PO# 180864-348974	N/A	Replacement	No

\* Traceability per Exelon stock code number.

7. Description of work: Replaced containment vacuum breaker flange nut.

8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure  |  
Other  N/A psi Test Temp. N/A °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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.

(12/82) This Form (E00030) may be obtained from the Order Dept., ASME, 345 E.47th St., New York, N.Y. 10017

FORM NIS-2 (BACK)

9. Remarks: None

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI. (repair or replacement)  
Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed J.H. Kramer J.H. Kramer (engineer) Date April 21, 2005  
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 HSBCT of Hartford, CT have inspected the components described in this Owner's Report during the period 10 MAR 05 to 25 APR 05, 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 PA-2497 I.N & A.C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 25 APR 2005

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

1. Owner Exelon Generation Company, LLC Date June 21, 2004  
Name
- 200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
Address
2. Plant Limerick Generating Station Unit Common  
Name
- P.O. Box 2300, Sanatoga, PA 19464-2300 Work Order No. R0942897  
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
- P.O. Box 2300, Sanatoga, PA 19464-2300 Expiration Date N/A  
Address
4. Identification of System Control Enclosure Chilled water (System 090) Line No. HBC-143 0B-K112
5. (a) Applicable Construction Code ASME III 1971 Edition, Summer 1973 Addenda, N/A Code Case  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19\_89
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
0B-K112 Chiller condenser	Carrier	700163	128544	N/A	N/A	Repaired	No

7. Description of work: Weld repaired condenser channel and heads.
8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other  86 psi Test Temp. N/A °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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 Code case N-416-1 invoked for pressure testing. Pressure testing completed in accordance with ASME XI, 1992 edition.  
Applicable Manufacturer's Data Reports to be attached

NDE completed in accordance with ASME III, 1992 edition.

**CERTIFICATE OF COMPLIANCE**

We certify that the statements made in the report are correct and this repair conforms to the rules of the ASME Code, Section XI. (repair or replacement)

Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed J.H. Kramer J.H. Kramer (engineer) Date June 21, 2004  
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 HSBCT of Hartford, CT have inspected the components described in this Owner's Report during the period 18 MAY 04 to 25 JUNE 04 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 Bernini Commissions PA-2497 I.N & A. C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 25 JUNE 18 2004

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

1. Owner Exelon Generation Company, LLC Date May 2, 2005  
Name  
200 Exelon Way, Kennett Square, PA 19348 Address Sheet 1 of 2
2. Plant Limerick Generating Station Unit 2  
Name  
3146 Sanatoga Road, Pottstown PA 19464 Address Work order # C0204800  
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  
3146 Sanatoga Road, Pottstown PA 19464 Address Expiration Date N/A
4. Identification of System: Emergency Diesel Generator (System-092) Line No. 2AG-COOL 2A-E586
5. (a) Applicable Construction Code ASME III 1974 Edition, Winter 1975 Addenda, N/A Code Case  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped
Floating Water Box Channel	ITT Industries	900236-1	N/A	* 114-72820 PO# 167610-348429	2002	Replacement	Yes
Stationary Water Box Channel	ITT Industries	900236-2	N/A	* 114-72819 PO# 167610-348429	2002	Replacement	Yes
Channel Covers	Nova Machine Products	Heat# C5783 Slab# 7	N/A	* 114-00229 PO# 180864-348803	N/A	Replacement	No
(48) 5/8" Studs	Nova Machine Products	Heat# 7404456	N/A	* 116-66003 PO# 180864-348774	N/A	Replacement	No
(24) 5/8" Nuts	Nova Machine Products	Heat# B87035	N/A	* 116-12090 PO# 180864-348503	N/A	Replacement	No
(24) 5/8" Nuts	Nova Machine Products	Heat# 8975978 Heat Code H114	N/A	* 116-12213 PO# 180864-348810	N/A	Replacement	No

\* Traceability per Exelon part code number.

7. Description of Work: Replaced diesel generator Intercooler flanged water box channels, channel covers, studs and nuts.

8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other      Pressure 110 psi Test Temp. 85 °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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: Manufacturer's data reports are traceable by Exelon work order package.  
Applicable Manufacturer's Data Reports to be attached

Heat exchanger channels were manufactured and "U" stamped to ASME VIII, 2001 edition, 2001 addenda, in accordance with

Exelon design change ECR 00-01284 and generic letter 89-09.

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI  
Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed J.H. Kramer J.H. Kramer, engineer Date May 2, 2005  
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 HSBCT of Hartford, CT have inspected the components described in this Owner's Report during the period 21 APR 03 to 5 MAY 05, 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 Kennedy Commissions PA-2497 I, N & A, C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 5 MAY 20 05

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

1. Owner Exelon Generation Company, LLC Date March 9, 2005  
 Name \_\_\_\_\_  
200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
 Address \_\_\_\_\_

2. Plant Limerick Generating Station Unit 2  
 Name \_\_\_\_\_  
3146 Sanatoga Road, Pottstown PA 19464 Work order # C0204822  
 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  
3146 Sanatoga Road, Pottstown PA 19464 Expiration Date N/A  
 Address \_\_\_\_\_

4. Identification of System: Emergency Diesel Generator (System-092) Line No. 2CG-COOL 2C-E586

5. (a) Applicable Construction Code ASME III 1974 Edition, Winter 1975 Addenda, N/A Code Case  
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped
Floating Head Water Box	Aerofin	S/N 040339	1692	* 114-47913 PO# 008653	2004	Replacement	Yes
(16) 5/8" Studs	Nova Machine Products	Trace Code H450	N/A	* 114-14881 PO# 180864-481984	N/A	Replacement	No
(32) 5/8" Nuts	Nova Machine Products	Heat# 7220464	N/A	* 116-12090 PO# 180864-481295	N/A	Replacement	No

\* Traceability per Exelon part code number.

7. Description of Work : Replaced flanged cooler water box, studs and nuts

8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
 Other \_\_\_\_\_ Pressure 115 psi Test Temp. N/A °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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: Manufacturer's data reports are traceable by Exelon work order package.  
Applicable Manufacturer's Data Reports to be attached

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CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI

Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed J. H. Kramer J.H. Kramer, engineer Date March 9, 2005  
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 HSBCT of Hartford, CT

have inspected the components described in this Owner's Report during the period 17 FEB 04 to 28 MAR 05, 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. ... Commissions PA-2497 I,N & A  
Inspector's Signature National Board, State, Province, and Endorsements

Date 28 MAR 20 05

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

1. Owner Exelon Generation Company, LLC Date April 29, 2005  
 Name  
200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
 Address
2. Plant Limerick Generating Station Unit 2  
 Name  
3146 Sanatoga Road, Pottstown PA 19464 Work order # C0208210  
 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  
3146 Sanatoga Road, Pottstown PA 19464 Expiration Date N/A  
 Address
4. Identification of System : Emergency Diesel Generator (System-092) Line No. 2CG-LUBE 2C-P532
5. (a) Applicable Construction Code N/A Edition, N/A Addenda, N/A Code Case  
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 89
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped
2C-P532 D.G. Pre-Lube Pump	Viking Pump	1099835	N/A	*114-73076 PO# 180253	N/A	Replacement	No

\* Traceability per Exelon part code number.

7. Description of Work : Replaced diesel generator lube oil pre-lube pump.
8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
 Other  Pressure 72.5 psi Test Temp. N/A °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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: Diesel generator lube oil pre-lube pump is a "Manufacture Standard" Non-ASME code component,  
Applicable Manufacturer's Data Reports to be attached

Pump S/N 1099835 was previously installed at 1D-P532 and rebuilt via work order C0200354. No pressure boundary parts were replaced.

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the  
ASME Code, Section XI  
Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed J.H. Kramer J.H. Kramer, engineer Date April 29, 2005  
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 HSBCT of  
Hartford, CT have inspected the components described  
in this Owner's Report during the period 24 JAN 04 to 5 MAY 05, 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 Bernard Commissions PA-2497 I, N & A, C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 5 MAY 20 05

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

1. Owner Exelon Generation Company, LLC Date April 29, 2005  
 Name  
200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
 Address
2. Plant Limerick Generating Station Unit 2  
 Name  
3146 Sanatoga Road, Pottstown PA 19464 Work order # C0208224  
 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  
3146 Sanatoga Road, Pottstown PA 19464 Expiration Date N/A  
 Address
4. Identification of System : Emergency Diesel Generator (System-092) Line No. 2CG-LUBE 2C-P535
5. (a) Applicable Construction Code N/A Edition, N/A Addenda, N/A Code Case  
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 89
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped
2C-P535 D.G. Stand-By Lube Oil Pump	Viking Pump	1401191	N/A	* 114-79615 PO# 180253	N/A	Replacement	No

\* Traceability per Exelon part code number.

7. Description of Work : Replaced diesel generator lube oil pre-lube pump.
8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
 Other  Pressure 5-1/4" reservoir oil level Test Temp. N/A °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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: Diesel generator lube oil stand-by circulation pump is a "Manufacture Standard" Non-ASME code component.  
Applicable Manufacturer's Data Reports to be attached

Pump S/N 1401191 was previously installed at 1B-P535 and rebuilt via work order C0198468. No pressure boundary parts were replaced.

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI

Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed J.H. Kramer J.H. Kramer, engineer Date April 29, 2005  
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 HSBCT of Hartford, CT have inspected the components described in this Owner's Report during the period 24 FEB 04 to 5 MAY 05, 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 Bernier Commissions PA-2497 I.N & A. C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 5 MAY 20 05

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

1. Owner Exelon Generation Company, LLC Date March 28, 2005  
Name

200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
Address

2. Plant Limerick Generating Station Unit 2  
Name

3146 Sanatoga Road, Pottstown, PA 19464 A/R A1464272  
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

3146 Sanatoga Road, Pottstown, PA 19464 Expiration Date N/A  
Address

4. Identification of System Snubbers (System 103) Line No. GBB-219, GBC-202 and JBD-227

5. (a) Applicable Construction Code ASME III 19 77 Edition, Winter 1977 Addenda, N/A Code Case  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 89

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped
GBB-219-H090(A) Mechanical Snubber	BASIC-PSA	42289	N/A	* 114-72287 PO# 003518	N/A	Replacement	No
GBB-219-H115 Mechanical Snubber	BASIC-PSA	42291	N/A	* 114-72287 PO# 003518	N/A	Replacement	No
GBC-202-H006 Mechanical Snubber	BASIC-PSA	42292	N/A	* 114-72287 PO# 003518	N/A	Replacement	No
JBD-227-H004 Mechanical Snubber	BASIC-PSA	42293	N/A	* 114-72287 PO# 003518	N/A	Replacement	No

\* Traceability per Exelon stock code number

7. Description of Work: Replaced mechanical shock arrester snubbers.

8. Tests conducted: Hydrostatic      Pneumatic      Nominal Operating Pressure       
Other      Pressure N/A psi Test Temp. N/A °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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: None  
Applicable Manufacturer's Data Reports to be attached

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CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI. repair of replacement

Type Code Symbol Stamp NA  
Certificate of Authorization No. NA Expiration Date NA

Signed J. H. Kramer J. H. Kramer, Engineer Date March 28, 2005  
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 HSBCT of Hartford, CT have inspected the components described in this Owner's Report during the period 12 AUG 04 to 29 APR 05, 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 Bennett Commissions PA-2497 I, N & A, C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 29 APR 2005

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

1. Owner Exelon Generation Company, LLC Name Date March 28, 2005

200 Exelon Way, Kennett Square, PA 19348 Address Sheet 1 of 2

2. Plant Limerick Generating Station Name Unit 2

3146 Sanatoga Road, Pottstown, PA 19464 Address Work Orders C0213033 and R0970701 Repair Organization P.O. No., Job No. etc.

3. Work Performed by Exelon Nuclear Name Type Code Symbol Stamp N/A  
Authorization No. N/A

3146 Sanatoga Road, Pottstown, PA 19464 Address Expiration Date N/A

4. Identification of System Snubbers (System 103) Line No. STG-2MS

5. (a) Applicable Construction Code ASME III 1977 Edition, Winter 1977 Addenda, N/A Code Case  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19\_89

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped
STG-2MS-H007 Mechanical Snubber	BASIC-PSA	42242	N/A	* 114-79175 PO# 004366	N/A	Replacement	No

\* Traceability per Exelon stock code number

7. Description of Work: Replaced mechanical shock arrester snubber.

8. Tests conducted: Hydrostatic    Pneumatic    Nominal Operating Pressure     
Other    Pressure N/A psi Test Temp. N/A °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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 : None

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the  
ASME Code, Section XI. repair of replacement  
Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed J. H. Kramer J. H. Kramer, Engineer Date March 28, 2005  
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 HSBCT of  
Hartford, CT have inspected the components described  
in this Owner's Report during the period 3 MAR 05 to 4 APR 05, 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 Bernier Commissions PA-2497 I.N & A. C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 4 APR 2005

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

1. Owner Exelon Generation Company, LLC Date March 28, 2005  
Name \_\_\_\_\_
- 200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
Address \_\_\_\_\_
2. Plant Limerick Generating Station Unit 2  
Name \_\_\_\_\_
- 3146 Sanatoga Road, Pottstown, PA 19464 Work Orders C0213106  
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
- 3146 Sanatoga Road, Pottstown, PA 19464 Expiration Date N/A  
Address \_\_\_\_\_
4. Identification of System Snubbers (System 103) Line No. VRR-2RP
5. (a) Applicable Construction Code ASME III 1977 Edition, Winter 1977 Addenda, N/A Code Case  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 89
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped
VRR-2RP-H002 Mechanical Snubber	BASIC-PSA	42241	N/A	* 114-72868 PO# 004366	N/A	Replacement	No

\* Traceability per Exelon stock code number

7. Description of Work: Replaced mechanical shock arrester snubber.
8. Tests conducted: Hydrostatic \_\_\_ Pneumatic \_\_\_ Nominal Operating Pressure \_\_\_  
Other \_\_\_ Pressure N/A psl Test Temp. N/A °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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: None

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI. repair of replacement  
Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed J. H. Kramer J. H. Kramer, Engineer Date March 28, 2005  
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 HSBCT of Hartford, CT have inspected the components described in this Owner's Report during the period 8 MAR 05 to 4 APR 05, 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 Beranek Commissions PA-2497 I.N & A. C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 4 APR 20 05

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

1. Owner Exelon Generation Company, LLC Date March 25, 2005  
Name  
200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2  
Address
2. Plant Limerick Generating Station Unit N/A  
Name  
3146 Sanatoga Road, Pottstown, PA 19464 Work Order C0210680  
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  
3146 Sanatoga Road, Pottstown, PA 19464 Expiration Date N/A  
Address
4. Identification of System Snubbers (System 103) Line No. None, spare snubbers
5. (a) Applicable Construction Code ASME III 1977 Edition, Winter 1977 Addenda, N/A Code Case  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19\_89

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped
PSA-10 Snubber S/N 2684	BASIC-PSA	2684	N/A	Thrust Bearing * 114-72521	N/A	Replacement	No
PSA-10 Snubber S/N 9275	BASIC-PSA	9275	N/A	Thrust Bearing * 114-72521	N/A	Replacement	No
PSA-10 Snubber S/N 9297	BASIC-PSA	9297	N/A	Thrust Bearing * 114-72521	N/A	Replacement	No
PSA-10 Snubber S/N 12851	BASIC-PSA	12851	N/A	Thrust Bearing * 114-72521	N/A	Replacement	No
PSA-10 Snubber S/N 17326	BASIC-PSA	17326	N/A	Thrust Bearing * 114-05231	N/A	Replacement	No
PSA-10 Snubber S/N 17516	BASIC-PSA	17516	N/A	Thrust Bearing * 114-05231	N/A	Replacement	No
PSA-10 Snubber S/N 17556	BASIC-PSA	17556	N/A	Thrust Bearing * 114-05231	N/A	Replacement	No

7. Description of Work: Replaced thrust bearings on spare mechanical shock arrester snubbers.
8. Tests conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure   
Other  Pressure N/A psi Test Temp. N/A °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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 : None

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI. repair of replacement

Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed J. H. Kramer J. H. Kramer, Engineer Date March 25, 2005  
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 HSBCT of Hartford, CT

have inspected the components described in this Owner's Report during the period 14 NOV 03 to 9 MAY 05, 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 L. ... Commissions PA-2497 I.N & A.C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 9 MAY 20 05

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

1. Owner Exelon Generation Company, LLC Date March 24, 2005  
Name \_\_\_\_\_  
200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 3  
Address \_\_\_\_\_
2. Plant Limerick Generating Station Unit N/A  
Name \_\_\_\_\_  
3146 Sanatoga Road, Pottstown, PA 19464 Work Order C0206037  
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  
3146 Sanatoga Road, Pottstown, PA 19464 Expiration Date N/A  
Address \_\_\_\_\_
4. Identification of System Snubbers (System 103) Line No. None, spare snubbers
5. (a) Applicable Construction Code ASME III 1977 Edition, Winter 1977 Addenda, N/A Code Case  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 89
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped
PSA-3 Snubber S/N 13205	BASIC-PSA	13205	N/A	Thrust Bearing * 114-72521	N/A	Replacement	No
PSA-3 Snubber S/N 17132	BASIC-PSA	17132	N/A	Thrust Bearing * 114-72521	N/A	Replacement	No
PSA-3 Snubber S/N 17258	BASIC-PSA	17258	N/A	Thrust Bearing * 114-72521	N/A	Replacement	No
PSA-3 Snubber S/N 21148	BASIC-PSA	21148	N/A	Thrust Bearing * 114-72521	N/A	Replacement	No
PSA-10 Snubber S/N 2691	BASIC-PSA	2691	N/A	Thrust Bearing * 114-05231	N/A	Replacement	No
PSA-10 Snubber S/N 7620	BASIC-PSA	7620	N/A	Thrust Bearing * 114-05231	N/A	Replacement	No
PSA-10 Snubber S/N 12429	BASIC-PSA	12429	N/A	Thrust Bearing * 114-05231	N/A	Replacement	No
PSA-10 Snubber S/N 12429	BASIC-PSA	12429	N/A	Ball Screw * 114-72952	N/A	Replacement	No

7. Description of Work: Replaced thrust bearings and ball screw assemblies on spare mechanical shock arrester snubbers.
8. Tests conducted: Hydrostatic \_\_\_\_\_ Pneumatic \_\_\_\_\_ Nominal Operating Pressure \_\_\_\_\_  
Other \_\_\_\_\_ Pressure N/A psi Test Temp. N/A °F.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. 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 : \_\_\_\_\_  
Applicable Manufacturer's Data Reports to be attached  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI. repair of replacement  
Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed J. H. Kramer J. H. Kramer, Engineer Date March 24, 2005  
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 HSBCT of Hartford, CT have inspected the components described in this Owner's Report during the period 27 AUG 03 to 4 APR 05, 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 Perini Commissions PA-2497 I.N & A, C  
Inspector's Signature National Board, State, Province, and Endorsements

Date 4 APR 2005