



ASME Section XI

LG-17-111

August 25, 2017

Mr. Daniel Dorman, Regional Administrator
U.S. Nuclear Regulatory Commission, Region 1
2100 Renaissance Blvd., Suite 100
King of Prussia, PA 19406-2713

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

Subject: Limerick Generating Station Unit 2 Owner's Activity Report (OAR-1)

The Limerick Generating Station Unit 2 OAR-1 for Li2R14 (Attachment 1) is submitted in accordance with ASME Section XI, Article IWA-6200 and ASME Section XI Code Case N-532-5. This report includes inspections and Repair and Replacement Activities completed during the third and fourth Inservice Inspection Interval and the second and third Containment Inservice Inspection Interval.

The use of the Form OAR-1 and NIS-2A started in conjunction with the start of the fourth Inservice Inspection Interval and the third Containment Inservice Inspection Interval which began on February 1, 2017. Repair and Replacement Activities completed during the third Inservice Inspection Interval and the second Containment Inservice Inspection Interval are reported using Form NIS-2 and are included as part of this submittal. These reports are contained in Attachment 2, NIS-2 Reports for the Third Inservice Inspection Interval.

During the refuel outage Li2R14, visual examinations of the submerged suppression pool liner were performed as required by ASME Section XI, License Renewal Commitment, and the Limerick coating maintenance program. These visual examinations identified degradation in the inaccessible areas. Attachment 3, Li2R14 Suppression Pool Inaccessible Areas Evaluation, is included to document the acceptability of the conditions.

There are no regulatory commitments contained in this letter.

If you have any questions or require additional information, please contact Mr. Ted Ryan at 610-718-3530.

Respectfully,

A handwritten signature in black ink, appearing to read "R. Libra".

Richard W. Libra
Vice President, Limerick Generating Station
Exelon Generation Co., LLC

- Attachment 1: Form OAR-1 Owner's Activity Report
- Attachment 2: NIS-2 Reports for the End of the Third Inservice Inspection Interval
- Attachment 3: Li2R14 Suppression Pool Inaccessible Areas Evaluation

cc: S. Rutenkroger, USNRC Senior Resident Inspector, LGS
NRC Document Control Desk

ATTACHMENT 1

FORM OAR-1 OWNER'S ACTIVITY REPORT

Report Number Li2R14

Plant Limerick Generating Station, 3146 Sanatoga Road, Pottstown, Pennsylvania 19464

Unit No. 2 Commercial Service Date January 8, 1990 Refueling Outage Number Li2R14
(if applicable)

Current Inspection Interval Third & Fourth Inspection Interval (ISI), Second & Third Inspection Interval (Containment ISI)
(1st, 2nd, 3rd, 4th, other)

Current Inspection Period Third & First Inspection Period (ISI and Containment ISI)
(1st, 2nd, 3rd)

Edition and Addenda of Section XI applicable to the Inspection Plans ASME Section XI 2001 Ed. through 2003 Add. (3rd ISI/2nd CISI Interval), ASME Section XI 2007 Ed. through 2008 Add. (4th ISI/3rd CISI Interval)

Date and Revision of Inspection Plans ISI Program Plan (ER-LG-330-1001), Rev. 10 (3/25/2015), Rev. 11 (10/21/2016), Rev. 12 (2/1/2017), Rev. 13 (4/13/2017)

Edition and Addenda of Section XI applicable to repair/replacement activities, if different than the inspection plans Same as above

Code Cases used: N-508-4, N-532-5, N-578-1, N-613-1, N-638-4, N-639, N-686-1, N-702, N-749 (approved by Relief Request)

CERTIFICATE OF CONFORMANCE

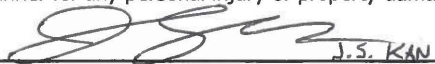
I certify that (a) the statements made in this report are correct; (b) the examinations and tests, meet the Inspection Plan as required by the ASME Code, Section XI; and (c) the repair/replacement activities and evaluations supporting the completion of Li2R14 conform to the requirements of Section XI (refueling outage number)

Signed  Mark Weis, ISI Program Owner Date 24 August 2017
(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 employed by The Hartford Steam Boiler Inspection and Insurance Company of Hartford, Connecticut have inspected the items described in this Owner's Activity Report, and state that, to the best of my knowledge and belief, the Owner has performed all activities represented by this report in accordance with the requirements of Section XI.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied concerning the repair/replacement activities and evaluation described in this 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.

 J.S. KAN Commissions 14396 A, N, I PA3045
(Inspector's Signature) (National Board Number and Endorsement)

Date AUGUST 24, 2017

ATTACHMENT 1

TABLE 1

ITEMS WITH FLAWS OR RELEVANT CONDITIONS THAT REQUIRED EVALUATION FOR CONTINUED SERVICE

Examination Category	Examination Item Number	Item Description	Evaluation Description
B-P	B15.10	Leakage from 2" instrument nozzle during Class 1 system leakage test	LGS submitted relief request ML17135A423 to implement half nozzle repair. Relief request includes flaw evaluation, design analysis, and corrosion evaluation to justify continued operation.
F-A	F1.20C	Variable support EBB-209-H029 out of tolerance	As found condition evaluated by engineering and determined acceptable with no corrective measures required.
F-A	F1.20C	Variable support GBB-219-H079 out of tolerance	As found condition evaluated by engineering and determined acceptable with no corrective measures required.
N/A	N/A	3" HV-041-2F019 outboard main steam drain line primary containment isolation valve	ASME Class 3 bonnet installed on ASME Class 1 valve. Operability evaluation was completed and determined the form, fit, and function of the Class 3 bonnet is identical to the Class 1 bonnet with the exception of post manufacturing NDE. The Class 3 bonnet will be replaced with a Class 1 bonnet at next available opportunity to restore full qualification of the valve to the design requirements.

ATTACHMENT 1

TABLE 2

ABSTRACT OF REPAIR/REPLACEMENT ACTIVITIES REQUIRED FOR CONTINUED SERVICE

Code Class	Item Description	Description Of Work	Date Completed	Repair/Replacement Plan Number
1	RPV piping flange bolting	Replace N-6A & N-6B flange bolting due to thread damage	5/27/2017	03973866-47
1	2" instrument nozzle (N-16D)	Performed half nozzle repair due to leakage identified during Class 1 system leakage test	8/22/2017	04007992-04
3	3" HBC-245-01 piping	Replace 3" HBC-245-01 supply piping to HPCI unit cooler (2B-V209) due to pin hole leak	5/25/2017	03755841-02

Attachment 2 - NIS-2 Reports for end of third Inservice Inspection Interval

TABLE 3

SUMMARY OF ASME SECTION XI REPAIR & REPLACEMENT ACTIVITIES USING FORM NIS-2

Work Order	Description Of Work	Date Completed
System 11 – Emergency Service Water		
C0255469	Replaced 2" and 3" HBC-240 supply piping to 2B-V208 RCIC unit cooler	9/15/2015
C0255469	Replaced 2" and 3" HBC-249 return piping from 2B-V208 RCIC unit cooler	9/15/2015
System 43 – Reactor Recirculation		
C0257638	Replaced reactor recirculation pump 2B-P201 mechanical seal with rebuilt mechanical seal assembly	2/29/2016
System 44 – Reactor Water Clean-up		
C0260596	Replaced RWCU pump 2A-P221 motor case assembly	12/9/2016
System 49 – Reactor Core Isolation Cooling		
C0258727	Replaced disc in 3" RCIC exhaust vacuum breaker check valve 049-2018	2/18/2016
C0258726	Replaced disc in 3" RCIC exhaust vacuum breaker check valve 049-2F081	2/18/2016
System 50 – Reactor Core Isolation Cooling Pump & Turbine		
R1263275	Replaced inboard RCIC rupture disc and holder PSE-050-2D001	11/7/2016
R1258248	Replaced outboard RCIC rupture disc and holder PSE-050-2D002	11/7/2016
System 51 – Residual Heat Removal		
R1127910	Replaced disc in 1-1/2" RHR check valve 051-2115B	8/18/2016
System 52 – Core Spray		
R1117651	Replaced CS relief valve PSV-052-2F012A and adjacent piping	10/21/2015
System 56 – High Pressure Coolant Injection Pump & Turbine		
R1336902	Replaced 1-1/2" HPCI flanged relief valve PSV-056-2F018	8/18/2016
System 92 & 20 – Diesel Generators & Interface Systems		
R1142949	Replaced 1-1/4" combustion air flexmaster coupling 2A-G501-DR	1/4/2016
R1321427	Replaced D-21 diesel generator jacket water circulating pump 2A-P530	2/19/2016
R1174130	Replaced diesel generator ESW expansion joint XJ-011-201A	1/14/2016
R1174131	Replaced diesel generator ESW expansion joint XJ-011-202A	1/14/2016
R1311117	Replaced D-22 diesel generator jacket water circulating pump 2B-P530	11/13/2015
R1174134	Replaced diesel generator ESW expansion joint XJ-011-201B	11/13/2015
R1174136	Replaced diesel generator ESW expansion joint XJ-011-202B	11/13/2015
R1159699	D-23 diesel generator engine six year overhaul	2/19/2016
R1286516	Replaced D-23 diesel generator exhaust manifold cap screws	3/10/2016
R1326515	Replaced D-23 diesel generator jacket water circulating pump 2C-P530	3/9/2016
R1323629	Replaced 1-1/2" standby lube oil pump assembly 2C-P535	3/26/2016
R1174656	Replaced diesel generator ESW expansion joint XJ-011-201C and adjacent piping	2/19/2016
R1140030	Replaced diesel generator ESW expansion joint XJ-011-201C	2/19/2016
C0260141	Replaced diesel generator ESW expansion joint XJ-011-201C and adjacent piping	10/5/2016
C0259924	Replaced D-24 diesel generator combustion air intercoolers	11/14/2016

Attachment 2 - NIS-2 Reports for end of third Inservice Inspection Interval

FORM NIS-2 OWNER'S REPORT FOR REPAIR / REPLACEMENT ACTIVITY As Required by the Provisions of the ASME Code Section XI

1. Owner Exelon Generation Company, LLC Date September 10, 2015
 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 C0255469 (supply)
 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 Emergency Service Water (System 011) Line No. SP-HBC-240-E07 2B-V208
5. (a) Applicable Construction Code ASME III 1974 Edition, Winter 74 Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs / Replacement Activity 2001 edition with addenda through 2003
 (c) Applicable Section XI Code Case(s) N-686-1

6. Identification of Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Corrected, Removed, or Installed	ASME Code Stamped (Yes or No)
(1) 3" NPS Weld neck Flange	Western Forge & Flange	Heat No. MM11106485	N/A	* 114-91439 PO# 339825-839	N/A	Installed	No
(1) 3" x 2" NPS Reducer	Taylor Forge	Heat Code NFSS-1	N/A	* 114-98055 PO# 339825-864	N/A	Installed	No
(2) Feet of 2" NPS Pipe	Michigan Seamless Tube	Heat No. 00A092767	N/A	* 114-90045 PO# 339825-097	N/A	Installed	No
(2) 2" NPS Elbows	Bonney Forge	Lot No. 78129	N/A	* 114-90818 PO# 339825-070	N/A	Installed	No
(1) 2" x 2" x 3/4" NPS Reducing Tee	Bonney Forge	Lot No. 79711	N/A	* 114-98248 PO# 339825-864	N/A	Installed	No
(1) 2" NPS Socket Weld Flange	Western Forge & Flange	Heat No. A090309	N/A	* 114-90527 PO# 009825-4534	N/A	Installed	No

* Traceability per Exelon stock code number and purchase order

7. Description of work: Replaced 3" and 2" emergency service water supply piping to unit cooler 2B-V208 in-kind.
8. Tests conducted: Hydrostatic Pneumatic Nominal Operating Pressure Exempt
 Other 134 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.

This Form (E00030) may be obtained from the ASME Order Dept., 22 Law Drive, Box 2300, Fairfield, N.J. 07007-2300

Attachment 2 - NIS-2 Reports for end of third Inservice Inspection Interval

W/O No. C0255469 (Supply)
Sheet 2 of 2

FORM NIS-2 (BACK)

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

CERTIFICATE OF COMPLIANCE

I certify that the statements made in the report are correct and that this conforms to the requirements 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, Site weld administrator Date September 10, 2015
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 HSB Global Standards of Hartford, Connecticut have inspected the components described in this Owner's Report during the period JANUARY 7, 2015 to SEPTEMBER 15, 2015, 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 14396 A, N, I PA 3045
Inspector's Signature National Board, State, Province, and Endorsements

Date SEPTEMBER 15, 2015

Attachment 2 - NIS-2 Reports for end of third Inservice Inspection Interval

FORM NIS-2 OWNER'S REPORT FOR REPAIR / REPLACEMENT ACTIVITY As Required by the Provisions of the ASME Code Section XI

1. Owner Exelon Generation Company, LLC Date September 10, 2015
 Name
200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 3
 Address
2. Plant Limerick Generating Station Unit 2
 Name
3146 Sanatoga Road, Pottstown, PA 19464 Work Order C0255469 (return)
 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 Emergency Service Water (System 011) Line No. SP-HBC-249-E07 2B-V208
5. (a) Applicable Construction Code ASME III 1974 Edition, Winter 74 Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs / Replacement Activity 2001 edition with addenda through 2003
 (c) Applicable Section XI Code Case(s) N-686-1

6. Identification of Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Corrected, Removed, or Installed	ASME Code Stamped (Yes or No)
(1) 3" NPS Weld neck Flange	Western Forge & Flange	Heat No. MM11106485	N/A	* 114-91439 PO# 339825-839	N/A	Installed	No
(2) 3" NPS 45 Degree Elbows	Taylor Forge	Heat Code NLCI-4	N/A	* 114-91857 PO# 073874	N/A	Installed	No
(1) Foot 3" NPS Pipe	United States Steel	Heat No. H44932	N/A	* 114-90060 PO# 009825-4233	N/A	Installed	No
(1) 3" x 2" NPS Reducer	Taylor Forge	Heat Code NFSS-1	N/A	* 114-98055 PO# 339825-864	N/A	Installed	No

* Traceability per Exelon stock code number and purchase order

7. Description of work: Replaced 3" and 2" emergency service water return piping from unit cooler 2B-V208 in-kind.
8. Tests conducted: Hydrostatic Pneumatic Nominal Operating Pressure Exempt
 Other 134 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.

This Form (E00030) may be obtained from the ASME Order Dept., 22 Law Drive, Box 2300, Fairfield, N.J. 07007-2300

Attachment 2 - NIS-2 Reports for end of third Inservice Inspection Interval

W/O No. C0255469 (Return)
Sheet 2 of 3

FORM NIS-2 OWNER'S REPORT FOR REPAIR / REPLACEMENT ACTIVITY As Required by the Provisions of the ASME Code Section XI

1. Owner Exelon Generation Company, LLC Date September 10, 2015
 Name
200 Exelon Way, Kennett Square, PA 19348 Sheet 2 of 3
 Address
2. Plant Limerick Generating Station Unit 2
 Name
3146 Sanatoga Road, Pottstown, PA 19464 Work Order C0255469 (return)
 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 Emergency Service Water (System 011) Line No. SP-HBC-249-E07 2B-V208
5. (a) Applicable Construction Code ASME III 1974 Edition, Winter 74 Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs / Replacement Activity 2001 edition with addenda through 2003
 (c) Applicable Section XI Code Case(s) N-686-1

6. Identification of Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Corrected, Removed, or Installed	ASME Code Stamped (Yes or No)
(3) Feet of 2" NPS Pipe	Michigan Seamless Tube	Heat No. 00A092767	N/A	* 114-90045 PO# 339825-097	N/A	Installed	No
(1) 2" x 2" x 3/4" NPS Reducing Tee	Bonney Forge	Lot No. 77643	N/A	* 114-98248 PO# 031595	N/A	Installed	No
(1) 2" NPS Socket Weld Flange	Western Forge & Flange	Heat No. A070552	N/A	* 114-90527 PO# 009825-3960	N/A	Installed	No

* Traceability per Exelon stock code number and purchase order

Attachment 2 - NIS-2 Reports for end of third Inservice Inspection Interval

W/O No. C0255469 (Return)
Sheet 3 of 3

FORM NIS-2 (BACK)

9. Remarks None

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

I certify that the statements made in the report are correct and that this conforms to the requirements 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, Site weld administrator Date September 10, 2015
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 HSB Global Standards of Hartford, Connecticut have inspected the components described in this Owner's Report during the period JANUARY 7, 2015 to SEPTEMBER 15, 2015, 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 14396 A, N, I PA 3045
Inspector's Signature National Board, State, Province, and Endorsements
Date SEPTEMBER 15, 2015

Attachment 2 - NIS-2 Reports for end of third Inservice Inspection Interval

FORM NIS-2 OWNER'S REPORT FOR REPAIR / REPLACEMENT ACTIVITY As Required by the Provisions of the ASME Code Section XI

1. Owner Exelon Generation Company, LLC Date February 27, 2016
 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. C0257638
 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 Reactor Recirculation Pump (System 043) Line No. VRR-2RD Pump 2B-P201
5. (a) Applicable Construction Code ASME III 19 89 Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repair / Replacement Activity: 2001 edition with addenda through 2003
 (c) Applicable Section XI Code Case(s) N-686-1

6. Identification of Components:

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Corrected, Removed or Installed	ASME Code Stamped (Yes or No)
2B-P201 Recirc Pump Mechanical Seal	Borg-Warner	311084 B-W Job No. 94-EP-3750	N/A	* 116-98907 PO# LS-696633	1994	Installed	Yes
2B-P201 Recirc Pump Mechanical Seal	Borg-Warner	324889 B-W Job No. 96-EP-3718	N/A	* 114-98951 PO# LS-159158	1996	Removed	Yes

* Traceability per Exelon stock code number.

7. Description of work: Replaced reactor recirculation pump mechanical seal cartridge.
8. Tests conducted: Hydrostatic Pneumatic Nominal Operating Pressure Exempt
 Other 1060 psi Test Temp. 550 °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.

This Form (E00030) may be obtained from the ASME Order Dept., 22 Law Drive, Box 2300, Fairfield, NJ 07007-2300

FORM NIS-2 (BACK)

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

CERTIFICATE OF COMPLIANCE

I certify that the statements made in this report are correct and that this conforms to the requirements 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 (site weld administrator) Date February 27, 2016
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 The Hartford Steam Boiler Inspection and Insurance Company of Connecticut of Hartford, Connecticut have inspected the components described in this Owner's Report during the period JULY 13, 2015 to FEBRUARY 27, 2016, 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.

J.H. Kramer Commissions 14396 A, N, I PA 3045
Inspector's Signature National Board, State, Province, and Endorsements

Date FEBRUARY 29, 2016

Attachment 2 - NIS-2 Reports for end of third Inservice Inspection Interval

FORM NIS-2 OWNER'S REPORT FOR REPAIR / REPLACEMENT ACTIVITY As Required by the Provisions of the ASME Code Section XI

1. Owner Exelon Generation Company, LLC Date December 7, 2016
 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 # C0260596
 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 : Reactor Water Clean-up (System-044) Line No. DCC-201 Pump 2A-P221
5. (a) Applicable Construction Code ASME III 1974 Edition, Winter 1974 Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repair / Replacement Activity: 2001 edition with addenda through 2003
 (c) Applicable Section XI Code Case(s) N-686-1

6. Identification of Components:

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Corrected, Removed or Installed	ASME Code Stamped (Yes or No)
2A-P221 RWCU Pump Motor Case Assembly	Hayward Tyler	UG 12980191-04	378	* 114-01257 PO 165846	1999	Installed	Yes
2A-P221 RWCU Pump Motor Case Assembly	Hayward Tyler	UG 12980191-03	376	* 114-01257 PO 165846	1999	Removed	Yes

* Traceability per Exelon part code number and manufacturer's serial number.

7. Description of Work: Replaced reactor water clean-up pump motor case assembly

8. Tests conducted: Hydrostatic Pneumatic Nominal Operating Pressure Exempt
 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.

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Attachment 2 - NIS-2 Reports for end of third Inservice Inspection Interval

Work Order# C0260596
Sheet 2 of 2

FORM NIS-2 (BACK)

9. Remarks: The pump motor case assembly was removed from spare complete pump & motor assembly S/N UG 12980191-04 and
Applicable Manufacturer's Data Reports to be attached

installed at Exelon component location 2A-P221. The original pump case assembly from pump & motor assembly

S/N UG 12981091-03 was not removed and replaced and is installed at 2A-P221.

CERTIFICATE OF COMPLIANCE

I certify that the statements made in this report are correct and that this conforms to the requirements 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, site weld administrator Date December 7, 2016
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 The Hartford Steam Boiler Inspection and Insurance Company of Connecticut of Hartford, Connecticut have inspected the components described

in this Owner's Report during the period MARCH 1, 2016 to DECEMBER 9, 2016, 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.

J.H. Kramer Commissions 14396 A, N, I PA 3045
Inspector's Signature National Board, State, Province, and Endorsements

Date DECEMBER 9, 2016

Attachment 2 - NIS-2 Reports for end of third Inservice Inspection Interval

FORM NIS-2 OWNER'S REPORT FOR REPAIR / REPLACEMENT ACTIVITY As Required by the Provisions of the ASME Code Section XI

1. Owner Exelon Generation Company, LLC Date February 17, 2016
 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. C0258727
 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: Reactor Core Isolation Cooling (System 049) Line No. HBB-245 Valve 049-2018
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: 2001 edition with addenda through 2003
 (c) Applicable Section XI Code Case(s) N/A

6. Identification of Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Corrected, Removed or Installed	ASME Code Stamped (Yes or No)
3" Check Valve Disc	Velan Valve	S/N 8312	N/A	* 114-33435 PO# 046773	2012	Installed	Yes

* Traceability per Exelon stock code number.

7. Description of work: Replaced 3" RCIC swing check valve disc.
8. Tests conducted: Hydrostatic Pneumatic Nominal Operating Pressure Exempt
 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.

This Form (E00030) may be obtained from the ASME Order Dept., 22 Law Drive, Box 2300, Fairfield, NJ 07007-2300 FORM NIS-2

FORM NIS-2 (BACK)

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

CERTIFICATE OF COMPLIANCE

I certify that the statements made in the report are correct and that this conforms to the requirements of 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 (site weld administrator) Date February 17, 2015
Owner of 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 The Hartford Steam Boiler Inspection and Insurance Company of Connecticut of Hartford, Connecticut have inspected the components described in this Owner's Report during the period DECEMBER 14, 2015 to FEBRUARY 18, 2016, 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.

J.S.I. Commissions 14396 A, N, I PA 3045
Inspector's Signature National Board, State, Province, and Endorsements

Date FEBRUARY 18, 2016

Attachment 2 - NIS-2 Reports for end of third Inservice Inspection Interval

FORM NIS-2 OWNER'S REPORT FOR REPAIR / REPLACEMENT ACTIVITY As Required by the Provisions of the ASME Code Section XI

1. Owner Exelon Generation Company, LLC Date February 17, 2016
 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. C0258726
 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: Reactor Core Isolation Cooling (System 049) Line No. HBB-245 Valve 049-2F081
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: 2001 edition with addenda through 2003
 (c) Applicable Section XI Code Case(s) N/A

6. Identification of Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Corrected, Removed or Installed	ASME Code Stamped (Yes or No)
3" Check Valve Disc	Velan Valve	S/N 8323	N/A	* 114-33435 PO# 047407	2012	Installed	Yes

* Traceability per Exelon stock code number.

7. Description of work: Replaced 3" RCIC swing check valve disc.
8. Tests conducted: Hydrostatic Pneumatic Nominal Operating Pressure Exempt
 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.

This Form (E00030) may be obtained from the ASME Order Dept., 22 Law Drive, Box 2300, Fairfield, NJ 07007-2300 FORM NIS-2

FORM NIS-2 (BACK)

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

CERTIFICATE OF COMPLIANCE

I certify that the statements made in the report are correct and that this conforms to the requirements of 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 (site weld administrator) Date February 17, 2015
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 The Hartford Steam Boiler Inspection and Insurance Company of Connecticut of Hartford, Connecticut have inspected the components described in this Owner's Report during the period DECEMBER 14, 2015 to FEBRUARY 18, 2016, 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 14396 A, N, I PA 3045
Inspector's Signature National Board, State, Province, and Endorsements
Date FEBRUARY 18, 2016

Attachment 2 - NIS-2 Reports for end of third Inservice Inspection Interval

FORM NIS-2 OWNER'S REPORT FOR REPAIR / REPLACEMENT ACTIVITY As Required by the Provisions of the ASME Code Section XI

1. Owner Exelon Generation Company, LLC Date November 7, 2016
 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. R1263275
 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 & RCIC Turbine (System 049 and 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 / Replacement Activity 2001 edition with addenda through 2003
 (c) Applicable Section XI Code Case(s) N-686-1

6. Identification of Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Corrected, Removed or Installed	ASME Code Stamped (Yes or No)
PSE-050-2D001 Rupture Disc and Vacuum support	Continental Disc	8274420A	N/A	* 114-34519 PO# 075361	2015	Installed	No

* Traceability per Exelon stock code number.

7. Description of work: Replaced RCIC turbine exhaust inboard rupture disc and vacuum support holder.
8. Tests conducted: Hydrostatic Pneumatic Nominal Operating Pressure Exempt
 Other 1030 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.

This Form (E00030) may be obtained from the ASME Order Dept., 22 Law Drive, Box 2300, Fairfield, N.J. 07007-2300

FORM NIS-2 (BACK)

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

CERTIFICATE OF COMPLIANCE

I certify that the statements made in the report are correct and that this conforms to the requirements 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 (site weld administrator) Date November 7, 2016
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 The Hartford Steam Boiler Inspection and Insurance Company of Connecticut of Hartford, Connecticut have inspected the components described in this Owner's Report during the period JUNE 29, 2016 to NOVEMBER 7, 2016, 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 14396 A, N, I PA 3045
Inspector's Signature National Board, State, Province, and Endorsements

Date NOVEMBER 7, 2016

Attachment 2 - NIS-2 Reports for end of third Inservice Inspection Interval

FORM NIS-2 OWNER'S REPORT FOR REPAIR / REPLACEMENT ACTIVITY As Required by the Provisions of the ASME Code Section XI

1. Owner Exelon Generation Company, LLC Date November 7, 2016
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. R1258248
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 & RCIC Turbine (System 049 and 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 / Replacement Activity 2001 edition with addenda through 2003
 (c) Applicable Section XI Code Case(s) N-686-1

6. Identification of Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Corrected, Removed or Installed	ASME Code Stamped (Yes or No)
PSE-050-2D002 Rupture Disc and Vacuum support	Continental Disc	8274420A	N/A	* 114-34519 PO# 075361	2015	Installed	No

* Traceability per Exelon stock code number.

7. Description of work: Replaced RCIC turbine exhaust outboard rupture disc and vacuum support holder.
8. Tests conducted: Hydrostatic Pneumatic Nominal Operating Pressure Exempt
 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.

This Form (E00030) may be obtained from the ASME Order Dept., 22 Law Drive, Box 2300, Fairfield, N.J. 07007-2300

FORM NIS-2 (BACK)

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

CERTIFICATE OF COMPLIANCE

I certify that the statements made in the report are correct and that this conforms to the requirements 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 (site weld administrator) Date November 7, 2016
 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 The Hartford Steam Boiler Inspection and Insurance Company of Connecticut of Hartford, Connecticut have inspected the components described in this Owner's Report during the period JUNE 29, 2016 to NOVEMBER 7, 2016, 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 14396 A. N. I PA 3045
 Inspector's Signature National Board, State, Province, and Endorsements

Date NOVEMBER 7, 2016

Attachment 2 - NIS-2 Reports for end of third Inservice Inspection Interval

FORM NIS-2 OWNER'S REPORT FOR REPAIR / REPLACEMENT ACTIVITY As Required by the Provisions of the ASME Code Section XI

1. Owner Exelon Generation Company, LLC Date August 17, 2016
 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. R1127910
 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: Residual Heat Removal (System 051) Line No. GBB-201 Valve 051-2115B
5. (a) Applicable Construction Code ASME III 1974 Edition, Summer 1975 Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 2001 edition with addenda through 2003
 (c) Applicable Section XI Code Case(s) N/A

6. Identification of Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Corrected, Removed or Installed	ASME Code Stamped (Yes or No)
1-1/2" Check Valve Disc	Flowserve	Trace Code 43835-2 S/N 85	N/A	* 114-85551 PO# 257797-848	N/A	Installed	No

* Traceability per Exelon stock code number.

7. Description of work: Replaced 1-1/2" RHR swing check valve disc.
8. Tests conducted: Hydrostatic Pneumatic Nominal Operating Pressure Exempt
 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.

This Form (E00030) may be obtained from the ASME Order Dept., 22 Law Drive, Box 2300, Fairfield, NJ 07007-2300 FORM NIS-2

Attachment 2 - NIS-2 Reports for end of third Inservice Inspection Interval

W/O No. R1127910
Sheet 2 of 2

FORM NIS-2 (BACK)

9. Remarks : None

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

I certify that the statements made in the report are correct and that this conforms to the requirements 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 (site weld administrator) Date August 17, 2016
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 The Hartford Steam Boiler Inspection and Insurance Company of Connecticut of Hartford, Connecticut have inspected the components described in this Owner's Report during the period MAY 19, 2016 to AUGUST 18, 2016, 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 14396 A, N, I PA 3045
Inspector's Signature National Board, State, Province, and Endorsements

Date August 18, 2016

Attachment 2 - NIS-2 Reports for end of third Inservice Inspection Interval

FORM NIS-2 OWNER'S REPORT FOR REPAIR / REPLACEMENT ACTIVITY As Required by the Provisions of the ASME Code Section XI

1. Owner Exelon Generation Company, LLC Date October 9, 2015
 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. R1117651
 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: Core Spray (System 052) Line No. SP-GBB-213-03E PSV-052-2F012A
5. (a) Applicable Construction Code ASME III 19 74 Edition, Winter 1974 Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 2001 edition with addenda through 2003
 (c) Applicable Section XI Code Case(s) N-686-1

6. Identification of Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Corrected, Removed or Installed	ASME Code Stamped (Yes or No)
PSV-052-2F012A	Anderson Greenwood Crosby	N99912-01-0007	N/A	* 114-58584 PO 063690	2014	Installed	Yes
PSV-052-2F012A	Anderson Greenwood Crosby	N99912-01-0003	N/A	* 114-58584	N/A	Removed	Yes
GBB-213-03E Piece # 31 Reducing Insert	Bonney Forge	Lot No. 9438	N/A	* 114-93829 PO 009825-3720	N/A	Installed	No
GBB-213-03E Piece # 30 RF Flange	Western Forge & Flange	Heat No. A093122 Heat Code GLB-B-2	N/A	* 114-90662 PO 339825-916	N/A	Installed	No

* Traceability per Exelon stock code number and purchase order

7. Description of work: Replaced core spray relief valve

8. Tests conducted: Hydrostatic Pneumatic Nominal Operating Pressure Exempt
 Other 275 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.

This Form (E00030) may be obtained from the ASME Order Dept., 22 Law Drive, Box 2300, Fairfield, NJ 07007-2300

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

I certify that the statements made in the report are correct and that this conforms to the requirements 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 (site weld administrator) Date October 9, 2015
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 HSB Global Standards of Hartford, Connecticut have inspected the components described in this Owner's Report during the period August 10, 2015 to October 21, 2015, 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.

J.H. Kramer Commissions 14396 A, N, I PA 3045
Inspector's Signature National Board, State, Province, and Endorsements

Date October 21, 2015

Attachment 2 - NIS-2 Reports for end of third Inservice Inspection Interval

FORM NIS-2 OWNER'S REPORT FOR REPAIR / REPLACEMENT ACTIVITY As Required by the Provisions of the ASME Code Section XI

1. Owner Exelon Generation Company, LLC Date August 16, 2016
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. R1336902
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: HPCI Turbine & Condenser (System 056) Line No. HBB-208 Relief Valve PSV-056-2F018
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: 2001 edition with addenda through 2003
 (c) Applicable Section XI Code Case(s) N-686-1

6. Identification of Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Corrected, Removed or Installed	ASME Code Stamped (Yes or No)
PSV-056-2F018	Loneran	S/N 133975-2-1	N/A	* 114-77937 PO# 655922	1993	Installed	Yes

* Traceability per Exelon stock code number.

7. Description of work: Replaced HPCI barometric condenser relief valve.
8. Tests conducted: Hydrostatic Pneumatic Nominal Operating Pressure Exempt
 Other -18 inch vacuum 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.

This Form (E00030) may be obtained from the ASME Order Dept., 22 Law Drive, Box 2300, Fairfield, NJ 07007-2300 FORM NIS-2

FORM NIS-2 (BACK)

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

CERTIFICATE OF COMPLIANCE

I certify that the statements made in the report are correct and that this conforms to the requirements of 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 (site weld administrator) Date August 16, 2016
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 The Hartford Steam Boiler Inspection and Insurance Company of Connecticut of Hartford, Connecticut have inspected the components described in this Owner's Report during the period APRIL 20, 2016 to AUGUST 18, 2016, 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.

J.H. Kramer Commissions 14396 A, N, I PA 3045
Inspector's Signature National Board, State, Province, and Endorsements

Date August 18, 2016

Attachment 2 - NIS-2 Reports for end of third Inservice Inspection Interval

FORM NIS-2 OWNER'S REPORT FOR REPAIR / REPLACEMENT ACTIVITY As Required by the Provisions of the ASME Code Section XI

1. Owner Exelon Generation Company, LLC Date December 19, 2015
 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. R1142949 & R1281401
 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 Emergency Diesel Generator (System 092) Line No. 2A-G501-DR Combustion Air
5. (a) Applicable Construction Code Manufacturers Standard 19 N/A Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs / Replacement Activity 2001 edition with addenda through 2003
 (c) Applicable Section XI Code Case(s) N/A

6. Identification of Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Corrected, Removed, or Installed	ASME Code Stamped (Yes or No)
2A-G501-DR Crankcase Flexible Coupling	Aeroquip	Aeroquip Part No. NH1600 C125 B0750	N/A	* 111-02437 P.O. 080010	N/A	Installed	No

* Traceability per Exelon stock code number and purchase order

7. Description of work: Replaced diesel generator engine crankcase ejector flexible coupling.
8. Tests conducted: Hydrostatic Pneumatic Nominal Operating Pressure Exempt
 Other Test Pressure: 1.4 Inch 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.

This Form (E00030) may be obtained from the ASME Order Dept., 22 Law Drive, Box 2300, Fairfield, N.J. 07007-2300

Attachment 2 - NIS-2 Reports for end of third Inservice Inspection Interval

W/O No. R1142949 & R1281401
Sheet 2 of 2

FORM NIS-2 (BACK)

9. Remarks: none

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

I certify that the statements made in the report are correct and that this conforms to the requirements 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 (site weld administrator) Date December 19, 2015
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 The Hartford Steam Boiler Inspection and Insurance Company of Connecticut of Hartford, Connecticut have inspected the components described in this Owner's Report during the period NOVEMBER 23, 2015 to JANUARY 4, 2016, 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]
Inspector's Signature

Commissions 14396 A, N, I PA 3045

National Board, State, Province, and Endorsements

Date JANUARY 4, 20 16

Attachment 2 - NIS-2 Reports for end of third Inservice Inspection Interval

FORM NIS-2 OWNER'S REPORT FOR REPAIR / REPLACEMENT ACTIVITY As Required by the Provisions of the ASME Code Section XI

1. Owner Exelon Generation Company, LLC Date February 18, 2016
 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 # R1321427 & R1311117
 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. 2AG-JW 2A-P530
5. (a) Applicable Construction Code Manufacturer's Standard 19 N/A Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repair / Replacement Activity: 2001 edition with addenda through 2003
 (c) Applicable Section XI Code Case(s) N-686-1

6. Identification of Components:

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Corrected, Removed or Installed	ASME Code Stamped (Yes or No)
2A-P530 Jacket Water Circulating Pump	Colt Industries	SYZ 01567-A1-RX	N/A	* 114-02451	N/A	Installed	No
2A-P530 Jacket Water Circulating Pump	Colt Industries	541873	N/A	* 114-02451	N/A	Removed	No

* Traceability per Exelon part code number and manufacturer's serial number.

7. Description of Work: Replaced emergency diesel generator jacket water circulating pump.
8. Tests conducted: Hydrostatic Pneumatic Nominal Operating Pressure Exempt
 Other Pressure 32 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.

This Form (E00030) may be obtained from the ASME Order Dept., 22 Law Drive, Box 2300, Fairfield, NJ 07007-2300

Attachment 2 - NIS-2 Reports for end of third Inservice Inspection Interval

Work Order# R1321427 & R1311117
Sheet 2 of 2

FORM NIS-2 (BACK)

9. Remarks: Jacket water pump S/N SYZ01567-A1-RX was removed from 2B-P530 location under Exelon work order R1311117 in 2015.
Applicable Manufacturer's Data Reports to be attached

The pump was rebuilt under work order R1311117 Activity# 8. No pressure boundary parts were repaired or replaced.

CERTIFICATE OF COMPLIANCE

I certify that the statements made in this report are correct and that this conforms to the requirements 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, site weld administrator Date February 18, 2016
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 The Hartford Steam Boiler Inspection and Insurance Company of Connecticut of Hartford, Connecticut have inspected the components described

in this Owner's Report during the period November 23, 2015 to February 19, 2016, 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.

J.H. Kramer Commissions 14396 A, N, I PA 3045
Inspector's Signature National Board, State, Province, and Endorsements

Date February 19, 20 16

Attachment 2 - NIS-2 Reports for end of third Inservice Inspection Interval

FORM NIS-2 OWNER'S REPORT FOR REPAIR / REPLACEMENT ACTIVITY As Required by the Provisions of the ASME Code Section XI

1. Owner Exelon Generation Company, LLC Date December 19, 2015
 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. R1174130
 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-292 XJ-011-201A
5. (a) Applicable Construction Code Manufacturers Standard 19 N/A Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 2001 edition with addenda through 2003
 (c) Applicable Section XI Code Case(s) None

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	Corrected, Removed or Installed	ASME Code Stamped (Yes or No)
XJ-011-201A	Colt Industries, Fairbanks Morse Engine	Part No. 12994129	N/A	* 114-78083 PO# 167610-1340	N/A	Installed	No

* Traceability per Exelon stock code number.

7. Description of work: Replaced diesel generator cooling water expansion joint for preventive maintenance.
8. Tests conducted: Hydrostatic Pneumatic Nominal Operating Pressure Exempt
 Other 90 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.

This Form (E00030) may be obtained from the ASME Order Dept., 22 Law Drive, Box 2300, Fairfield, NJ 07007-2300

FORM NIS-2 (BACK)

9. Remarks : None

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

I certify that the statements made in the report are correct and that this conforms to the requirements 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 (site weld administrator) Date December 19, 2015
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 The Hartford Steam Boiler Inspection and Insurance Company of Connecticut Hartford, Connecticut have inspected the components described in this Owner's Report during the period NOVEMBER 19, 2015 to JANUARY 12, 2016, 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]
Inspector's Signature

Commissions 14396 A, N, I PA 3045
National Board, State, Province, and Endorsements

Date JANUARY 14, 2016

Attachment 2 - NIS-2 Reports for end of third Inservice Inspection Interval

FORM NIS-2 OWNER'S REPORT FOR REPAIR / REPLACEMENT ACTIVITY As Required by the Provisions of the ASME Code Section XI

1. Owner Exelon Generation Company, LLC Date December 19, 2015
 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. R1174131
 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-295 XJ-011-202A
5. (a) Applicable Construction Code Manufacturers Standard 19 N/A Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 2001 edition with addenda through 2003
 (c) Applicable Section XI Code Case(s) None

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	Corrected, Removed or Installed	ASME Code Stamped (Yes or No)
XJ-011-202A	Colt Industries, Fairbanks Morse Engine	Part No. 12994129	N/A	* 114-78083 PO# 167610-1340	N/A	Installed	No

* Traceability per Exelon stock code number.

7. Description of work: Replaced diesel generator cooling water expansion joint for preventive maintenance.
8. Tests conducted: Hydrostatic Pneumatic Nominal Operating Pressure Exempt
 Other 90 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.

This Form (E00030) may be obtained from the ASME Order Dept., 22 Law Drive, Box 2300, Fairfield, NJ 07007-2300

FORM NIS-2 (BACK)

9. Remarks : None

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

I certify that the statements made in the report are correct and that this conforms to the requirements 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 (site weld administrator) Date December 19, 2015
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 The Hartford Steam Boiler Inspection and Insurance Company of Connecticut Hartford, Connecticut have inspected the components described in this Owner's Report during the period NOVEMBER 19, 2015 to JANUARY 12, 2016, 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 14396 A, N, I PA 3045
Inspector's Signature National Board, State, Province, and Endorsements

Date JANUARY 14, 2016

Attachment 2 - NIS-2 Reports for end of third Inservice Inspection Interval

FORM NIS-2 OWNER'S REPORT FOR REPAIR / REPLACEMENT ACTIVITY As Required by the Provisions of the ASME Code Section XI

1. Owner Exelon Generation Company, LLC Date November 11, 2015
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 # R1311117
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. 2BG-JW 2B-P530
5. (a) Applicable Construction Code Manufacturer's Standard 19 N/A Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repair / Replacement Activity: 2001 edition with addenda through 2003
 (c) Applicable Section XI Code Case(s) N-686-1

6. Identification of Components:

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Corrected, Removed or Installed	ASME Code Stamped (Yes or No)
2B-P530 Jacket Water Circulating Pump	Colt Industries	386339	N/A	* 114-02451	N/A	Installed	No
2B-P530 Jacket Water Circulating Pump	Colt Industries	STZ 01567-A1-RX	N/A	* 114-02451	N/A	Removed	No

* Traceability per Exelon part code number and manufacturer's serial number.

7. Description of Work: Replaced emergency diesel generator jacket water circulating pump.

8. Tests conducted: Hydrostatic Pneumatic Nominal Operating Pressure Exempt
 Other Pressure 13 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.

This Form (E00030) may be obtained from the ASME Order Dept., 22 Law Drive, Box 2300, Fairfield, NJ 07007-2300

Attachment 2 - NIS-2 Reports for end of third Inservice Inspection Interval

Work Order# R1311117
Sheet 2 of 2

FORM NIS-2 (BACK)

9. Remarks: Jacket water pump S/N 386339 was removed from 1B-P530 location under Exelon work order R1311115 in 2015.
Applicable Manufacturer's Data Reports to be attached

The pump was rebuilt under work order R1311115 Activity# 10. No pressure boundary parts were repaired or replaced.

CERTIFICATE OF COMPLIANCE

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

Type Code Symbol Stamp NA

Certificate of Authorization No. NA Expiration Date NA

Signed Jean H. Kramer J.H. Kramer, site weld administrator Date November 11, 2015
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 HSB Global Standards of Hartford, Connecticut have inspected the components described

in this Owner's Report during the period August 14, 2015 to NOVEMBER 13, 2015, 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.

Jean H. Kramer Commissions 14396 A, N, I PA 3045
Inspector's Signature National Board, State, Province, and Endorsements

Date NOVEMBER 13, 2015

Attachment 2 - NIS-2 Reports for end of third Inservice Inspection Interval

FORM NIS-2 OWNER'S REPORT FOR REPAIR / REPLACEMENT ACTIVITY As Required by the Provisions of the ASME Code Section XI

1. Owner Exelon Generation Company, LLC Date November 12, 2015
 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. R1174134
 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-292 XJ-011-201B
5. (a) Applicable Construction Code Manufacturers Standard 19 N/A Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 2001 edition with addenda through 2003
 (c) Applicable Section XI Code Case(s) None

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	Corrected, Removed or Installed	ASME Code Stamped (Yes or No)
XJ-011-201B	Colt Industries, Fairbanks Morse Engine	Part No. 12994129	N/A	* 114-78083 PO# 167610-1120	N/A	Installed	No

* Traceability per Exelon stock code number.

7. Description of work: Replaced diesel generator cooling water expansion joint for preventive maintenance.
8. Tests conducted: Hydrostatic Pneumatic Nominal Operating Pressure Exempt
 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.

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FORM NIS-2 (BACK)

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

CERTIFICATE OF COMPLIANCE

I certify that the statements made in the report are correct and that this conforms to the requirements 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 (site weld administrator) Date November 12, 2015
 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 HSB Global Standards
Hartford, Connecticut have inspected the components described in this Owner's Report during the period August 14, 2015 to NOVEMBER 13, 2015, 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.

J.H. Kramer Commissions 14396 A, N, I PA 3045
 Inspector's Signature National Board, State, Province, and Endorsements

Date NOVEMBER 13, 2015.

Attachment 2 - NIS-2 Reports for end of third Inservice Inspection Interval

FORM NIS-2 OWNER'S REPORT FOR REPAIR / REPLACEMENT ACTIVITY As Required by the Provisions of the ASME Code Section XI

1. Owner Exelon Generation Company, LLC Date November 12, 2015
 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. R1174136
 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-295 XJ-011-202B
5. (a) Applicable Construction Code Manufacturers Standard 19 N/A Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 2001 edition with addenda through 2003
 (c) Applicable Section XI Code Case(s) None

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	Corrected, Removed or Installed	ASME Code Stamped (Yes or No)
XJ-011-202B	Colt Industries, Fairbanks Morse Engine	Part No. 12994129	N/A	* 114-78083 PO# 167610-1120	N/A	Installed	No

* Traceability per Exelon stock code number.

7. Description of work: Replaced diesel generator cooling water expansion joint for preventive maintenance.
8. Tests conducted: Hydrostatic Pneumatic Nominal Operating Pressure Exempt
 Other 110 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.

This Form (E00030) may be obtained from the ASME Order Dept., 22 Law Drive, Box 2300, Fairfield, NJ 07007-2300

FORM NIS-2 (BACK)


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

CERTIFICATE OF COMPLIANCE

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

Type Code Symbol Stamp NA


Certificate of Authorization No. NA Expiration Date NA

Signed  J.H. Kramer (site weld administrator) Date November 12, 2015
 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 HSB Global Standards
Hartford, Connecticut have inspected the components described in this Owner's Report during the period August 14, 2015 to NOVEMBER 13, 2015, 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 14396 A, N, I PA 3045
 Inspector's Signature National Board, State, Province, and Endorsements

Date NOVEMBER 13, 2015

Attachment 2 - NIS-2 Reports for end of third Inservice Inspection Interval

FORM NIS-2 OWNER'S REPORT FOR REPAIR / REPLACEMENT ACTIVITY As Required by the Provisions of the ASME Code Section XI

1. Owner Exelon Generation Company, LLC Date February 18, 2016
 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. R1159699
 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 Emergency Diesel Generator (System 092) Line No. 2C-G501-DR Combustion Air
5. (a) Applicable Construction Code Manufacturers Standard 19 N/A Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs / Replacement Activity 2001 edition with addenda through 2003
 (c) Applicable Section XI Code Case(s) N-686-1

6. Identification of Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Corrected, Removed, or Installed	ASME Code Stamped (Yes or No)
2C-G501-DR Crankcase Flexible Coupling	Aeroquip	Aeroquip Part No. NH1625C C150 B0750	N/A	* 114-80605 P.O. 038136	N/A	Installed	No

* Traceability per Exelon stock code number and purchase order

7. Description of work: Replaced diesel generator engine crankcase ejector flexible coupling.
8. Tests conducted: Hydrostatic Pneumatic Nominal Operating Pressure Exempt
 Other Test Pressure: 5.8 Inch Water Head Test Temp. 680 °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.

This Form (E00030) may be obtained from the ASME Order Dept., 22 Law Drive, Box 2300, Fairfield, N.J. 07007-2300

FORM NIS-2 (BACK)

9. Remarks: none

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

I certify that the statements made in the report are correct and that this conforms to the requirements 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 (site weld administrator) Date February 18, 2016
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 The Hartford Steam Boiler Inspection and Insurance Company of Connecticut of Hartford, Connecticut have inspected the components described in this Owner's Report during the period JANUARY 11, 2016 to FEBRUARY 19, 2016, 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 14396 A, N, I PA 3045
Inspector's Signature National Board, State, Province, and Endorsements

Date FEBRUARY 19, 2016

Attachment 2 - NIS-2 Reports for end of third Inservice Inspection Interval

FORM NIS-2 OWNER'S REPORT FOR REPAIR / REPLACEMENT ACTIVITY As Required by the Provisions of the ASME Code Section XI

1. Owner Exelon Generation Company, LLC Date March 10, 2016
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. R1286516
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 Emergency Diesel Generator (System 092) Line No. 2C-G501-DR Combustion Air
5. (a) Applicable Construction Code Manufacturers Standard 19 N/A Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs / Replacement Activity 2001 edition with addenda through 2003
 (c) Applicable Section XI Code Case(s) N/A

6. Identification of Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Corrected, Removed, or Installed	ASME Code Stamped (Yes or No)
2C-G501-DR Exhaust Manifold Cap Screws (4)	Fairbanks Morse	Fairbanks Morse Part 91118069	N/A	* 114-36702 P.O. 167610-1282	N/A	Installed	No
2C-G501-DR Exhaust Manifold Cap Screws (1)	Curtis Wright - Nova	Heat No. 251908 Trace No. 6E02	N/A	* 116-70852 P.O. 046745	N/A	Installed	No

* Traceability per Exelon stock code number and purchase order

7. Description of work: Replaced diesel generator engine exhaust manifold cap screws.
8. Tests conducted: Hydrostatic Pneumatic Nominal Operating Pressure Exempt
 Other Test 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.

This Form (E00030) may be obtained from the ASME Order Dept., 22 Law Drive, Box 2300, Fairfield, N.J. 07007-2300

FORM NIS-2 (BACK)

9. Remarks: none

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

I certify that the statements made in the report are correct and that this conforms to the requirements 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 (site weld administrator) Date March 10, 2016
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 The Hartford Steam Boiler Inspection and Insurance Company of Connecticut of Hartford, Connecticut have inspected the components described in this Owner's Report during the period MARCH 10, 2016 to MARCH 10, 2016, 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]
Inspector's Signature

Commissions 14396 A, N, I PA 3045
National Board, State, Province, and Endorsements

Date MARCH 10, 2016

Attachment 2 - NIS-2 Reports for end of third Inservice Inspection Interval

FORM NIS-2 OWNER'S REPORT FOR REPAIR / REPLACEMENT ACTIVITY As Required by the Provisions of the ASME Code Section XI

1. Owner Exelon Generation Company, LLC Date March 8, 2016
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 # R1326515 & R1321427
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-JW 2C-P530
5. (a) Applicable Construction Code Manufacturer's Standard 19 N/A Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repair / Replacement Activity: 2001 edition with addenda through 2003
 (c) Applicable Section XI Code Case(s) N-686-1

6. Identification of Components:

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Corrected, Removed or Installed	ASME Code Stamped (Yes or No)
2C-P530 Jacket Water Circulating Pump	Colt Industries	541873	N/A	* 114-02451	N/A	Installed	No
2C-P530 Jacket Water Circulating Pump	Colt Industries	386341	N/A	* 114-02451	N/A	Removed	No

* Traceability per Exelon part code number and manufacturer's serial number.

7. Description of Work: Replaced emergency diesel generator jacket water circulating pump.

8. Tests conducted: Hydrostatic Pneumatic Nominal Operating Pressure Exempt
 Other Pressure 32 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.

This Form (E00030) may be obtained from the ASME Order Dept., 22 Law Drive, Box 2300, Fairfield, NJ 07007-2300

Attachment 2 - NIS-2 Reports for end of third Inservice Inspection Interval

Work Order# R1326515 & R1321427
Sheet 2 of 2

FORM NIS-2 (BACK)

9. Remarks: Jacket water pump S/N 541873 was removed from 2A-P530 location under Exelon work order R1321427 in 2015.
Applicable Manufacturer's Data Reports to be attached

The pump was rebuilt under work order R1321427. No pressure boundary parts were repaired or replaced.

CERTIFICATE OF COMPLIANCE

I certify that the statements made in this report are correct and that this conforms to the requirements 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, site weld administrator Date March 8, 2016
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 The Hartford Steam Boiler Inspection and Insurance Company of Connecticut of Hartford, Connecticut have inspected the components described

in this Owner's Report during the period JANUARY 11, 2016 to MARCH 9, 2016, 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.

J.H. Kramer Commissions 14396 A, N, I PA 3045
Inspector's Signature National Board, State, Province, and Endorsements

Date MARCH 9, 2016

Attachment 2 - NIS-2 Reports for end of third Inservice Inspection Interval

FORM NIS-2 OWNER'S REPORT FOR REPAIR / REPLACEMENT ACTIVITY As Required by the Provisions of the ASME Code Section XI

1. Owner Exelon Generation Company, LLC Date March 26, 2016
 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 # R1323629 & 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 Manufacturer's Standard 19 N/A Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repair / Replacement Activity: 2001 edition with addenda through 2003
 (c) Applicable Section XI Code Case(s) N-686-1

6. Identification of Components:

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Corrected, Removed or Installed	ASME Code Stamped (Yes or No)
2C-P535 Lube Oil Circulating Pump	Colt Industries	1097576	N/A	* 114-79615	N/A	Installed	No
2C-P535 Lube Oil Circulating Pump	Colt Industries	1401191	N/A	* 114-79615	N/A	Removed	No

* Traceability per Exelon part code number and manufacturer's serial number.

7. Description of Work: Replaced emergency diesel generator lube oil circulating pump.

8. Tests conducted: Hydrostatic Pneumatic Nominal Operating Pressure Exempt
 Other Pressure 5 inches Head Oil 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.

This Form (E00030) may be obtained from the ASME Order Dept., 22 Law Drive, Box 2300, Fairfield, NJ 07007-2300

Attachment 2 - NIS-2 Reports for end of third Inservice Inspection Interval

Work Order# R1323629 & C0208224
Sheet 2 of 2

FORM NIS-2 (BACK)

9. Remarks: Lube oil pump S/N 1097576 was removed from 2C-P535 location under Exelon work order C0208224 in 2004.
Applicable Manufacturer's Data Reports to be attached

The pump was rebuilt under work order C0208244. No pressure boundary parts were repaired or replaced.

CERTIFICATE OF COMPLIANCE

I certify that the statements made in this report are correct and that this conforms to the requirements 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, site weld administrator Date March 26, 2016
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 The Hartford Steam Boiler Inspection and Insurance Company of Connecticut of Hartford, Connecticut have inspected the components described

in this Owner's Report during the period JANUARY 11, 2016 to MARCH 26, 2016, 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 14396 A, N, I PA 3045
Inspector's Signature National Board, State, Province, and Endorsements

Date MARCH 26, 2016

Attachment 2 - NIS-2 Reports for end of third Inservice Inspection Interval

FORM NIS-2 OWNER'S REPORT FOR REPAIR / REPLACEMENT ACTIVITY As Required by the Provisions of the ASME Code Section XI

1. Owner Exelon Generation Company, LLC Date February 18, 2016
 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. R1174656
 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-292 XJ-011-201C
5. (a) Applicable Construction Code Manufacturers Standard 19 N/A Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 2001 edition with addenda through 2003
 (c) Applicable Section XI Code Case(s) None

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	Corrected, Removed or Installed	ASME Code Stamped (Yes or No)
XJ-011-201C	Colt Industries, Fairbanks Morse Engine	Part No. 12994129	N/A	* 114-78083 PO# 167610-1298	N/A	Installed	No

* Traceability per Exelon stock code number.

7. Description of work: Replaced diesel generator cooling water expansion joint for preventive maintenance.

8. Tests conducted: Hydrostatic Pneumatic Nominal Operating Pressure Exempt
 Other 110 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.

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FORM NIS-2 (BACK)

9. Remarks : None

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

I certify that the statements made in the report are correct and that this conforms to the requirements 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 (site weld administrator) Date February 18, 2016
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 The Hartford Steam Boiler Inspection and Insurance Company of Connecticut Hartford, Connecticut have inspected the components described in this Owner's Report during the period FEBRUARY 19, 2016 to FEBRUARY 19, 2016, 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 14396 A, N, I PA 3045
Inspector's Signature National Board, State, Province, and Endorsements

Date FEBRUARY 19, 2016

Attachment 2 - NIS-2 Reports for end of third Inservice Inspection Interval

FORM NIS-2 OWNER'S REPORT FOR REPAIR / REPLACEMENT ACTIVITY As Required by the Provisions of the ASME Code Section XI

1. Owner Exelon Generation Company, LLC Date February 18, 2016
 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. R1140030
 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-295 XJ-011-202C
5. (a) Applicable Construction Code Manufacturers Standard 19 N/A Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 2001 edition with addenda through 2003
 (c) Applicable Section XI Code Case(s) None

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	Corrected, Removed or Installed	ASME Code Stamped (Yes or No)
XJ-011-202C	Colt Industries, Fairbanks Morse Engine	Part No. 12994129	N/A	* 114-78083 PO# 167610-1298	N/A	Installed	No

* Traceability per Exelon stock code number.

7. Description of work: Replaced diesel generator cooling water expansion joint for preventive maintenance.
8. Tests conducted: Hydrostatic Pneumatic Nominal Operating Pressure Exempt
 Other 110 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.

This Form (E00030) may be obtained from the ASME Order Dept., 22 Law Drive, Box 2300, Fairfield, NJ 07007-2300

FORM NIS-2 (BACK)

9. Remarks : None

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

I certify that the statements made in the report are correct and that this conforms to the requirements 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 (site weld administrator) Date February 18, 2016
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 The Hartford Steam Boiler Inspection and Insurance Company of Connecticut Hartford, Connecticut have inspected the components described in this Owner's Report during the period FEBRUARY 19, 2016 to FEBRUARY 19, 2016, 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 14396 A, N, I PA 3045
Inspector's Signature National Board, State, Province, and Endorsements

Date FEBRUARY 19, 2016

Attachment 2 - NIS-2 Reports for end of third Inservice Inspection Interval

FORM NIS-2 OWNER'S REPORT FOR REPAIR / REPLACEMENT ACTIVITY As Required by the Provisions of the ASME Code Section XI

1. Owner Exelon Generation Company, LLC Date October 4, 2016
 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. C0260141
 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-292 XJ-011-201C
5. (a) Applicable Construction Code Manufacturers Standard 19 N/A Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 2001 edition with addenda through 2003
 (c) Applicable Section XI Code Case(s) None

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	Corrected, Removed or Installed	ASME Code Stamped (Yes or No)
XJ-011-201C	Colt Industries, Fairbanks Morse Engine	Part No. 12994129	N/A	* 114-78083 PO# 167610-1373	N/A	Installed	No

* Traceability per Exelon stock code number.

7. Description of work: Replaced diesel generator cooling water expansion joint.
8. Tests conducted: Hydrostatic Pneumatic Nominal Operating Pressure Exempt
 Other 104 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.

This Form (E00030) may be obtained from the ASME Order Dept., 22 Law Drive, Box 2300, Fairfield, NJ 07007-2300

FORM NIS-2 (BACK)

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

CERTIFICATE OF COMPLIANCE

I certify that the statements made in the report are correct and that this conforms to the requirements 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 (site weld administrator) Date October 4, 2016
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 The Hartford Steam Boiler Inspection and Insurance Company of Connecticut Hartford, Connecticut have inspected the components described in this Owner's Report during the period FEBRUARY 1, 2016 to OCTOBER 5, 2016, 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 14396 A, N, I PA 3045
Inspector's Signature National Board, State, Province, and Endorsements

Date OCTOBER 5, 2016

Attachment 2 - NIS-2 Reports for end of third Inservice Inspection Interval

FORM NIS-2 OWNER'S REPORT FOR REPAIR / REPLACEMENT ACTIVITY As Required by the Provisions of the ASME Code Section XI

1. Owner Exelon Generation Company, LLC Date November 10, 2016
 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 # C0259924 & C0260714
 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. 2DG-AIR 2D-G501-DR
5. (a) Applicable Construction Code Manufacturer's Standard 19 N/A Edition, N/A Addenda, N/A Code Case
 (b) Applicable Edition of Section XI Utilized for Repair / Replacement Activity: 2001 edition with addenda through 2003
 (c) Applicable Section XI Code Case(s) N-686-1

6. Identification of Components:

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Corrected, Removed or Installed	ASME Code Stamped (Yes or No)
2D-G501-DR Combustion Air Intercoolers	Colt Industries	3024222 & 3026614	N/A	* 118-03411 P.O. 087258	N/A	Installed	No
2D-G501-DR Combustion Air Intercoolers	Colt Industries	YM-13362 & YM-13363	N/A	* 118-03411	N/A	Removed	No

* Traceability per Exelon part code number and manufacturer's serial number.

7. Description of Work: Replaced emergency diesel generator combustion air intercoolers

8. Tests conducted: Hydrostatic Pneumatic Nominal Operating Pressure Exempt
 Other Pressure 18.5 PSI (Combustion Air), Pressure 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.

This Form (E00030) may be obtained from the ASME Order Dept., 22 Law Drive, Box 2300, Fairfield, NJ 07007-2300

Attachment 2 - NIS-2 Reports for end of third Inservice Inspection Interval

Work Order# C0259942 & C0260714
Sheet 2 of 2

FORM NIS-2 (BACK)

9. Remarks: none

Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

I certify that the statements made in this report are correct and that this conforms to the requirements 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, site weld administrator Date November 10, 2016
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 The Hartford Steam Boiler Inspection and Insurance Company of Connecticut of Hartford, Connecticut have inspected the components described in this Owner's Report during the period MAY 18, 2016 to NOVEMBER 14, 2016, 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.

J.H. Kramer Commissions 14396 A, N, I PA 3045
Inspector's Signature National Board, State, Province, and Endorsements

Date NOVEMBER 14, 2016

DOCUMENT NO.: EC 0000620918

TITLE: 2R14 Suppression Pool Inaccessible Areas Evaluation

PREFACE:

This Technical Evaluation is performed in accordance with CC-AA-309-101, Rev. 15. The Limerick suppression pool is safety related; therefore, an Independent Review will be performed. A Pre-Job Brief and Technical Task Risk/Rigor Assessment was performed for this evaluation in accordance with HU-AA-1212, Rev. 7. This review identified a Risk Rank of 1 (existing process reviews) based on a "Low" Consequence Risk Factor.

REASON FOR EVALUATION / SCOPE

During refueling outage 2R14, visual examinations of the submerged suppression pool liner were performed as required by ASME Section XI, License Renewal Commitment 2701321-70 (Reference 12), and the Limerick coating maintenance program. Visual examinations were performed in accordance with ASME Section XI, 2007 Edition through 2008 Addenda (Reference 1), Subsection IWE, *Requirements for Class MC Metallic Liners of Class CC Components in Light-Water Cooled Plants*. Complete inspection results can be found in the Limerick 2R14 Suppression Chamber Project Final Report (Reference 10).

The visual examinations of the submerged suppression pool liner plates identified degradation in the inaccessible areas. The areas are classified as inaccessible because the visual examination cannot meet the inspection angles due to components obstructing the view of the liner plates. These areas are behind and beneath the residual heat removal (RHR) and core spray (CS) suction strainers and around other structural components.

Since the visual examinations identified degradation in the inaccessible areas of the liner plates, procedure ER-AA-330-007 (Reference 2) was used to evaluate the condition. The procedure requires an evaluation to be performed in accordance with 10CFR50.55a (Reference 3).

In accordance with 10CFR50.55a, this technical evaluation is being performed to evaluate the acceptability of the inaccessible areas of the submerged portions of the Limerick Unit 2 suppression pool. This technical evaluation will address the following in accordance with 10CFR50.55a(b)(2)(ix)(A):

- 1) *The applicant or licensee must evaluate the acceptability of inaccessible areas when conditions exist in accessible areas that could indicate the presence of or could result in degradation to such inaccessible areas.*
- 2) *For each inaccessible area identified for evaluation, the applicant or licensee must provide the following in the ISI Summary Report as required by IWA-6000:*
 - i. *A description of the type and estimated extent of degradation, and the conditions that led to the degradation;*
 - ii. *An evaluation of each area, and the results of the evaluation; and*
 - iii. *A description of necessary corrective actions.*

During the 2R14 visual examinations of the submerged suppression pool liner, two surface anomalies were identified and documented in IR 4003057 (Reference 8). These surface anomalies were small areas of liner plate that were reported to be raised upwards from the surrounding floor plates. This technical evaluation will also provide a final disposition of the two surface anomalies reported on the Limerick Unit 2 suppression pool floor plates. Additionally, an impression was identified inside the reactor pedestal immediately adjacent to the pedestal wall. This condition was documented and dispositioned in IR 4003418 (Reference 14).

DETAILED EVALUATION

2R14 suppression pool dive activities were performed per work order 4289788 (Reference 9). The scope of work included desludging the entire suppression pool and visual examination of 100% of the submerged, accessible areas of the suppression pool. This work is required by License Renewal Commitment 2701321-70. The visual examinations of the suppression pool liner are performed in accordance with the requirements of ASME Section XI, 2007 Edition through 2008 Addenda, Subsection IWE. As such, areas that could not be viewed at an angle greater than 30-degrees from the plane of the component being inspected were documented as inaccessible areas. Therefore, a qualified visual examination could not be performed since adequate visual access could not be achieved. However, an unqualified visual observation of the areas was performed and documented by the divers to help assess the condition of the inaccessible areas.

Procedure ER-AA-330-007 was used to evaluate the inaccessible areas. The procedure requires an evaluation to be performed in accordance with 10CFR50.55a to determine the acceptability of the degradation in the inaccessible areas.

Refer to IR 2486892-02 (Reference 13) for the 2R13 Unit 2 inaccessible area evaluation required per 10CFR50.55a. This technical evaluation concluded that ECCS strainers must continue to be removed to allow access for inspection and recoating of the inaccessible areas behind the strainers. This will ensure that the requirements of License Renewal Commitment 2701321-70 are satisfied.

During 2R14 residual heat removal (RHR) suction strainer 2B1-F211 and 2B2-F211 were designated for removal from their respective penetrations to support inspection and recoating activities. The intent of the strainer removal was twofold:

1. Inspect the previously inaccessible wall/floor plates behind/beneath each strainer and;
2. Perform large area recoating prior to reinstallation of the strainers

Due to interferences between the suppression pool downcomers and the rigging, neither the 2B1-F211 nor the 2B2-F211 RHR suction strainers were removed during 2R14. The decision was made to descope the RHR suction strainer work from 2R14 and perform large area recoat instead. Therefore no qualified ASME Section XI visual examinations of previously inaccessible areas were performed during 2R14.

Design Attributes

The suppression pool is designed to have a metal liner that is supported by concrete. The liner is a membrane pressure barrier that functions to increase the containment integrity by retaining gasses and water within the containment during normal and accident conditions. At the time of construction a coating was applied to protect the liner from corrosion. The suppression pool liner is made up of 1/4 inch (250 mils) carbon steel plates (ASTM A 285) that are coated with a porous zinc coating.

The zinc coating protects the metal surface because the zinc preferentially sacrifices itself to the corrosion. As the zinc dissipates, the amount of protection of the metal liner decreases, and once the zinc is completely depleted, the protection stops. A number of locations in the Limerick Unit 2 suppression pool have completely depleted the zinc coating. With the loss of the protective coating, some areas on the liner plates have started to corrode.

An evaluation of the corrosion of the Limerick suppression pool was performed by Structural Integrity Associates, titled "*Corrosion Evaluation of the Limerick Mark II Containment*" (Reference 4). This evaluation determined the corrosion occurring in the Limerick suppression pool is general corrosion (rust), and not the more aggressive pitting corrosion damage mechanism. This corrosion can be over large areas (general corrosion) or localized over a smaller area (spot corrosion).

The inspection of the submerged portion of the suppression pool is performed by qualified divers. The inspectors perform a general visual (VT-3) inspection of the liner to identify areas of degradation. The inspectors then perform a detailed visual (VT-1) inspection of the degraded areas to determine the metal loss of the degraded areas. To perform a VT-1 inspection, the angle must be 30 degrees or greater from

the plane of the component being inspected per ER-AA-335-014-2008, *VT-1 Visual Examination in Accordance with ASME 2007 Edition, 2008 Addenda* (Reference 5). Additionally, the VT-1 inspection uses depth gages to measure the metal loss on the plates. Procedure ER-AA-335-018, *Visual Examination of ASME IWE Class MC and Metallic Liners of IWL Class CC Components* (Reference 6), describes these inspections. The results of the inspections are compared to the owner defined pre-established acceptance criteria.

The Limerick acceptance criteria are contained in Limerick Specification NE-101 (Reference 7). The general corrosion allowance before requiring a metal repair is:

- General metal loss over a large area (diameter greater than 12.5 inches) greater than 125 mils.
- Localized metal loss (diameter less than or equal to 2.5 inches) greater than 187.5 mils.

At the time of construction, the design thickness of the suppression pool plates was a minimum of 250 mils. The metal loss values given for the acceptance criteria above assume the plates had an initial thickness of 250 mils at the time of construction. Since the plates are thicker, the allowable metal loss would increase by the amount of metal over 250 mils.

During 2R14, four plates had ultrasonic thickness measurements taken to satisfy the requirements of license renewal commitment 2701321-70. The 2R14 thickness readings of sound (non-degraded) areas ranged from a low of 252 mils to a high of 297 mils (see attached NDE Report BOP-UT-17-032). The results of the 2R14 ultrasonic thickness measurements demonstrate that the floor and wall plates remain very close to if not above the initial minimum wall thickness of 250 mils following approximately 30 years of service.

Description of Degradation

The corrosion identified in the Limerick Unit 2 suppression pool is categorized as general corrosion, localized general corrosion or tiger striping. A description of each type of corrosion is provided below.

- **General Corrosion:** Also known as “uniform corrosion”. This term refers to corrosion that completely covers a surface of more than several square inches. Metal loss is generally uniform across the exposed area and typically does not involve much section loss.
- **Localized General Corrosion (Spot Corrosion):** Spot corrosion is simply general corrosion that presents itself as localized “spots” of exposed substrate on a coated surface. Spots are generally less than a few square inches each but may be up to several square inches. Metal loss is generally uniform across each exposed area and typically does not involve much section loss. Spot corrosion should not be confused with pitting corrosion which is a highly localized and accelerated degradation of base metal typically in the presence of an aggressive anion such as chlorine.
- **Tiger Striping:** Relative to coatings in immersion service, tiger striping is a condition unique to inorganic zinc-rich coatings. It is a coating condition that is found on vertical surfaces, typically in stagnant, underwater conditions. In the early stage, it appears in alternating vertical light and dark stripes within the coating itself. The light stripe usually acts as the cathode and the dark stripe as the anode. Over time, zinc in the anodic areas is depleted/consumed giving way to corrosion of the substrate. It is essentially general corrosion in dense vertically aligned corrosion nodules. Like general corrosion, associated metal loss is typically minor.

2R14 Inspection Results and Evaluation

The corrosion rates of the Limerick Unit 2 suppression pool have been very low. This is due to the inert atmosphere of the suppression pool during plant operations and the water quality of the suppression pool. The corrosion of the submerged portion of the suppression pool liner is being trended by the establishment of several corrosion evaluation grids. Inspection of these areas was performed during outages in 1995, 1997, 2009, 2013, and 2017 for Limerick Unit 2. The data obtained from these

inspections suggests that the metal liner with no coating is experiencing an average general corrosion rate of approximately 1 to 2 mils per year (Reference 10).

During 2R14, the inspector identified degradation throughout the accessible areas of the Limerick Unit 2 suppression pool. This would suggest that degradation is also present in the inaccessible areas of the Limerick Unit 2 suppression pool. The inspectors performed an unqualified observation of the degradation in the inaccessible areas. The observations were considered an unqualified observation because adequate visual access could not be achieved in accordance with ER-AA-335-014-2008. Although the inspections were unqualified, the inspectors were able to perform an assessment of the condition of the degradation in the inaccessible areas.

The following is a list of plates identified with inaccessible areas during 2R14. This information was obtained from the Limerick 2R14 Suppression Chamber Project Final Report (Reference 10). Based on the unqualified observations of the inaccessible areas behind/beneath the ECCS suction strainers, it is concluded that the general and spot corrosion in these areas is comparable in magnitude and severity to the corrosion observed in the adjacent, accessible areas.

Suppression Pool Liner Plates with Inaccessible Areas		
2-WP-01B	2-WP-05A	2-WP-07B
2-WP-02A	2-WP-05B	2-WP-09A
2-WP-02B	2-WP-06A	2-WP-09B
2-WP-03A	2-WP-06B	2-WP-10A
2-WP-04B	2-WP-07A	2-WP-10B

General corrosion and tiger striping are present in many of the areas adjacent to the ECCS suction strainers. The maximum metal loss experienced due to general corrosion or tiger striping in any of the adjacent areas is 30 mils. The general corrosion rate of the submerged portion of the suppression pool liner is being trended and is between 1 to 2 mils per year based on pit grid data collected during several ASME Section XI, IWE inspections performed between 1995 and 2017 (Reference 10). This measured corrosion rate is in line with the corrosion rate of 1.8 mils per year calculated by an engineering analysis for uncoated carbon steel components in the suppression pool for the Limerick specific suppression pool water chemistry and operating temperature (Reference 4). The maximum corrosion rate experienced by any of the pit grid location since the last ASME Section XI inspection (2R12) is 3.1 mils per year. If the maximum corrosion rate of 3.1 mils per year is assumed, the maximum metal loss experienced due to general corrosion in the inaccessible areas of the Limerick Unit 2 suppression pool will be 42.4 mils (30 mils + 4 years x 3.1 mils/year) by the start of 2R16, which is the next scheduled containment inservice inspection outage. This is still well below the metal repair criteria for general corrosion of 125 mils metal loss.

In general, areas of spot corrosion exhibit more metal loss than areas of general corrosion. Wall plate 2-WP-06B is the adjacent area experiencing the most severe spot corrosion. During 2R14, an indication of spot corrosion with a metal loss depth of 65 mils was identified on wall plate 2-WP-06B. This exceeds the recoating criteria for spot corrosion and the area was repaired in 2R14. If the maximum measured general corrosion rate of 3.1 mils per year is assumed, the maximum metal loss experienced due to spot corrosion in the inaccessible areas of the Limerick Unit 2 suppression pool will be 77.4 mils (65 mils + 4 years x 3.1 mils/year) by the start of 2R16. This is still well below the metal repair criteria for spot corrosion of 187.5 mils.

Additional areas of spot corrosion in excess of 65 mils have been identified in the Limerick Unit 2 suppression pool during previous inspections. The most significant metal loss measured to date in the Limerick Unit 2 suppression pool was on plate 2-WP-01B. This plate experienced a single indication of spot corrosion with a measured metal loss of 117.2 mils. This area of spot corrosion was discovered and recoated during refueling outage 2R12 (2013). If an area of spot corrosion with a metal loss of 117.2 mils were to exist in any of the inaccessible areas and if the maximum metal loss rate of 3.1 per year is assumed, the depth would increase to 129.6 mils (117.2 mils + 4 years x 3.1 mils/year) by 2R16. This worst case predicted pit depth is still below the depth that would require a base metal repair (187.5 mils).

One of the corrective actions resulting from the evaluation following 2R13 was to remove suction strainers to perform visual examinations and recoat as required during future refueling outages. During 2R14, RHR suction strainers 2B1-F211 and 2B2-F211 were scheduled to be removed so that the areas behind/beneath the strainers would be made accessible for visual examination and large area recoating. However, while attempting to remove the strainers from their penetrations, there was interference between the rigging and the downcomers. Due to the interference, no suction strainers were removed during 2R14, and no inspections of previously inaccessible areas were performed.

Corrective Actions

Following the 2R12 refueling outage, two actions to monitor and correct corrosion in the inaccessible areas of the suppression pool were pursued:

Action 1 - Develop a method to perform remote inspections of the inaccessible areas.

This action is to develop a method to perform remote inspections of the inaccessible areas around the ECCS suction strainers. A method must also be developed and qualified to apply coating in the inaccessible areas, in order to repair the coating and arrest any further degradation that is identified. (Reference IR 1364843-10). This recommendation is no longer being pursued due to the inability to perform any recoating work with the ECCS strainers in place. Therefore, it was decided to pursue Action 2, to remove suction strainers, perform inspections of the inaccessible areas, and recoat areas behind the strainers while they are removed. A long term plan has been developed and presented to station management to gain alignment on required actions prior to the period of extended operation.

Action 2 – Remove the suction strainers to perform inspections and recoat as required.

If a remote inspection of the inaccessible areas cannot be performed, the station will remove two suction strainers each outage to make the inaccessible areas accessible (Reference IR 1502066-05). The selection of the suction strainers for removal will be based on the condition of the accessible areas around the suction strainers. If adverse conditions are identified during the inspection of the inaccessible areas, the inspection scope will be expanded to other suction strainers. When a suction strainer is removed, the degraded areas will be inspected to determine the extent of corrosion. After the areas are inspected, the areas will be surface prepped and recoated to stop the corrosion.

During 2R14, no suction strainers were removed, and no inspections of the previously inaccessible areas were performed. However, due to the fact that spot corrosion in the inaccessible areas in excess of 50 mils has been identified in previous outages, ECCS strainers must continue to be removed to allow access for inspection and recoating of the inaccessible areas. This will ensure that requirements of license renewal commitment 2701321-70 are met prior to and entering the period of extended operation.

Evaluation of Reported Plate Surface Anomalies

During large area recoating of the floor plates, two surface anomalies were reported (Reference 8). These areas were described by the divers as areas where the plate had an upward deflection from the normal plane of the plate. The dimensions and location of the two surface anomalies are provided below.

Anomaly #1	2-FP-03B-2-1
Location	2-FP-03B annuls area at 110 degrees
Size	4" x 8"
Max Deflection	1/4"

Anomaly #2	2-FP-08C-3-7
Location	2-FP-08C annulus area at 180 degrees
Size	8" x 12"
Max Deflection	3/8"

An ultrasonic examination of each surface anomaly was performed in order to assess the thickness of the suppression pool liner plate in these areas. Ultrasonic examination readings were obtained by having the

diver position the UT probe per the direction of the certified inspector who interpreted the results. The tables below provide the results of the ultrasonic examinations for each surface anomaly.

Surface Anomaly #1, (6 readings were taken along the length and 3 across the width)					
Floor plate 2-FP-03B-2					
Average wall thickness: 0.263"					
0.268	0.261	0.291 (max)	0.259	0.258	0.261
0.266	0.259	0.261	0.254	0.255	0.252 (min)
0.267	0.266	0.263	0.261	0.270	0.260

Surface Anomaly #2, (6 readings were taken along the length and 7 across the width)					
Floor plate 2-FP-08C-3					
Average wall thickness: 0.275"					
0.271	0.272	0.269	0.281	0.279	0.276
0.272	0.269	0.271	0.288	0.281	0.281
0.271	0.272	0.272	0.273	0.277	0.281
0.272	0.275	0.277	0.269	0.272	0.271
0.276	0.277	0.275	0.280	0.278	0.277
0.274	0.276	0.275	0.278	0.280	0.271
0.270	0.269	0.268 (min)	0.297 (max)	0.275	0.279

The suppression pool liner plate material specification (ASTM A 285) references ASTM A 20 (Reference 11), *General Requirements for Steel Plates for Pressure Vessels*, which provides the permissible variations in thickness for steel plates ordered to thickness. The minimum wall thickness recorded on floor plate 2-FP-03B was 0.252 inches while the minimum wall thickness recorded on floor plate 2-FP-08C was 0.268 inches. The minimum wall thickness required for the suppression pool liner plates at the time of construction was 0.250 inches. The minimum wall thickness required for structural integrity of the liner plate for general corrosion is 0.125 inches. The maximum reading recorded during the ultrasonic examination of the two surface anomalies was 0.297 inches. The maximum wall thickness recorded during ultrasonic examination of the surface anomalies is within the permissible variation (0.250 inch + 1.75*0.03 inch = 0.30 inch max) and is therefore not a concern.

An impression was identified in the annulus area of the reactor pedestal immediately adjacent to the pedestal wall at approximately 180 degrees (Reference 14). The area was described as a 115 mill impression/indentation in the liner plate 1.5 inches by 3.5 inches in size. The 115 mil depth includes approximately 30 mils of corrosion at the bottom of the impression. UT thickness readings were taken to evaluate the area. A total of 3 UT thickness readings were taken of the surrounding plate with an average value of 0.759 inches recorded. An additional UT thickness reading was taken in the area of the impression with a value of 0.644 inches recorded. It was determined that this condition is not service induced and is most likely evidence of a repair performed during original construction. A full description and disposition details are available in IR 4003418 (Reference 14).

Based on the plate thickness measurements attained during 2R14, the surface anomalies identified on floor plate 2-FP-03B and 2-FP-08C and the impression identified on floor plate 2-FP-02E-PED have significant margin available to all established repair criteria, are acceptable for continued service, and have no negative impact on the ability of the suppression pool floor plates to perform their intended function. These conditions do not appear to be service induced and are likely due to fit up and fabrication of the suppression pool liner or repairs performed during original construction.

CONCLUSIONS / FINDINGS

Based on the 2R14 ASME Section XI inspection and the unqualified observations of the of the inaccessible areas behind and beneath the ECCS suction strainers, the spot corrosion and general corrosion experienced in the inaccessible areas of the Limerick Unit 2 suppression pool is the same magnitude and severity as the accessible areas. With the low corrosion rate and current measured liner plate thickness data, continued operation with corrosion in the inaccessible areas of the Limerick Unit 2 suppression pool remains acceptable through at least 2R16 (next required inspection). Additionally based on the data gathered during 2R14 and a review of design information, the surface anomalies identified on floor plates 2-FP-03B, 2-FP-08C, and 2-FP-02E-PED will not impact the function of these plates due to the significant margin that is available to all established repair criteria and, therefore, are acceptable for continued service. During the next refueling outage (2R15), the actions identified to inspect and recoat the inaccessible areas of the Limerick Unit 2 suppression pool will continue to be implemented to ensure compliance with the requirements of license renewal commitment 2701321-70. IR 3966380-33 was generated to determine the ECCS suction strainers to be removed during 2R15 and ranking of plates for large area recoat based on the as-left conditions.

REFERENCES:

1. ASME Section XI 2007 Edition through 2008 Addenda
2. ER-AA-330-007, Visual Examination of Section XI Class MC Surfaces and Class CC Liners, Revision 11
3. 10CFR50.55a, Codes and standards, Revision December 2015
4. Structural Integrity Associates Report 1101502.401, Corrosion Evaluation of the Limerick Mark II Containment, Revision 0 (IR 1364843-07)
5. ER-AA-335-014-2008, VT-1 Visual Examination In Accordance with ASME 2007 Edition, 2008 Addenda, Revision 0
6. ER-AA-335-018, Visual Examination of ASME IWE Class MC And Metallic Liners of IWL Class CC Components, Revision 12
7. Limerick Specification NE-101, Coating And Liner Inspection/Coating Repair of Suppression Chambers, Revision 7
8. IR 4003057, Bulges Found In Suppression Pool Liner Floor Plates
9. Work Order 4289788, Inspect Suppression Pool Coatings
10. 2R14ISI6 Limerick 2R14 Suppression Chamber Project, April 2017
11. ASTM A20/A20M, Standard Specification for General Requirements for Steel Plates for Pressure Vessels
12. License renewal commitment 2701321-70 (previously T04743), ASME Section XI, Subsection IWE.
13. 2R13ISI6, 2486892-02, Limerick 2R13 Suppression Chamber Project, April 2015.
14. IR 4003418, Impression Found on Suppression Pool Liner Plate 2-FP-02E-PED

ATTACHMENTS:

1. NDE Data Report BOP-UT-17-032, UT Thickness Examination Data Sheets (4 pages)



Attachment 1
BOP-UT-17-032.pdf

PREPARER: M. Weis Date: See Passport Milestones

INDEPENDENT REVIEWER: M. Karasek Date: See Passport Milestones

Independent Reviewer Comments:

I have performed an Independent Review of this technical evaluation per CC-AA-309-101. I have reviewed the reference documents and agree with the inputs. The outputs, conclusions, and actions are reasonable and well supported by the inspection results from 2R14. An Independent Review was performed by an individual qualified per N-AN-ENG-CERT-PG04 (ISI/CISI/Component Supports) who is familiar with the 10CFR50.55a requirements for evaluating inaccessible areas of the suppression pool. Minor comments were made and have been incorporated.

APPROVER: T. Ryan Date: See Passport Milestones



ULTRASONIC THICKNESS EXAMINATION

Site/Unit: LIM / 2
 Summary No.: NDE-056
 Workscope: BOP/Li2R14

Procedure: ER-AA-335-004
 Procedure Rev.: 7
 Work Order No.: 04289788-70

Outage No.: N/A
 Report No.: BOP-UT-17-032
 Page: 1 of 4

Code: Engineering Direction Cat./Item: N/A Location: U2 Suppression Pool
 Drawing No.: N/A Description: Suppression UT
 System ID: 060
 Component ID: Suppression Pool Size/Length: N/A Thickness/Diameter: N/A
 Limitations: N/A Component File No.: N/A Start Time: 1400 Finish Time: 1830

Calibration Information			
Calibration Thickness (In)		Calibration Times / Initials	
Actual	Measured		
0.100	0.100	Start: 1405	EP
0.200	0.200	Verify: N/A	N/A
0.300	0.299	Verify: 1620	EP
0.400	0.399	Verify: N/A	N/A
0.500	0.500	Final: 1835	EP

Partitioning Information		
Component	Begin/Col/Row	Ending/Col/Row
M. UPST Ext.	N/A	N/A
Main UPST.	N/A	N/A
Main	N/A	N/A
Main DNST.	N/A	N/A
M. DNST Ext.	N/A	N/A
Branch	N/A	N/A
Branch Ext.	N/A	N/A

Component Information	
Component Geometry:	Wall & Floor
Outside Diameter:	N/A Grid Size: N/A
Max. Thickness:	N/A Min. Thickness: N/A
Nominal Thickness:	N/A Tmin.: N/A
Min. Thickness Location:	N/A
Max. Thickness Location:	N/A
Surface Condition:	As Found Coated

Instrument: Manufacturer: Olympus Model: 38 DL Plus Serial No.: 100093311 Gain: 62 dB Range: 1.0"
Transducer: Manufacturer: Panametrics Serial No.: 809839 Size: .434" Freq.: 5 MHz Model: D7906-SM # of Elements: Dual
Reference/Simulator Block: Serial No.: 24398 Type: 1018 STEEL Ref./Simulator Block Temp.: 76 °F Material/Component Temp.: 79 °F
Temp. Tool: Manufacturer: EXTECH Serial No.: 12129510 Couplant: Water Type: Water Batch No.: N/A

Comments/Obstructions: Performed UT exam on the floor and wall plates according to the WO instructions

Results: Accept Reject Info See supplemental sheet for UT thickness readings.

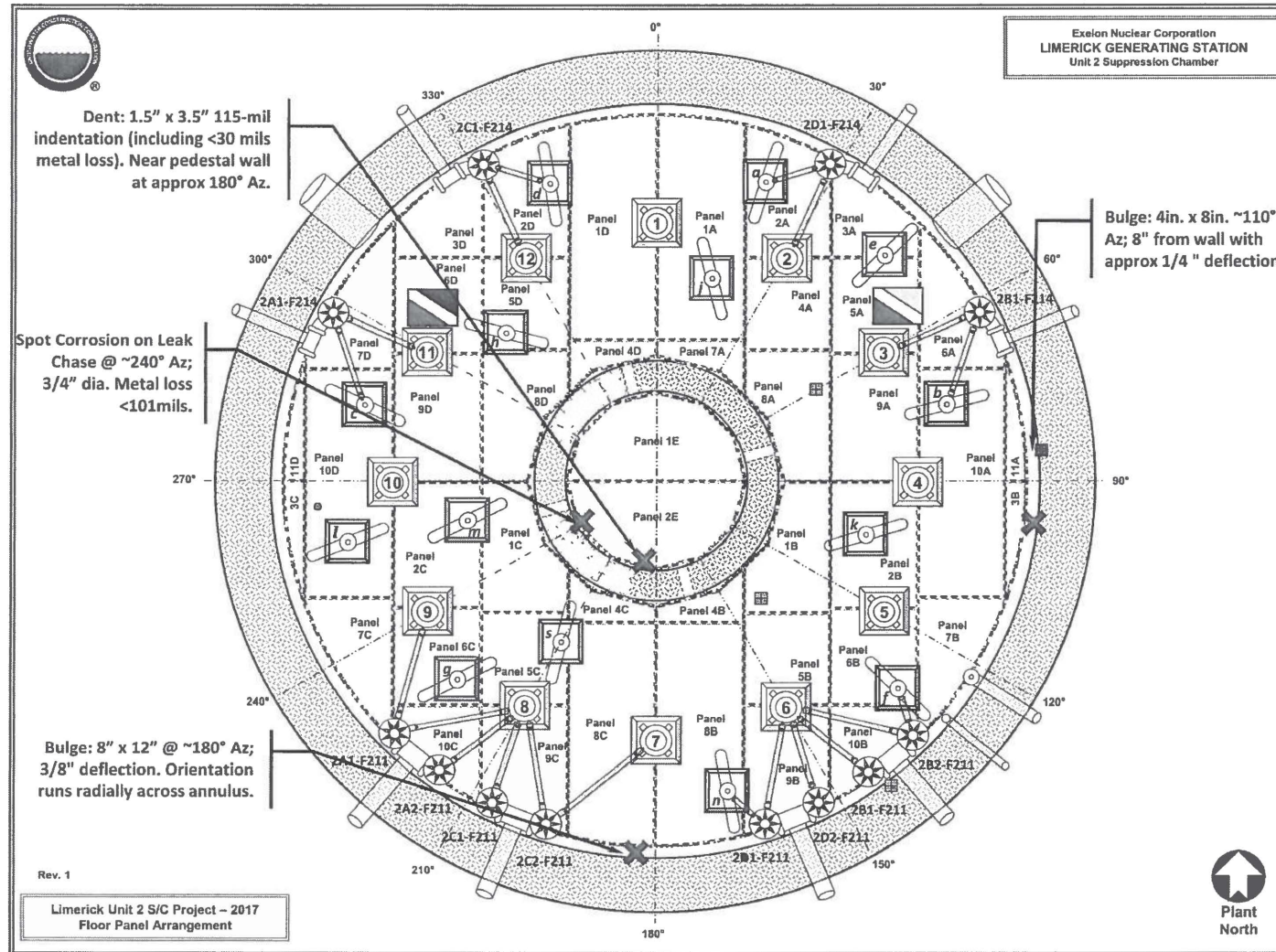
Examiner	Level	Signature	Date	Reviewer	Signature	Date
Petersen, Eric D.	II		4/24/2017	Robideau, Kim R.		4/26/2017
Examiner	Level	Signature	Date	Site Review	Signature	Date
N/A	N/A			Newcomb, II, James L.		4/26/2017
Other	Level	Signature	Date	ANII Review	Signature	Date
N/A	N/A			N/A		

Summary No.: NDE-056

Sketch or Photo: O:\Outage Data\Limerick\2R14\BOP\Pictures\NDE-056 L2R14.UT.Locations_001.jpg

Attachment 3

Page 10 of 12



2R14 Suppression Pool Inaccessible Areas Evaluation
EC 0000620918, Attachment 1, Page 2 of 4

Summary No.: NDE-056

Sketch or Photo: O:\Outage Data\Limerick\2R14\BOP\Pictures\NDE-056 UT Data Sheet_001.jpg

UT Measurements
Suppression Pool Panel UT Data

Line	Panel ID	Location	UT Measurements (inches)		Comments
			Gen. Corr. Area	Sound Steel Area	
1	2-FP-02B-2	45" SLC,30" WLC	0.269	0.268	
2	2-FP-08C-3	72" SLC , 37"ELC	0.242	0.272	
3	2-FP-09C-3	23" SLC, 76" ELC	0.259	0.271	
4	2-FP-01E-Ped	46" SLC, 72" WLC	0.291	0.296	

Summary No.: **NDE-056**

Sketch or Photo: O:\Outage Data\Limerick\2R14\BOP\Pictures\NDE-056 UT Data Sheet Tab 2_001.jpg

UT Data at Indication Locations

Item	Indication	Panel ID	Indication ID	Description	UT Readings (inches)						Comments	
					Grid	A	B	C	D	E		F
1	Bulge	Floor_Plate 2-FP-03B-2	2-FP-03B-2-1	4in. x 8in. Bulge indication. Located in the annulus area at approx 110-deg Az; 8" from wall with approx 1/4" deflection.	1	0.268	0.261	0.291	0.259	0.258	0.261	Top orientation toward: 1A-North West 105 Degree Readings in 2" increments
					2	0.266	0.259	0.261	0.254	0.255	0.252	
					3	0.267	0.266	0.263	0.261	0.270	0.260	
					4							
2	Bulge	Floor_Plate 2-FP-08C-3	2-FP-08C-3-7	8in. x 12in. Bulge indication. Located in annulus area at 180-deg Az. Approx 3/8" deflection; Orientation runs radially across annulus area.	1	0.271	0.272	0.269	0.281	0.279	0.276	Top orientation toward: 180 Degree 1A-North West Readings in 2" increments
					2	0.272	0.269	0.271	0.288	0.281	0.281	
					3	0.271	0.272	0.272	0.273	0.277	0.281	
					4	0.272	0.275	0.277	0.269	0.272	0.271	
					5	0.276	0.277	0.275	0.280	0.278	0.277	
					6	0.274	0.276	0.275	0.278	0.280	0.271	
					7	0.270	0.269	0.268	0.297	0.275	0.279	
3	Dent	Floor_Plate 2-FP-02E	2-FP-02E	115-mil Dent (includes <30 mils metal loss). 1.5in. x 3.5in. Near pedestal wall at approx 180-deg Az.	1	0.644	0.760					"A" Readings = Bottom of dent. "B" Readings = Adjacent area of panel
					2	0.759	0.758					
4	Spot Corrosion	Floor_Plate 2-FP-02E-PED	2-FP-02E	Spot corrosion 0.75in. dia. Metal loss <101mils. Located on LC @ 240-deg Az.	1	0.177	0.178					"A" & "B" Readings taken adjacent to indication