

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,

Richard W. Libra

Rubleri

Vice President, Limerick Generating Station

Exelon Generation Co., LLC

Attachment 1: Form OAR-1 Owner's Activity Report

NIS-2 Reports for the End of the Third Inservice Inspection Interval Li2R14 Suppression Pool Inaccessible Areas Evaluation Attachment 2:

Attachment 3:

S. Rutenkroger, USNRC Senior Resident Inspector, LGS cc:

NRC Document Control Desk

### **ATTACHMENT 1**

### FORM OAR-1 OWNER'S ACTIVITY REPORT

Report Number Li2R14						
Plant Limerick Generating Station, 3146 Sanatoga Road, Pottst	town, Pennsylvania	19464				
	nuary 8, 1990	Refueling Outage Number	Li2R14			
(if applicable) Current Inspection Interval Third & Fourth Inspection Interval (IS	SI), Second & Third	Inspection Interval (Containme	ent ISI)			
(1st, 2nd, 3rd, 4th, other)  Current Inspection Period Third & First Inspection Period (ISI and Containment ISI)						
(1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup> ) ASME Section XI 2001 Ed. through 2003 Add. (3 <sup>rd</sup> ISI/2 <sup>nd</sup> CISI Interval), ASME Section XI 2007 Ed. through 2008 Add. (4 <sup>th</sup> ISI/3 <sup>rd</sup> CISI Interval)						
Date and Revision of Inspection Plans  ISI Program Plan (ER-LG-330 (2/1/2017), Rev. 13 (4/13/20		3/25/2015), Rev. 11 (10/21/201	6), Rev. 12			
Edition and Addenda of Section XI applicable to repair/replacement activit	ties, if different than (	the inspection plans Same as a	above			
Code Cases used: N-508-4, N-532-5, N-578-1, N-613-1, N-638-4, N-63	39, N-686-1, N-702, N	1-749 (approved by Relief Request)				
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)						
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 emplorepair/replacement activities and evaluation described in this report. Further manner for any personal injury or property damage or a loss of any kin (Inspector's Signature)  Date  August 24, 2017	urthermore, neither that arising from or con  14396 A, N, I	ne Inspector nor his employer shall l				

### **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

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	- Completed
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
00200330	System 49 – Reactor Core Isolation Cooling	12/3/2010
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
00200120	System 50 – Reactor Core Isolation Cooling Pump & Turbine	2/10/2010
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
111200240	System 51 – Residual Heat Removal	11///2010
R1127910	Replaced disc in 1-1/2" RHR check valve 051-2115B	8/18/2016
111127010	System 52 – Core Spray	0/10/2010
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

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

		· · · · · · · · · · · · · · · · · · ·			·	,	
1. Owner	Exelon Gene Nar	ration Company, LL ne	С	Date	Septe	ember 10, 2015	
	200 Exelon V	Vay, Kennett Square	e, PA 19348	Sheet1	_ of	2	
2. Plant		erating Station		Unit		2	
	Nar	me					
1.161	3146 Sanatog Addi	a Road, Pottstown, ress	PA 19464			C0255469 (supply) on P.O. No., Job No. e	etc.
Work Performed by Exelon Nuclear			Type Code Syn	nbol Stamp	None		
	Nai			Authorization N	o	Not applicab	le
	3146 Sanato Add	ga Road, Pottstowr	n, PA 19464	Expiration Date		Not applicab	le
4. Identification of S	System <u>Emerger</u>	cy Service Water	(System 0	111) Line No. SP-HI	BC-240-E07		2B-V208
Applicable Construction Code <u>ASME III</u> 19.74 Edition, <u>Winter 74</u> Addenda, <u>N/A</u> 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) <u>N-686-1</u> 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 E	xelon stock code n	umber and purchas	se order	•	•		•
7. Description of w	ork: Replaced 3" a	nd 2" emergency se	ervice water s	supply piping to unit cool	er 2B-V208	in-kind.	
8. Tests conducted	d: Hydrostatic  Other	Pneumatic ☐ 134 psi Test T		Operating Pressure ■ °F.	Exempt	I	

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

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

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 StampNA							
Signed							
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							
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							
DateSEPTEMBER 15, 2015							

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

Exelon Generation Company, LLC     Name				Date	Septe	ember 10, 2015	
	200 Exelon W	/ay, Kennett Square	e, PA 19348	Sheet1_	_ of	3	
O. Dlank	Addr			l lait		2	
2. Plant	Limerick Generating Station     Name					2	
3146 Sanatoga Road, Pottstown, PA 19464 Address						00255469 (return) on P.O. No., Job No. e	etc.
Work Performed by Exelon Nuclear     Name				Type Code Syr Authorization N			le
	3146 Sanato Addi	ga Road, Pottstown	, PA 19464	Expiration Date		Not applicab	le
4. Identification of System Emergency Service Water (System 011) Line No. SP-HBC-249-E07 2B-V208							
5. (a) Applicable Construction Code <u>ASME III</u> 19 74 Edition, <u>Winter 74</u> Addenda, <u>N/A</u> 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) <u>N-686-1</u>							
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 Taylor Heat Code						No	
* Traceability per E	xelon stock code n	umber and purchas	e order				
<ul><li>7. Description of w</li><li>8. Tests conducted</li></ul>	• • • • • • • • • • • • • • • • • • • •			eturn piping from unit co			11 <u>12 12 12 12 12 12 12 12 12 12 12 12 12 1</u>

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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\_\_134\_psi Test Temp. \_\_N/A\_°F.

Other 🗖

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	. OwnerExelon Generation Company, LLCName				Septe	ember 10, 2015	
	200 Exelon W Addr	/av. Kennett Square	e, PA 19348	Sheet2	_ of	3	
Plant Limerick Generating Station				Unit		2	
3146 Sanatoga Road, Pottstown, PA 19464 Address						00255469 (return) on P.O. No., Job No.	etc.
Work Performed by Exelon Nuclear     Name				Type Code Sym Authorization N	nbol Stamp o.	None Not applicat	ole
3146 Sanatoga Road, Pottstown, PA 19464 Expiration DateNot applicable Address						ole	
4. Identification of S	4. Identification of System Emergency Service Water (System 011) Line No. SP-HBC-249-E07 2B-V208						
(b) Applicable	Edition of Section 3	ASME III XI Utilized for Repai ase(s) N-686-1	rs / Replacer	lition, <u>Winter 74</u> nent Activity 20 <u>01 editio</u>	Adde n with adde	enda, <u>N/A</u> C nda through 2003	Code Case
6. Identification of 0	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

<sup>\*</sup> Traceability per Exelon stock code number and purchase order

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

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 rec	quirements of the ASME Code, Section XI.					
Type Code Symbol StampNA	20.1.00						
Certificate of Authorization No.	NA	Expiration Date NA					
Signed On H. H.	I.H. Kramer. Site weld administrator	Date <u>September 10</u> , 20 <u>15</u>					
Owner or Owner's Designee, Title	o.i.i. Marier, Oile Weid administrator	, 2010					
CER	TIFICATE OF INSERVICE INSPECTION	N.					
J. J	TIFICATE OF INSERVICE INSPECTION	•					
I, the undersigned, holding a valid commission or Province of Pennsylvania	issued by the National Board of Boiler a and employed by HSE						
Hartford, Connecticut		nspected the components described					
in this Owner's Report during the period	JANUARY 7, 2015 to S	SEPTEMBER 5, 1015, and state that					
to the best of my knowledge and belief, the Ov		ken corrective measures described in this					
Owner's Report in accordance with the requirer By signing this certificate neither the Inspe		tv. expressed or implied, concerning the					
examinations and corrective measures describ							
shall be liable in any manner for any personal in	njury 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	d, State, Province, and Endorsements					
Date SEPTEMBER 15, 2015							

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

1. Owner	Exelon G	eneration Compan	v. LLC	Date	Fe	ebruary 27, 2016	
		Name	,,				- 1
		on Way, Kennett So Address	quare, PA 1934	8 Sheet _	of	2	
2. Plant	Limerick (	Generating Station Name		Unit		2	
1		atoga Road, Pottst			Order No. C0257638	-1-	
	·	Address			0	tion P.O. No., Job No. 6	₹C.
<ol><li>Work Perfor</li></ol>	med by <u>Exelon I</u>	Nuclear Name	Type Co Authoriz	ode Symbol Stamp ation No.	N/A N/A		
u -		natoga Road, Potts Address	stown PA 19464		on Date		
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 co	ode number.	l.	1	,	1	
7. Description	of work: Replaced	I reactor recirculation	on pump mecha	nical seal cartridge	).		
8. Tests cond	ucted: Hydrostat Other 🗖			Operating Pressur	re Exemp	ot 🗇	
NOTE: Su	NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size 8 1/2 in. x 11 in., (2) informa-						

tion 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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W/O No. C0257638 Sheet 2 of 2

9. Remarks: Manufacturers data reports are traceable by purchase order and work order package.
Applicable Manufacturer's Data Reports to be attached
OFFICIALTY OF COMPLIANCE
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
Owher or Öwner'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
have inspected the components described in this Owner's Report during the period JULY 13, 2015 to FEBRUMY 21, 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.
Commissions 14396 A, N, I PA 3045 Inspector's Signature National Board, State, Province, and Endorsements
Date FEBRUARY 29, 2016
Jan

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

	· · · · · · · · · · · · · · · · · · ·				<del></del>				
1. Owner		eration Company, LL ame	С	Date	Dece	mber 7, 2016			
		Way, Kennett Square dress	, PA 19348	Sheet1	of	2			
2. Plant		nerating Station		Unit		2			
	Name								
		<u>ga Road, Pottstown F</u> dress	PA 19464	Rei		er # C0260596 on P.O. No., Job No. e	tc.		
3 Work Parform	med by Evelop Nur	clear			Symbol Stamp				
J. WOIKT GHOH		ame	Authorization	No	N/A N/A				
3146 Sanatoga Road, Pottstown PA 19464 Expiration DateN/A									
Identification	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 19 74 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		
					į				
* Traceability pe	I er Exelon part code n	l umber and manufact	ı urer's serial r	l number.	1		1		
7. Description	of Work: Replaced re	eactor water clean-up	pump motor	case assembly					
8. Tests condu	•	☐ Pneumatic ☐ Pressure 1250		erating Pressure Temp. N/A °F.	Exempt				
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

Work Order# C0260596 Sheet 2 of 2

9. Hemarks: 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 StampNA
Certificate of Authorization NoNAExpiration DateNA
Signed
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 MHL(HI, Zolb to December 9, Zolb , 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 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		eration Company, L	LC		Date	Febr	uary 17, 2016	
10		Way, Kennett Squa dress	re, PA 19348	3	Sheet _	1 of	2	
2. Plant		nerating Station ame			Unit		2	
		oga Road, Pottstowi dress	n PA 19464				order No. C0258727 tion P.O. No., Job No. o	
3. Work Performed		clear ame				de Symbol Stamp ation No.		35
-		oga Road, Pottstow dress	n PA 19464		Expiration Date N/A			
4. Identification of S	System: Reactor	Core Isolation Cool	ling (Syster	m 049)	Line No.	HBB-245	Valve	049-2018
	Edition of Section	e <u>ASME III</u> 19 n XI Utilized for Rep Case(s) <u>N/A</u>	airs or Repla					
6. Identification of 0	Components							
Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	ner ication	Year Built	Corrected, Removed or Installed	ASME Code Stamped (Yes or No)
3" Check Valve Disc	Velan Valve	S/N 8312	N/A		33435 46773	2012	Installed	Yes
					-			
* Traceability per E	xelon stock code	number.	4	8				•
7. Description of w	ork: Replaced 3"	' RCIC swing chec	k valve disc.					
8. Tests conducted	d: Hydrostatic Other 🗖	☐ Pneumatic (		l Operatin A°F.	g Pressu	re   Exempt	•	

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

W/O No. C0258727 Sheet 2 of 2

	reports are traceable by Exelon work purchase order.  Applicable Manufacturer's Data Reports to be attached
A140. 1 0.42	
	CERTIFICATE OF COMPLIANCE
certify that the statements mad	de in the report are correct and that this conforms to the requirements of the ASME Code, Section XI.
ype Code Symbol Stamp	NA
Certificate of Authorization No.	
(m 1) 1)	
Signed Owner's De	J.H. Kramer (site weld administrator) Date February 17, 2015 esignee, Title
	CERTIFICATE OF INSERVICE INSPECTION
	g a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the S
or Province of Pennsylvania	a and employed by The Hartford Steam Boiler Inspection and Insurance Company of Connecticut of
in this Owner's Report during	Hartford, Connecticut have inspected the components described g the period Deceases 14, 2015 to FEBRURY 18, 2016, and state that
	e and belief, the Owner has performed examinations and taken corrective measures described in this
	ce with the requirements of the ASME Code, Section XI.
	te neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the
	measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer
inspection.	r for any personal injury or property damage or a loss of any kind arising from or connected with this
	Commissions14396_A, N, I PA 3045
Inspector's Si	Signature National Board, State, Province, and Endorsements
Inspector's Si	Commissions 14396 A, N, I PA 3045 Signature National Board, State, Province, and Endorsements

### 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 Gene Na		LC		Date		Febr	uary 17, 2016	
		Way, Kennett Squa dress	re, PA 19348	3	Sheet _	1	of	2	
2. Plant		nerating Station			Unit		B-02-11	2	
-		ga Road, Pottstowr dress	n PA 19464			Repair		k <u>Order No. C0258726</u> tion P.O. No., Job No.	
3. Work Performed		clear ame			Type Co	de Sym ation No	bol Stamp		
		oga Road, Pottstow dress	n PA 19464		Expiration DateN/A				
4. Identification of S	System: Reactor	Core Isolation Cool	ing (Syster	n 049)	Line No.	HBB-24	15	Valve	049-2F081
<ul><li>5. (a) Applicable C</li><li>(b) Applicable</li><li>(c) Applicable</li></ul>	Edition of Section Section XI Code	XI Utilized for Rep	9 <u>71                                    </u>	n, <u>Sun</u> cements	nmer 1973 :: 2001 edi	Addition with	denda, n addenda	N/A Code Case a through 2003	1
Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.		ther ification	Yea	ar Built	Corrected, Removed or Installed	ASME Code Stamped (Yes or No)
3" Check Valve Disc	Velan Valve	S/N 8323	N/A	1	-33435 047407	2	012	Installed	Yes
								8	
ii						_			
* Traceability per E	xelon stock code	number.	1		3 775 849				
7. Description of w	ork: Replaced 3"	RCIC swing chec	k valve disc.						
8. Tests conducted	d: Hydrostatic	☐ Pneumatic ii N/A PSI Test		l Operati A °F.	ng Pressu	re 🗆	Exempt	•	

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

W/O No. C0258726 Sheet 2 of 2

	Applicable Manufacturer's Data Reports to be attached	
		-
	CERTIFICATE OF COMPLIANCE	
certify th	the statements made in the report are correct and that this conforms to the requirements of the ASME Code, Section	XI.
woo Coc	Symbol Stamp NA	
•		
Certificate	f Authorization No. NA Expiration Date NA	
Signed	J.H. Kramer (site weld administrator) Date February 17, 2015	_
	whe or Owner's Designee, Title	
	OFFICIAL OF INCEDIVE INCEDION	
	CERTIFICATE OF INSERVICE INSPECTION	
	ndersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and t	
or Pro	ce of Pennsylvania and employed by The Hartford Steam Boiler Inspection and Insurance Company of Connecticut	
in this	Hartford, Connecticut have inspected the components describ wher's Report during the period <b>DECEMBEL 14, 2015</b> to <b>FEBLURY 18, 2016</b> , and state	
	st of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in t	
Owner	Report in accordance with the requirements of the ASME Code, Section XI.	
	signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning t	he
	ions and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer	
inspec	able in any manner for any personal injury or property damage or a loss of any kind arising from or connected with the	IIS
irispec	<u>.</u>	
	Commissions 14396 A, N, I PA 3045 Inspector's Signature National Board, State, Province, and Endorsements	
-	FERRIAL 18. 2016	

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

						· · · · · · · · · · · · · · · · · · ·		
1. Owner			С		Date	Nov	ember 7, 2016	
	Nan	ne						
		/ay, Kennett Square	e, PA 19348		Sheet1	of	2	
	Addr	ess						
2. Plant	Limerick Gene Nar	erating Station			Unit		2	<del></del>
	3146 Sanatog Addr	a Road, Pottstown, ess	PA 19464		Re	Work Order No pair Organization	o. R1263275 on P.O. No., Job No. e	etc.
O. Wards Davids maned	12							
Work Performed	by <u>Exelon Nucl</u>				Authorization	Symbol Stamp n No.	None Not applicab	le
	21/16 Sanata	ga Road, Pottstowr	DA 10/6/				Not applicab	lo
-	Addr	•	i, FA 19404		Expiration D	ale	Not applicab	16
4. Identification of S	System BCIC & B	CIC Turbine (Syste	m 049 and 0	50)	Line No. H	IBB-207	PSE-050-2D0	001
		0.0 . 0.0 (0)0.0		001				
5. (a) Applicable								e Case
		XI Utilized for Reparate August 2015 XI Utilized for August 2015 XI Utiliz		ment A	ctivity 20 <u>01 ec</u>	dition with adder	nda through 2003	
.,		ase(s)						
6. Identification of 0	Components							
Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Oth	er Identificatio	n Year Built	Corrected, Removed or Installed	ASME Code Stamped (Yes or No)
PSE-050-2D001	Continental		,	*	114-34519			
Rupture Disc and Vacuum support	Disc	8274420A	N/A		O# 075361	2015	Installed	No
	=	R	T.				~	
		All I						
* Traceability per E	xelon stock code i	ı number.		1				<u> </u>
7. Description of w	ork: Replaced RC	IC turbine exhaust	inboard ruptu	re disc	and vacuum	support holder.	E	
8. Tests conducted		D Pneumatic ☐ 1030 psi Test			ng Pressure <b>I</b> F.	Exempt C	1	

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

W/O No. R1263275 Sheet 2 of 2

9. Remarks: None
Applicable Manufacturer's Data Reports to be attached
5 K
OFDITIOATE OF COMPLIANCE
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
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.
Commissions 14396 A, N, I PA 3045
Inspector's Signature National Board, State, Province, and Endorsements
Date November 7, 2016

## 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 Name  200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2 Address 2. Plant Limerick Generating Station Name  3146 Sanatoga Road, Pottstown, PA 19464 Repair Organization P.O. No., Job No. etc. 3. Work Performed by Exelon Nuclear Type Code Symbol Stamp None Authorization No. Not applicable Name Authorization P.O. No. Hot applicable Section 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 Name of Name of Manufacturer Serial No. Board Other Identification Year Corrected, Code Component Manufacturer Serial No. Board Removed or Stamped
Name  200 Exelon Way, Kennett Square, PA 19348 Sheet 1 of 2 Address  2. Plant Limerick Generating Station Name  3146 Sanatoga Road, Pottstown, PA 19464 Repair Organization P.O. No., Job No. etc.  3. Work Performed by Exelon Nuclear Name Authorization No. Not applicable  3146 Sanatoga Road, Pottstown, PA 19464 Expiration Date Not applicable  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 Section XI Utilized for Repairs / Replacement Activity 2001 edition with addenda through 2003 (c) Applicable Section XI Code Case(s) N-686-1  Name of Name of Name of Manufacturer National Other Identification Year Corrected, Code Component Manufacturer Serial No. Board Other Identification Year Corrected, Stamped Stamped
2. Plant Limerick Generating Station Unit 2  Name  3146 Sanatoga Road, Pottstown, PA 19464 Repair Organization P.O. No., Job No. etc.  3. Work Performed by Exelon Nuclear 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 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  Name of Name of Name of Manufacturer National Other Identification Year Corrected, Code Component Manufacturer Serial No. Board Other Identification Year Corrected, Stamped Stamp
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 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 Section XI Odde Case(s) N-686-1  6. Identification of Components  Name of Name of Name of Manufacturer National Board Other Identification Year Corrected, Removed or Stamped Stamp
Name  3146 Sanatoga Road, Pottstown, PA 19464 Address Repair Organization P.O. No., Job No. etc.  3. Work Performed by Exelon Nuclear Name Name Authorization No. Not applicable  3146 Sanatoga Road, Pottstown, PA 19464 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 Name of Manufacturer National Board  Name of Component Manufacturer Serial No. Name of Serial No. Name of Code Case Stamped
Name  3146 Sanatoga Road, Pottstown, PA 19464 Address Repair Organization P.O. No., Job No. etc.  3. Work Performed by Exelon Nuclear Name Name Authorization No. Not applicable  3146 Sanatoga Road, Pottstown, PA 19464 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 Name of Manufacturer National Board  Name of Component Manufacturer Serial No. Name of Serial No. Name of Code Case Stamped
Address  Repair Organization P.O. No., Job No. etc.  Type Code Symbol Stamp None Name Authorization No. Not applicable  3146 Sanatoga Road, Pottstown, PA 19464 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 Name of Manufacturer National Other Identification Year Corrected, Code Camponent Manufacturer Serial No. Board Built Removed or Stamped
3. Work Performed by Exelon Nuclear Name  Type Code Symbol Stamp Authorization No.  Not applicable  3146 Sanatoga Road, Pottstown, PA 19464 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 Name of Name of Manufacturer National Other Identification Year Corrected, Code Camponent Manufacturer Serial No. Board  None Not applicable Not applic
Name  Authorization No. Not applicable  3146 Sanatoga Road, Pottstown, PA 19464  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 Name of Name of Manufacturer National Other Identification Year Corrected, Code Component Manufacturer Serial No. Board Removed or Stamped
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 Name of Name of Manufacturer Serial No. Board Other Identification Year Corrected, Removed or Stamped
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 Name of Manufacturer National Other Identification Year Corrected, Code Component Manufacturer Serial No. Board Other Identification Removed or Stamped
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 Name of Manufacturer National Other Identification Year Corrected, Code Component Manufacturer Serial No. Board Other Identification Removed or Stamped
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 Name of Manufacturer National Other Identification Year Corrected, Code Component Manufacturer Serial No. Board Other Identification Built Removed or Stamped
(b) Applicable Edition of Section XI Utilized for Repairs / Replacement Activity 20 <u>01 edition with addenda through 2003</u> (c) Applicable Section XI Code Case(s) N-686-1  6. Identification of Components  Name of Name of Name of Manufacturer National Other Identification Year Corrected, Code Component Manufacturer Serial No. Board Other Identification Built Removed or Stamped
(b) Applicable Edition of Section XI Utilized for Repairs / Replacement Activity 20 <u>01 edition with addenda through 2003</u> (c) Applicable Section XI Code Case(s) N-686-1  6. Identification of Components  Name of Name of Name of Manufacturer National Other Identification Year Corrected, Code Component Manufacturer Serial No. Board Other Identification Built Removed or Stamped
6. Identification of Components  Name of Name of Manufacturer Serial No. Board Other Identification Year Corrected, Removed or Stamped
Name of Name of Manufacturer National Other Identification Year Corrected, Code Component Manufacturer Serial No. Board Built Removed or Stamped
Name of Name of Manufacturer National Other Identification Year Corrected, Code Component Manufacturer Serial No. Board Built Removed or Stamped
Component Manufacturer Serial No. Board Built Removed or Stamped
No. Installed (Yes or No)
PSE-050-2D002   Continental
Vacuum support
* Traceability per Exelon stock code number.
<ul> <li>* Traceability per Exelon stock code number.</li> <li>7. Description of work: Replaced RCIC turbine exhaust outboard rupture disc and vacuum support holder.</li> </ul>

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

W/O No. R1258248 Sheet 2 of 2

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 StampNA
Certificate of Authorization NoNAExpiration DateNA
Signed
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 לאכונ ביי און איני ביי ביי און איני ביי ביי און איני ביי ביי און איני ביי ביי ביי און איני ביי ביי ביי ביי ביי ביי ביי ביי ביי
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.
Commissions14396_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 Gene Na	eration Company, L me	LC		Date		Aug	ust 17, 2016		
		Way, Kennett Squa	re, PA 19348	<u> </u>	Sheet _	1	_ of	2	ř	
2. Plant		nerating Station			Unit	-	¥)	2		
	3146 Sanato	g <u>a Road, Pottstowr</u> dress	PA 19464			Dono		k Order No. R112		to
	Add	aress				нера	ir Organiza	tion P.O. No., Jol	o ivo. e	ic.
3. Work Performed		elear ame			Type Co Authoriz	de Syr ation N	mbol Stam <sub>l</sub> No	o	N/A N/A	
		oga Road, Pottstowi dress	n PA 19464		Expiration	on Date	e		N/A	· · · · · · · · · · · · · · · · · · ·
4. Identification of S	System: Residua	l Heat Removal	(System 0	51)	Line No. GBB-201 Valve 051-2115B					
<ul><li>5. (a) Applicable (b) Applicable (c) Applicable</li><li>6. Identification of (c)</li></ul>	Edition of Section Section XI Code	e <u>ASME III</u> 19 I XI Utilized for Rep Case(s) <u>N/A</u>	airs or Repla						Case	×
Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.		ther ification	Ye	ear Built	Corrected Removed o Installed	,	ASME Code Stamped (Yes or No)
1-1/2" Check Valve Disc	Flowserve	Trace Code 43835-2 S/N 85	N/A	PO# 2	-85551 257797- 348		N/A	Installed	3	No
							8		OX .	
				14						
(6)							÷			
* Traceability per E	xelon stock code	<u>l</u> number.	L			1		<u> </u>		
7. Description of w			eck valve dis	sc.				*P * 0 * 0		
8. Tests conducted		☐ Pneumatic © N/A PSI Test T			ng Pressu	ıre 🗆	Exempt	•		

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

W/O No. R1127910 Sheet 2 of 2

Remarks : None	Manufacturada Data Dasada ta ha attachad
Applicable	e 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 StampNA	
Certificate of Authorization No. NA	Expiration Date NA
Signed Our W. L	J.H. Kramer (site weld administrator) Date August 17 , 2016
Owner's Designee, Title	
CERT	TIFICATE OF INSERVICE INSPECTION
I, the undersigned, holding a valid commissio	on 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, Conne	
in this Owner's Report during the period to the best of my knowledge and belief, the Ow	way 19, 2016 to Aulust 18, 2016, and state that uner has performed examinations and taken corrective measures described in this
Owner's Report in accordance with the requirem	nents of the ASME Code, Section XI.
	ector nor his employer makes any warranty, expressed or implied, concerning the
	ed in this Owner's Report. Furthermore, neither the Inspector nor his employer
	njury or property damage or a loss of any kind arising from or connected with this
inspection.	_
Inspector's Signature	Commissions 14396 A, N, I PA 3045  National Board, State, Province, and Endorsements
Inspector's Signature	National Board, State, Flovince, and Endoisements
Date Auhust 18, 20 16	_
• •	

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

				· · · · · · · · · · · · · · · · · · ·					
1. Owner		eration Company, L	Date _	Oc	ctober 9, 2015				
		<u>Way, Kennett Squa</u> dress	re, PA 19348	Sheet _	1 of	2			
2. Plant		nerating Station		Unit		2			
		ga Road, Pottstowi dress	n PA 19464			Order No. R1117651 tion P.O. No., Job No. e	etc.		
3. Work Perform	ed by <u>Exelon Nuc</u> Na	clear ame		Type C	ode Symbol Stamp	N/A N/A_			
		oga Road, Pottstow dress	n PA 19464	Expirati	Expiration DateN/A				
4. Identification of System: Core Spray (System 052) Line No. SP-GBB-213-03E PSV-052-						2-2F012A			
<ul> <li>(a) Applicable Construction Code <u>ASME III</u> 19.74 Edition, <u>Winter</u></li> <li>(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 2001 edition v</li> <li>(c) Applicable Section XI Code Case(s) <u>N-686-1</u></li> </ul>				Winter 1974 Addition with addenda	denda, <u>N/A</u> ( through 2003	Code Case			
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		
				5					
* Traceability pe	r Exelon stock code	number and purch	ase order	•	1		<del> </del>		
7. Description of	work: Replaced co	ore spray relief valve	e		-2 0				

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.

Nominal Operating Pressure ■ Exempt □

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\_\_\_275\_PSI Test Temp. N/A\_\_°F.

8. Tests conducted: Hydrostatic 

Pneumatic

Other 🗆

W/O No. R1117651 Sheet 2 of 2

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 StampNA
Certificate of Authorization No. NA Expiration Date NA
Signed
Owner or Owner's Designee, Title
OFFICATE OF INDEPWOE INDEPOTION
CERTIFICATE OF INSERVICE INSPECTION
I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State
or Province of <u>Pennsylvania</u> and employed by <u>HSB Global Standards</u> of  Hartford, Connecticut have inspected the components described
Hartford, Connecticut have inspected the components described in this Owner's Report during the period AV6UST 10, 2015 to OcroBER 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.
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	nerExelon Generation Company, LLC Name				Date	Au	gust 16, 2016	
	200 Exelon Way, Kennett Square, PA 19348 Address					of	2	
2. Plant	Plant Limerick Generating Station Name					y	2	
3146 Sanatoga Road, Pottstown PA 19464 Work Order No. R1336902 Address Repair Organization P.O. No., Job No. etc.								
3. Work Performed		clear ame			Type Coo	de Symbol Stan ation No.	np <u>N/A</u> N/A	
		oga Road, Pottstowi dress	n PA 19464		Expiratio	n Date	N/A	
4. Identification of S	System: <u>HPCI Tu</u>	ırbine & Condenser	(Systen	n 056)	Line No.	HBB-208	Relief Valve PSV	-056-2F018_
(b) Applicable (c) Applicable	<ul> <li>(a) Applicable Construction Code <u>ASME III</u> 19 74 Edition, <u>Summer 1974</u> Addenda, <u>N/A</u> Code Case</li> <li>(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 2001 edition with addenda through 2003</li> <li>(c) Applicable Section XI Code Case(s) <u>N-686-1</u></li> <li>6. Identification of Components</li> </ul>							
Name of Name of Manufacturer Serial No.  Name of Manufacturer Serial No.  Name of Manufacturer Serial No.  No.  Name of Manufacturer Serial No.  No.  No.  No.  No.  No.  No.  No.						ASME Code Stamped (Yes or No)		
PSV-056-2F018	Lonergan	S/N 133975-2-1	N/A		-77937 655922	1993	Installed	Yes
	<u>ē</u>							
	2							
* Traceability per E	xelon stock code	number.	L		-	•		
7. Description of w	ork: Replaced H	PCI barometric con	denser relief	valve.				E
8. Tests conducted	d: Hydrostatic Other 🗖	☐ Pneumatic ☐ -18 inch vacuum					t 🗆	

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

W/O No. R1336902 Sheet 2 of 2

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 StampNA						
Certificate of Authorization No. NA Expiration Date NA						
Signed J.H. Kramer (site weld administrator) Date August 16 , 2016						
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 AV4V5T 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.						
Commissions 14396 A, N, I PA 3045 Inspector's Signature National Board, State, Province, and Endorsements						
A 10						
Date Avhvsa 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 Gener Nan	ation Company, LL	С	Date	Dece	ember 19, 2015			
<u>a</u>	/ay, Kennett Square	Sheet1	of	2					
2. Plant	erating Station ne	Unit		2					
	3146 Sanatog Addr	a Road, Pottstown, ess	PA 19464			R1142949 & R128140 on P.O. No., Job No.			
3. Work Performed	by <u>Exelon Nucle</u> Nar			Type Code Sym Authorization No	nbol Stamp o.	None Not applicat	ole		
	3146 Sanato Addr	ga Road, Pottstowr ess	n, PA 19464	Expiration Date		Not applicat	ole		
4. Identification of S	System Emergend	cy Diesel Generator	r (System (	092) <u>Line No. 2A-G</u> 5	501-DR Co	mbustion Air			
<ul> <li>5. (a) Applicable Construction Code <u>Manufacturers Standard</u> 19 <u>N/A</u> Edition, <u>N/A</u> Addenda, <u>N/A</u> Code Case</li> <li>(b) Applicable Edition of Section XI Utilized for Repairs / Replacement Activity 2001 edition with addenda through 2003</li> <li>(c) Applicable Section XI Code Case(s) <u>N/A</u></li> </ul>									
6. Identification of 0	Domponents		1				T		
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		
	50	25	1						
œ									
* Traceability per E	xelon stock code r	number and purcha	se order						
7. Description of w	ork: Replaced di	esel generator engi	ne crankcase	ejector flexible coupling	J				
8. Tests conducted				Operating Pressure ter Head Test Temp.					

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

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

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
Signed J.H. Kramer (site weld administrator) Date December 19, 2015 Owner or Owner's Designee, Title
O Similar of Camillar of Boolighoot, That
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.
Commissions 14396 A, N, I PA 3045  Inspector's Signature National Board, State, Province, and Endorsements
Tradicial Social, State, Floring, and Endoscinonis
Date JANUALY 4, 20 16

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

1. Owner	. Owner Exelon Generation Company, LLC  Name			Date	Febru	ary 18, 2016	
		Way, Kennett Square	e, PA 19348	Sheet	1 of	2	
2. Plant		nerating Station ame		Unit		2	
		ga Road, Pottstown I dress			R1321427 & R13111 on P.O. No., Job No. e		
3. Work Perform	med by <u>Exelon Nuc</u>	clear ame	Type Code	Symbol Stamp	N/A N/A		
		<u>oga Road, Pottstown</u> dress	PA 19464	Expiration D	Date	N/A	
4. Identification	of System : Emerge	ncy Diesel Generator	r (System-09	92 ) Line No. 2	2AG-JW	2A	-P530
(b) Applica	ble Construction Cod ble Edition of Section ble Section XI Code of Components:	N XI Utilized for Repair	ir / Replacem	19 N/A nent Activity: 2001 e	_Edition, <u>N/A</u> dition with adde	Addenda, N/A nda through 2003	_Code Case
o. Identilication	roi 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		* 114-02451	N/A	Removed	No		
				,			
	_						
* Traceability p	I er Exelon part code n	umber and manufact	ı turer's serial r	number.	1		1
7. Description	of Work: Replaced	emeraency diesel ae	nerator iacket	water circulating ou	ımp.		
8. Tests condu	icted: Hydrostatic	☐ Pneumatic ☐ Pressure <u>32</u> P	Nominal Ope		-		
tion in item						/2 in. x 11 in., (2) info the number of sheets	

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

Work Order# R1321427 & R1311117 Sheet 2 of 2

9.	Remarks: <u>Jacket water pump S/N SYZ01567-A1-RX was removed from 2B-P530 location under Exelon work order R1311117 in 2015.</u>
	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 StampNA
	Certificate of Authorization No. NA Expiration Date NA
	Signed
	Owner or Owner's Designee, Title
Г	
	CERTIFICATE OF INSERVICE INSPECTION
8	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
	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.
	Commissions14396_A, N, I PA 3045
	Inspector's Signature Commissions 14396 A, N, 1 PA 3045  National Board, State, Province, and Endorsements
	Date
1	<i>(</i>

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

			·			<del></del>		
1. Owner	Exelon Gener	ration Company.	LLC	Date	Dec	ember 19, 2015		
Name								
	200 Exelon W Addr	/ay, Kennett Squ ress	are, PA 19348	Sheet _	of	2		
2. Plant	Limerick Gen	erating Station		Unit		2		
2. Han	Nar							
	3146 Sanatoo	a Road. Pottstov	vn PA 19464		Work	Order No. R1174130		
	Addr				Repair Organiza	tion P.O. No., Job No. e	etc.	
3. Work Perform	ed by <u>Exelon Nucl</u>	ear		Type Co	de Symbol Stamp	N/A		
	Nar			Authoriza	ation No.	N/A		
	3146 Sanatog Addr	ga Road, Pottstov	wn PA 19464	Expiratio	n Date	N/A		
4. Identification of	of System: Emergend	cy Service Water	(Syster	n 011) Line No.	HBC-292	XJ-0	11-201A	
(b) Applicab (c) Applicab	<ul> <li>(a) Applicable Construction Code <u>Manufacturers Standard</u> 19 <u>N/A</u> Edition, <u>N/A</u> Addenda, <u>N/A</u> Code Case</li> <li>(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 2001 edition with addenda through 2003</li> <li>(c) Applicable Section XI Code Case(s) <u>None</u></li> <li>6. Identification of Components Repaired or Replaced and Replacement Components</li> </ul>							
	,	•		,	ı	ı		
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	
S.	-							
* Traceability pe	r Exelon stock code i	number.		1		1	.L	
7. Description o	f work: Replaced die	sel generator cod	oling water exp	pansion joint for pre	eventive maintena	ince.		
8. Tests conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ■ Exempt ☐ Other ☐ <u>90</u> PSI Test Temp. <u>N/A</u> °F.								
tion in items						1/2 in. x 11 in., (2) info		

Page 29 of 54

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

W/O No. R1174130 Sheet 2 of 2

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 StampNA  Certificate of Authorization NoNAExpiration DateN  Signed	9. Remarks : None
Certificate of Authorization No. NA Expiration Date National Date National Date National Date National Date National Expiration Date National Date Nationa	Applicable Manufacturer's Data Reports to be attached
Certificate of Authorization No. NA Expiration Date National Date National Date National Date National Date National Expiration Date National Date Nationa	
Certificate of Authorization No. NA Expiration Date National Date National Date National Date National Date National Expiration Date National Date Nationa	
Certificate of Authorization No. NA Expiration Date National Date National Date National Date National Date National Expiration Date National Date Nationa	
Certificate of Authorization No. NA Expiration Date National Date National Date National Date National Date National Expiration Date National Date Nationa	
Certificate of Authorization No. NA Expiration Date National Date National Date National Date National Date National Expiration Date National Date Nationa	
Certificate of Authorization No. NA Expiration Date National Date National Date National Date National Date National Expiration Date National Date Nationa	
Certificate of Authorization No. NA Expiration Date National Date National Date National Date National Date National Expiration Date National Date Nationa	
Certificate of Authorization No. NA Expiration Date NA  Signed J.H. Kramer (site weld administrator) Date December 19, 2015  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 Normale (P. 2015 to Namer 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.  Commissions 14396 A, N, I PA 3045 National Board, State, Province, and Endorsements	CERTIFICATE OF COMPLIANCE
Certificate of Authorization No. NA Expiration Date	I certify that the statements made in the report are correct and that this conforms to the requirements of the ASME Code, Section XI.
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 (9, 2015) to Navember (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.  Commissions 14396 A, N, 1 PA 3045  Inspector's Signature  National Board, State, Province, and Endorsements	Type Code Symbol StampNA
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 (9, 2015) to Navember (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.  Commissions 14396 A, N, 1 PA 3045  Inspector's Signature  National Board, State, Province, and Endorsements	Certificate of Authorization No NA Expiration Date N
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 Noverbell (9, 2015 to Saward 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.  Commissions 14396 A, N, 1 PA 3045  Inspector's Signature National Board, State, Province, and Endorsements	0 11 1)
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 12, 2015 to Navary 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.  Commissions 14396 A, N, I PA 3045  National Board, State, Province, and Endorsements	
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 12, 2015 to Navary 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.  Commissions 14396 A, N, I PA 3045  National Board, State, Province, and Endorsements	
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 12, 2015 to Navary 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.  Commissions 14396 A, N, I PA 3045  National Board, State, Province, and Endorsements	
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 Power 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  National Board, State, Province, and Endorsements	CERTIFICATE OF INSERVICE INSPECTION
have inspected the components described in this Owner's Report during the period November 12, 2016 to Savar 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.  Commissions 14396 A, N, I PA 3045  Inspector's Signature National Board, State, Province, and Endorsements	
in this Owner's Report during the period November 19, 2015 to Savared 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.  Commissions 14396 A, N, I PA 3045  Inspector's Signature National Board, State, Province, and Endorsements	
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  National Board, State, Province, and Endorsements	
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	· · · · · · · · · · · · · · · · · · ·
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  National Board, State, Province, and Endorsements	
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	
Inspection.  Commissions 14396 A, N, I PA 3045  National Board, State, Province, and Endorsements	examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer
Commissions 14396 A, N, I PA 3045 Inspector's Signature National Board, State, Province, and Endorsements	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
Inspector's Signature National Board, State, Province, and Endorsements	inspection.
Inspector's Signature National Board, State, Province, and Endorsements	
	Commissions 14396 A, N, I PA 3045
Date	Inspector's Signature National Board, State, Province, and Endorsements
	Date

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

1. Owner	Exelon Gener		LLC	Da	ate	Dece	ember 19, 2015	
	Nan	ne						
	200 Exelon W Addr	<u>/ay, Kennett Squ</u> ess	are, PA 19348	3 Sh	eet	_1 of	2	
2. Plant	Limerick Gen	erating Station		l Ir	nit		2	
z. riant	Nar							
		a Road, Pottstov	vn PA 19464				Order No. R1174131	
	Addr			_			ion P.O. No., Job No. 6	
Work Perform	ed by <u>Exelon Nucl</u> Nar			I y Au	/pe Cod uthoriza	le Symbol Stamp tion No.	N/A N/A	
	3146 Sanatog	ga Road, Pottstov	vn PA 19464	Ex	piration	n Date	N/A	
	Addı	ess						
4. Identification of	of System: Emergend	cy Service Water	(Syster	m 011) <u>Lir</u>	ne No. I	HBC-295	XJ-0	11-202A
5. (a) Applicable	e Construction Code	Manufacturers	s Standard	19 N//	A Ed	dition. N/A	Addenda. N/A	Code Case
(b) Applicab	le Edition of Section : le Section XI Code C	XI Utilized for Re	pairs or Repla	cements: 20	001 editi	ion with addenda	through 2003	
	of Components Repa		— and Banlacer	nent Compo	nonte			
o. identification	л сотпропена пера	Ted of Fieplaced	г геріасеі	г	1			1
Name of	Name of	Manufacturer	National	Other	.	Year Built	Corrected,	ASME Code
Component	Manufacturer	Serial No.	Board No.	Identifica	tion		Removed or Installed	Stamped (Yes or
								No)
XJ-011-202A	Colt Industries, Fairbanks Morse	Part No. 12994129	N/A	* 114-780 PO# 1676		N/A	Installed	No
	Engine	12001120		1340		1,4/,1		
							7	
* Traceability no	er Exelon stock code i	number						<u> </u>
			line weter over		fa.,			
7. Description o	f work: Replaced die	sei generator cod	ning water ext	ansion <u>joint</u>	tor prev	ventive maintena	nce.	
8. Tests conduc	eted: Hydrostatic D	Pneumatic 90 PSI Tes		al Operating /A°F.	Pressui	re Exempt		
tion in items							1/2 in. x 11 in., (2) info d the number of sheets	

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

W/O No. R1174131 Sheet 2 of 2

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 StampNA
Certificate of Authorization No. NA Expiration Date NA
Signed
Owner's Designee, Title
CERTIFICATE OF INSERVICE INSPECTION
I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State
or Province of <u>Pennsylvania</u> and employed by <u>The Hartford Steam Boiler Inspection and Insurance Company of Connecticut</u>
in this Owner's Report during the period November 19, 2015 to Sawaly 12, 2016, and state that
in this Owner's Report during the period November 19, 2015 to Savary 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.
Commissions 14396 A, N, I PA 3045
Inspector's Signature National Board, State, Province, and Endorsements
Date

1. Owner		eration Company, LL	С	Date	Nove	mber 11, 2015				
	200 Exelon \	ame <u>Vay, Kennett Square</u> dress	, PA 19348	Sheet1	of	2				
2. Plant Limerick Generating Station Unit 2										
		ame ga Road, Pottstown F		Work Orde	er # R1311117					
		dress				on P.O. No., Job No. e	tc.			
3. Work Perforr	ned by <u>Exelon Nuc</u>			Type Code S	Symbol Stamp	N/A				
	Na	ame			No					
		<u>oga Road, Pottstown</u> dress	PA 19464	Expiration Da	ate	N/A				
4. Identification	4. Identification of System : Emergency Diesel Generator (System-092) Line No. 2BG-JW 2B-P530									
(b) Applica	(b) Applicable Edition of Section XI Utilized for Repair / Replacement Activity: 2001 edition with addenda through 2003									
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			
							<u>.</u>			
* Traceability p	er Exelon part code n	umber and manufact	turer's serial r	number.						
7. Description	of Work: Replaced	emergency diesel ger	nerator jacket	water circulating pu	mp.					
8. Tests condu		☐ Pneumatic ☐ Pressure <u>13</u> P		erating Pressure emp. N/A °F.	Exempt					
tion in item	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.									

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Work Order# R1311117 Sheet 2 of 2

9. Remarks: <u>Jacket water pump S/N 386339 was removed from 1B-P530 location under Exelon work order R1311115 in 2015.</u> 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 StampNA
Certificate of Authorization No. NA Expiration Date NA
Signed
Cwiler of Cwiler a 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
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.
Commissions14396_A, N, I PA 3045
Inspector's Signature National Board, State, Province, and Endorsements
Date November 13, 20 5

1. (	Owner		Exelon Gene Nar		LLC	<u>-</u>	Date	Nove	ember 12, 2015	
			200 Exelon V	Vay, Kennett Squ	are. PA 19348	3	Sheet	1 of	2	
	-		Add		<u></u>					
2. F	Plant .		Limerick Generating Station Name				Unit		22	
	3146 Sanatoga Road, Pottstown PA 19464							Work (	Order No. R1174134	
	-		Add		WIFA 19404		-		ion P.O. No., Job No.	etc.
3. \	Work F	Perform	ed by <u>Exelon Nucl</u>				Type Cod	de Symbol Stamp	N/A	
				me				ation No		
				ga Road, Pottstov ress	wn PA 19464		Expiration	n Date	N/A	
4. I	dentifi	ication c	of System: Emergen	cy Service Water	(Syster	m 011)	Line No.	HBC-292	XJ-	011-201B
5. (	5. (a) Applicable Construction Code <u>Manufacturers Standard</u> 19 <u>N/A</u> Edition, <u>N/A</u> Addenda, <u>N/A</u> Code Case (b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 2001 edition with addenda through 2003							_Code Case		
			le Section XI Code C						3	
6. I	Identifi	ication o	of Components Repa	ired or Replaced	and Replacer	nent Cor	mponents			
	Name ompor		Name of Manufacturer	Manufacturer Serial No.	National Board No.	_	ther ification	Year Built	Corrected, Removed or Installed	ASME Code Stamped (Yes or No)
ΧJ	-011-2	201B	Colt Industries, Fairbanks Morse Engine	Part No. 12994129	N/A	PO#	78083 167610- 120	N/A	installed	No
* T	racea	bility pe	r Exelon stock code	number.	1	L		l .		
7.	Descr	iption of	work: Replaced die	sel generator coc	oling water exp	ansion j	oint for pre	ventive maintena	nce.	
8.	Tests	conduc	ted: Hydrostatic C	Pneumatic   115_PSI Te		al Operat N/A°F	ing Pressu :	re Exempt	0	
									1/2 in. x 11 in., (2) info	

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recorded at the top of this form.

W/O No. R1174134 Sheet 2 of 2

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 StampNA
Certificate of Authorization NoNA Expiration DateNA
Signed
Oviner 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 Awys 14, 2015 to November 18, 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.

1. Owner	Exelon Gene Nar	LLC		Date	Nove	ember 12, 2015		
·	200 Exelon V Addı	<u>/ay, Kennett Squ</u> ress	are, PA 19348	3	Sheet _	of	2	
2. Plant		erating Station			Unit2			
Name 3146 Sanatoga Road, Pottstown PA 19464							Order No. R1174136	
	Addı	ess				Repair Organizat	ion P.O. No., Job No. e	itc.
3. Work Perform	ned by <u>Exelon Nucl</u> Nar				Type Coo Authoriza	de Symbol Stamp	N/A N/A	
	3146 Sanatoo	ga Road, Pottstov	wn PA 19464		Expiration	n Date	N/A	
4. Identification of System: Emergency Service Water (System 011) Line No. HBC-295 XJ-011-202B								
<ul> <li>5. (a) Applicable Construction Code Manufacturers Standard 19 N/A Edition, N/A Addenda, N/A Code Case</li> <li>(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 2001 edition with addenda through 2003</li> <li>(c) Applicable Section XI Code Case(s) None</li> <li>6. Identification of Components Repaired or Replaced and Replacement Components</li> </ul>								
Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	_	ther ification	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	PO#	78083 167610- 120	N/A	Installed	No
* Traceability pe	er Exelon stock code	number.						
7. Description of	f work: Replaced die	sel generator coo	oling water exp	ansion j	oint for pre	ventive maintena	nce.	
8. Tests conduc	oted: Hydrostatic C	Pneumatic (			ing Pressu	re Exempt	0	
							1/2 in. x 11 in., (2) info	

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recorded at the top of this form.

W/O No. R1174136 Sheet 2 of 2

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 StampNA
Certificate of Authorization No. NA Expiration Date NA
Signed
CERTIFICATE OF INSERVICE INSPECTION
CENTIFICATE OF INSERVICE INSPECTION
I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State
or Province of <u>Pennsylvania</u> and employed by <u>HSB Global Standards</u> Hartford, Connecticut have inspected the components described
in this Owner's Report during the period AULUST 14, 2015 to NOVERBER 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.

1. Owner	Exelon Gene	ration Company, LL	.C	Date	Feb	ruary 18, 2016		
	Nar					,,		
	200 Exelon V Addr	/ay, Kennett Square	e, PA 19348	Sheet 1	_ of	2		
2. Plant	Limerick Gen Nar			Unit		2		
		a Road, Pottstown,		Work Order	r No. R1159699			
	Addı		177 10-10-1	Repai	Work Order No. R1159699  Repair Organization P.O. No., Job No. etc.			
3. Work Performed	Type Code Syr	mbol Stamp	None					
	Nar	me		Authorization N	lo	Not applicat	ole	
-	3146 Sanato	ga Road, Pottstown	n, PA 19464	Expiration Date		Not applicat	ole	
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	
						16		
		=						
* Traceability per E	xelon stock code i	number and purcha	se order		1			
7. Description of w	ork: Replaced di	esel generator engi	ne crankcase	ejector flexible coupling	g			
8. Tests conducted	The second secon			Operating Pressure	Exempt □	1		
	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

W/O No. R1159699 Sheet 2 of 2

). Remarks <u>: none</u>
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.
Certificate of Authorization No NA Expiration Date N/
Signed J.H. Kramer (site weld administrator) Date February 18 , 2016 Owner or Owner's Designee, Title
OFFICIANTS OF INDEPLYOF INDEPLYOR
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 have inspected the components described
in this Owner's Report during the period
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 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 Gener Nan	ation Company, LLo	C	Date	Ma	arch 10, 2016		
	200 Exelon Way, Kennett Square, PA 19348 Address					2		
2. Plant	Limerick Gene Nar	erating Station ne	Unit		2			
	3146 Sanatog Addr	a Road, Pottstown, ess	PA 19464		Work Order No. R1286516 Repair Organization P.O. No., Job No. etc.			
3. Work Performed	by <u>Exelon Nucle</u> Nar		Type Code Sym Authorization No	nbol Stamp o.	None Not applical	ole		
3146 Sanatoga Road, Pottstown, PA 19464 Expiration Date Not applicable								
4. Identification of S	System <u>Emergend</u>	cy Diesel Generator	(System 0	092) Line No. 2C-G	501-DR Co	mbustion 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	
		3.	*				190	
5	2 9	10						
* Traceability per E	xelon stock code r	number and purchas	se order					
7. Description of w	ork: Replaced di	esel generator engir	ne exhaust n	nanifold cap screws.		5 <b>4</b> 3		
8. Tests conducted		I Pneumatic □ est Pressure: N/A		Operating Pressure  Gest Temp. N/A	Exempt	2		

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

W/O No. R1286516 Sheet 2 of 2

Remarks: none	
Applicable Manufacturer's Data Re	eports to be attached
*	150
	THE RESERVE OF THE PERSON OF T
CERTIFICATE OF COM	APLIANCE
I certify that the statements made in the report are correct and that this con	nforms to the requirements of the ASME Code, Section XI.
Type Code Symbol StampNA	
Certificate of Authorization No. NA	Expiration Date
	weld administrator) Date March 10 , 2016
Signed J.H. Kramer (site Owner's Designee, Title	e weid administrator) Date <u>March 10</u> , 20 <u>16</u>
1 8	
CERTIFICATE OF INSERVIO	CE INSPECTION
I, the undersigned, holding a valid commission issued by the National I	Board of Boiler and Pressure Vessel Inspectors and the State
or Province of Pennsylvania and employed by The Hartford Steam	
Hartford, Connecticut	have inspected the components described
in this Owner's Report during the period	to MARCH (o, 2016, and state that
to the best of my knowledge and belief, the Owner has performed exar	
Owner's Report in accordance with the requirements of the ASME Code By signing this certificate neither the Inspector nor his employer management	e, Section XI. akes any warranty, expressed or implied, concerning the
examinations and corrective measures described in this Owner's Report	t. Furthermore, neither the Inspector nor his employer
shall be liable in any manner for any personal injury or property damage	e or a loss of any kind arising from or connected with this
inspection.	
Commission	ns 14396 A, N, I PA 3045
Inspector's Signature	National Board, State, Province, and Endorsements
14.4	
Date NURCH 10, 2016	

1. Owner		eration Company, LL	С	Date	Ma	arch 8, 2016	(*)	
	200 Exelon	<u>Way, Kennett Square</u> dress	e, PA 19348	Sheet1	of	2	<u></u>	
2. Plant		nerating Station ame		Unit		2		
		ga Road, Pottstown I dress	Re	Work Order # R1326515 & R1321427 Repair Organization P.O. No., Job No. etc.				
3. Work Perfor	med by <u>Exelon Nuc</u> Na	clear ame	Type Code S	Type Code Symbol Stamp N/A Authorization No. N/A				
	3146 Sanat	oga Road, Pottstown	PA 19464	Expiration D	ate	N/A		
Address 4. Identification of System: Emergency Diesel Generator (System-092) Line No. 2CG-JW 2C-P530							C-P530	
<ul> <li>5. (a) Applicable Construction Code Manufacturer's Standard</li> <li>(b) Applicable Edition of Section XI Utilized for Repair / Replacement Activity: 2001 edition with addenda through 2003</li> <li>(c) Applicable Section XI Code Case(s) N-686-1</li> <li>6. Identification of Components:</li> </ul>								
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	
	26							
						=		
* Traceability p	per Exelon part code r	number and manufact	turer's serial r	number.	1			
7. Description	of Work: Replaced	emergency diesel ge	nerator jacket	water circulating pu	mp.			
8. Tests cond		☐ Pneumatic ☐ Pressure <u>32</u> F		erating Pressure emp. <u>N/A</u> °F.	Exempt			
tion in item	pplemental sheets in ns 1 through 6 on this at the top of this form.	form of lists, sketcher report is included on	s, or drawings each sheet, a	s may be used, provi and (3) each sheet is	ded (1) size 8 1 numbered and	1/2 in. x 11 in., (2) info	orma- s is	

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

Work Order# R1326515 & R1321427 Sheet 2 of 2

CERTIFICATE OF COMPLIANCE  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  Pertificate of Authorization No.  NA  Expiration Date  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  In this Owner's Report during the period  ABAMET II, 2016 to MACH 1, 2016 and state the 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 entilister 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  National Board, State, Province, and Endorsements		Applicable Manufacturer's Data Reports to be attached
Certificate of Authorization No. NA Expiration Date  Signed J.H. Kramer, site weld administrator Date March 8 , 2016  CERTIFICATE OF INSERVICE INSPECTION  I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the Star or Province of Pennsylvania and employed by The Hartford Steam Boiler Inspection and Insurance Company of Connecticut have inspected the components described in this Owner's Report during the period Application of March 1, 2016 to March 1, 2016 and state the 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 National Board, State, Province, and Endorsements	The pump was rebuil	nder work order R1321427. No pressure boundary parts were repaired or replaced.
Certificate of Authorization No. NA Expiration Date  Signed J.H. Kramer, site weld administrator Date March 8 , 2016  CERTIFICATE OF INSERVICE INSPECTION  I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the Star or Province of Pennsylvania and employed by The Hartford Steam Boiler Inspection and Insurance Company of Connecticut have inspected the components described in this Owner's Report during the period Application of March 1, 2016 to March 1, 2016 and state the 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 National Board, State, Province, and Endorsements		
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Certificate of Authorization No. NA Expiration Date  Signed 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 Stat or Province of Pennsylvania and employed by The Hartford Steam Boiler Inspection and Insurance Company of Connecticut have inspected the components described in this Owner's Report during the period have inspected the components described in 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, 1 PA 3045  National Board, State, Province, and Endorsements		CERTIFICATE OF COMPLIANCE
Certificate of Authorization No. NA Expiration Date  Signed 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 Stat or Province of Pennsylvania and employed by The Hartford Steam Boiler Inspection and Insurance Company of Connecticut have inspected the components described in this Owner's Report during the period have inspected the components described in 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, 1 PA 3045  National Board, State, Province, and Endorsements	I certify that the state	nts made in this report are correct and that this conforms to the requirements of the ASMF Code. Section X
CERTIFICATE OF INSERVICE INSPECTION  I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the Star or Province of Pennsylvania and employed by The Hartford Steam Boiler Inspection and Insurance Company of Connecticut on Hartford, Connecticut have inspected the components described in this Owner's Report during the period Annual II, 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.  Commissions 14396 A, N, I PA 3045 National Board, State, Province, and Endorsements		
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Hartford, Connecticut in this Owner's Report during the period  JAPUAL II, 2016 to  MACH 9, 2016  , and state the 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		•
in this Owner's Report during the period	or Province of Pe	
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	in this Owner's Re	
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inspection.  Commissions 14396 A. N. I PA 3045 Inspector's Signature National Board, State, Province, and Endorsements		
Commissions 14396 A, N, I PA 3045 Inspector's Signature National Board, State, Province, and Endorsements		Trainer for any personal rightly or property darriage of a feet of any faint another form of connected that another
Inspector's Signature National Board, State, Province, and Endorsements		
Inspector's Signature National Board, State, Province, and Endorsements		Commissions 14396 A. N. I PA 3045
Data M4 C4 9 20 1/2	Ins	
	Data 11	CH 9 2016

		5				6	
1. Owner		eration Company, LL	С	Date	Ma	rch 26, 2016	
	Na	ame					
		Vay, Kennett Square Iress	, PA 19348	Sheet	1 of	2	-
0.51							
2. Plant		nerating Station ame		Unit		2	
	21/6 Sanata	ga Road, Pottstown F	24 10464		Work Order #	R1323629 & C02082	204
,		ga <u>Hoad, Folislowii r</u> dress	A 19404			on P.O. No., Job No.	
3. Work Performe	ed by <u>Exelon Nuc</u>	elear		Type Code	Symbol Stamp	N/A	
		ame			n No.		
	3146 Sanate	oga Road, Pottstown	PA 19464	Expiration D	)ate	N/A	
4 Identification of		dress ncy Diesel Generator	(System-09	22) Line No. 3	CG-Lube		2C-P535
		e <u>Manutacturer's Sta</u> IXI Utilized for Repai				Addenda, N/A nda through 2003	_Code Case
(c) Applicabl	le Section XI Code	Case(s) <u>N-686-1</u>	_				
6. Identification o	of Components:						
I	20						1
Name of	Name of	Manufacturer	National	Other	Year Built	Corrected,	ASME Code
Component	Manufacturer	Serial No.	Board	Identification		Removed or	Stamped
		807	No.			Installed	(Yes or No)
2C-P535							
Lube Oil	Colt Industries	1097576	N/A	* 114-79615	N/A	Installed	No
Circulating Pump		_					
2C-P535				a 2		= _	
Lube Oil Circulating	Colt Industries	1401191	N/A	* 114-79615	N/A	Removed	No
Pump						25	
* Traceability per	Exelon part code n	l umber and manufact	L turer's serial r	l number.			
7. Description of	Work: Replaced	emergency diesel ger	nerator lube o	oil circulating pump.			
8. Tests conduct	ted: Hydrostatic  Other □	☐ Pneumatic ☐ Pressure <u>5 inches</u>	Nominal Ope	erating Pressure Test Temp. N/A	Exempt		*
NOTE: Commit						(O in v 11 in (O) !	
tion in items						/2 in. x 11 in., (2) inf I the number of sheet	

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

Work Order# R1323629 & C0208224 Sheet 2 of 2

9. Remarks: <u>Lube oil pump S/N 1097576 was removed from 2C-P535 location under Exelon work order C0208224 in 2004.</u> 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 StampNA
Certificate of Authorization No. NA Expiration Date NA
Signed
Owner or Owner's Designee, Title
CERTIFICATE OF INSERVICE INSPECTION
I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State
or Province of <u>Pennsylvania</u> and employed by <u>The Hartford Steam Boiler Inspection and Insurance Company of Connecticut</u> of Hartford, Connecticut have inspected the components described
in this Owner's Report during the period
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  This pector's Signature National Board, State, Province, and Endorsements
Date MARCH 26, 2016

1. Owner	Exelon Gener		LLC	Date	Feb	ruary 18, 2016	
			DA 1001	Olever 1	4 .6		
	200 Exelon W Addr	/ay, Kennett Squ ress	are, PA 19348	Sheet _	1 of	2	
2. Plant	Limerick Gen	erating Station		Unit		2	
	Nar				2		
_		a Road, Pottstov	vn PA 19464		Work	Order No. R1174656	
	Addı	ress			Repair Organizat	tion P.O. No., Job No. 6	etc.
3. Work Perform	ed by <u>Exelon Nucl</u> Nar				de Symbol Stamp ation No.	N/A	
	3146 Sanatoo Addi	g <u>a Road, Pottstov</u> ress	<u>wn PA 19464</u>	Expiratio	n Date	N/A	
4 Identification	of System: Emergen	cy Sarvica Water	· (System	m ()11) Line No.	HBC-292	XJ-0	11-201C
1. Idontinoation	or Gyotom. <u>Emorgon</u>	oy corvido rvator	(Oyoto	<u> </u>	1100 202	7,0 0	11 2010
5. (a) Applicabl	e Construction Code	Manufacturer	s Standard	19 <u>N/A</u> _E	dition, N/A	_Addenda, N/A	_Code Case
	le Edition of Section : le Section XI Code C			cements: 2001 edi	tion with addenda	through 2003	
6. Identification (	of Components Repa	irea or Repiacea	and Replacer	nent Components			
N				011	V 5 "		ASME
Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Corrected, Removed or	Code Stamped
						Installed	(Yes or No)
	Colt Industries,	Part No.		* 114-78083			1.07
XJ-011-201C	Fairbanks Morse	12994129	N/A	PO# 167610-	N/A	Installed	No
	Engine			1298			
						-	
						-	
						F	
* Traceability pe	er Exelon stock code	number.			•		· ·
7. Description o	f work: Replaced die	sel generator cod	oling water exp	pansion joint for pre	eventive maintena	nce.	
8. Tests conduc	eted: Hydrostatic	D Pneumatic 110 PSI Te		l Operating Pressu	ure <b>E</b> Exempt		
tion in items						1/2 in. x 11 in., (2) info d the number of sheets	

Page 47 of 54

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

W/O No. R1174656 Sheet 2 of 2

Remarks: None	Applicable Manufacti	urer's Data Reports t	o be attached		
	Applicable Mailalact	aror o Bata Proporto I	o bo allaonoa		
				A Section of Section 1	
1.000		****			
	CERTIFIC	ATE OF COMPLIAN	ICE		
I certify that the statements made	in the report are correct an	d that this conforms	to the requirements	of the ASME Code Section N	1
r certify that the statements made			•	•	.i.
Type Code Symbol Stamp	NA				
Certificate of Authorization No	NA NA			Expiration Date	N
Signed Ca. J) V	J.H. ł	Cramer (site weld ad	ministrator) Date	February 18 , 2016	
Owner or Owner's Design		-			_
		9.			
	CERTIFICATE	OF INSERVICE INS	PECTION		
I, the undersigned, holding a va	alid commission issued by	the National Board o	f Boiler and Pressu	re Vessel Inspectors and the S	State
or Province of Pennsylvania	_and employed by <u>The Ha</u>	tford Steam Boiler In	nspection and Insura	ance Company of Connecticut	_
	Hartford, Connecticut	10 - 12		pected the components descri	
in this Owner's Report during t				27 19, 2016 , and state	
to the best of my knowledge a				tive measures described in thi	3
Owner's Report in accordance By signing this certificate n				ed or implied, concerning the	
examinations and corrective me					
shall be liable in any manner fo	r any personal injury or pro	perty damage or a lo	ss of any kind arisir	ng from or connected with this	
inspection.					
	Co	mmissions 14396	A. N. I PA 304	5	
Inspector's Sign				vince, and Endorsements	
Date FEBRUARY 9,	2016.				

1 Owne	r	Exelon Gene	ration Company	II.C		Date	Fah	ruary 18, 2016	
i. Owno		Nar		LLO		Date	100	dary 10, 2010	К
			/ay, Kennett Squ	are, PA 19348	3	Sheet _	of	2	
		Addr							
2. Plant		Limerick Gen Nar	erating Station ne			Unit		2	
		3146 Sanaton	a Road, Pottstov	vn PA 19464			Work	Order No. R1140030	
-		Addı		WII 7 10 10 10 1			Repair Organizat	ion P.O. No., Job No.	etc.
3. Work	Perform	ed by <u>Exelon Nucl</u>				Type Co	de Symbol Stamp	N/A	
		Nar					ation No.		
		3146 Sanatog Addi	g <u>a Road, Pottstov</u> ress	wn PA 19464		Expiratio	n Date	N/A	
4. Identi	fication o	of System: Emergen	cv Service Water	(Syster	m 011)	Line No.	HBC-295	XJ-	011-202C
			-		·············				
		e Construction Code						Addenda, N/A	_Code Case
		le Section XI Code C			cements.	2001 601	lion with addenda	1110ugi1 2003	
6. Identi	fication o	of Components Repa	ired or Replaced	and Replacen	nent Com	ponents			
			15.						ASME
Name		Name of	Manufacturer	National		her	Year Built	Corrected,	Code
Compo	nent	Manufacturer	Serial No.	Board No.	Identii	ication	a.	Removed or Installed	Stamped (Yes or
				9					No)
XJ-011-	202C	Colt Industries, Fairbanks Morse Engine	Part No. 12994129	N/A	A 454 90 000	78083 67610- 198	N/A	Installed	No
			6						e e
	20-000								
							-		
* Trace	ability pe	r Exelon stock code	number.				•		•
7. Desc	ription o	f work: Replaced die	sel generator coo	oling water exp	pansion jo	int for pre	eventive maintena	nce.	
8. Tests	s conduc	ted: Hydrostatic	J Pneumatic	□ Nomina	al Operatir	ng Pressu	ıre ■ Exempt	o	
		Other 🗆 🔝	<u>110</u> PSI Te	st Tempf	<u>N/A_</u> °F.				
								1/2 in. x 11 in., (2) infection of the number of sheet	

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

recorded at the top of this form.

W/O No. R1140030 Sheet 2 of 2

ertificate of Authorization No	rifig that the statements made in the report are correct and that this conforms to the requirements of the ASME Code, Section XI. the Code Symbol Stamp NA  trificate of Authorization No. NA Expiration Date	Remarks <u>: None</u>	Applicable Manufacture	er's Data Reports to	be attached		
certify that the statements made in the report are correct and that this conforms to the requirements of the ASME Code, Section of the ASME code, Se	ritify that the statements made in the report are correct and that this conforms to the requirements of the ASME Code, Section XI. the Code Symbol Stamp NA Expiration No. NA Expiration Date Other or Owner's Designee, Title  CERTIFICATE OF INSERVICE INSPECTION  If, 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 have inspected the components described in this Owner's Report during the period FEBRUARY 19, 2016 to FEBRUARY 19, 2016, and state the tothe 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. 1 PA 3045 National Board, State, Province, and Endorsements						
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ertificate of Authorization No	tificate of Authorization No. NA Expiration Date		CERTIFICAT	E OF COMPLIANC	E		
ertificate of Authorization No	tificate of Authorization No. NA Expiration Date	certify that the statements made in the	report are correct and t	hat this conforms to	the requirements	of the ASME Code So	action VI
certificate of Authorization No	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  Hartford, Connecticut  In this Owner's Report during the period  FERGUALY  I, 2016 to FERGUALY  II, 2016, and state the to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Dwner'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  National Board, State, Province, and Endorsements	•		nat this comonns to	the requirements	of the Asivic Code, Se	SCHOIT XI.
J.H. Kramer (site weld administrator)  Date February 18 , 2016  CERTIFICATE OF INSERVICE INSPECTION  I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the Sor 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 FEBLUARY 14, 2016 to FEBLUARY 14, 2016 and state 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	J.H. Kramer (site weld administrator)  Date February 18, 2016  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 have inspected the components describe in this Owner's Report during the period FEBLUARY 19, 2016 to FEBLUARY 19, 2016, and state the 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, 1 PA 3045  National Board, State, Province, and Endorsements	ype Code Symbol Stamp	<u>NA</u>				
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Commissions 14396 A, N, I PA 3045	Commissions 14396 A, N, I PA 3045 Inspector's Signature National Board, State, Province, and Endorsements	examinations and corrective measure	s described in this Own	ner's Report. Further	rmore, neither the l	nspector nor his empl	oyer
	Commissions 14396 A, N, I PA 3045 Inspector's Signature National Board, State, Province, and Endorsements	shall be liable in any manner for any p	ersonal injury or prope	rty damage or a loss	s of any kind arisin	g from or connected w	ith this
	Inspector's Signature National Board, State, Province, and Endorsements	inspection.					
	Inspector's Signature National Board, State, Province, and Endorsements						
Inspector's Signature National Board State Province and Endorsements	Geo. 10 1/		Com	missions 14396	A, N, I PA 3045	5	
Tradition Doctor, Floring Country, Country, Floring Country, Count	Date FEBRUARY 19, 20 LC.	Inspector's Signature		National	Board, State, Provi	nce, and Endorsemer	nts

1. Owner	Exelon Gene	ration Company,	LLC		Date		0	ctober 4, 2016	
	200 Exelon V Addı	/ay, Kennett Squ ess	are, PA 19348	<u>s</u> s	heet	_1	of	2	
2 Plant	Limerick Gen	erating Station		1	Init			2	
2. Plant	Nar				JIIIL				
	3146 Sanatoo	a Road, Pottstow	vn PA 19464				Work	Order No. C0260141	
	Addı	ress				Repair	Organiza	tion P.O. No., Job No	etc.
3. Work Perform	ed by <u>Exelon Nucl</u>							N/A	
	Nai							1 11.1	
	3146 Sanatog	g <u>a Road, Pottstov</u> ress	wn PA 19464	E	Expiratio	n Date		N/A	
4 Identification	of System: Emergen	ov Service Water	/Svetor	m ()11\	ine No	HBC-2	02	XJ	-011-201C
4. Identification c	or Oystem. <u>Emergen</u>	by dervice water	(Oyştei	<u> </u>	<u> </u>	1100-2	<u> </u>	Λο	-011-2010
	e Construction Code								Code Case
	le Edition of Section le Section XI Code C			cements: 2	2001 edit	tion with	n addenda	through 2003	
	of Components Repa			nont Comp	ononto				
o. Identification (	or Components nepa	iled of Replaced	and neplacei	. Comp	Onenis				
Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Othe Identific		Yea	ar Built	Corrected, Removed or Installed	ASME Code Stamped (Yes or No)
XJ-011-201C	Colt Industries, Fairbanks Morse Engine	Part No. 12994129	N/A	* 114-78 PO# 167 1373	7610-	1	N/A	Installed	No
								0	
* Traceability pe	r Exelon stock code	number.							
7. Description of	f work: Replaced die	sel generator coo	oling water exp	ansion join	nt.				
8. Tests conduc	ted: Hydrostatic D	Deneumatic (		al Operating	j Pressu	ıre ■	Exempt		
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This Form (E00030) may be obtained from the ASME Order Dept., 22 Law Drive, Box 2300, Fairfield, NJ 07007-2300

recorded at the top of this form.

W/O No. C0260141 Sheet 2 of 2

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 N
Signed
Owher 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
In this Owner's Report during the period FEBRUHLY 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.
Commissions 14396 A, N, I PA 3045
Inspector's Signature National Board, State, Province, and Endorsements
Date Ocrober 5, 2016.

1. Owner	Exelon Gen Na	eration Company, LL ame	<u>C</u>	Date	Nove	mber 10, 2016	
		Way, Kennett Square	e, PA 19348	Sheet1	of	2	
2. Plant	Limerick Ge		O	Unit	,	2	
	a Na	ame .					
		g <u>a Road, Pottstown f</u> dress	PA 19464			00259924 & C02607 on P.O. No., Job No. 6	
3. Work Perform	med by <u>Exelon Nuc</u>	clear ame		Type Code :	Symbol Stamp n No.	N/A	
700			DA 40404				
		<u>oga Road, Pottstown</u> dress	PA 19464		ate		
4. Identification	of System : Emerge	ncy Diesel Generator	(System-09	<u> 2) Line No. 2</u>	DG-AIR	2D-	-G501-DR
(b) Applica	ble Construction Coduble Edition of Section able Section XI Code	XI Utilized for Repai	ir / Replacem	19 <u>N/A</u> nent Activity: <u>2001 e</u> c	Edition, N/A dition with adder	Addenda, N/A nda through 2003	_Code Case
6. Identification	of Components:					38.	
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
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This Form (E00030) may be obtained from the ASME Order Dept., 22 Law Drive, Box 2300, Fairfield, NJ 07007-2300

Work Order# C0259942 & C0260714 Sheet 2 of 2

9. Remarks: none			_
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	CERTIFICATE O	E COMBITANICE	
	CENTIFICATE O	FCOMFLIANCE	
I certify that the statements made in this	report are correct and that t	this conforms to the requirements of the ASME Code, Section XI.	
Type Code Symbol Stamp	NA		_
Certificate of Authorization No	NA	Expiration DateN	Α
Signed Com D. U.	ı IH Kı	ramer, site weld administrator Date November 10 , 2016	
Owner or Owner's		differ, site well administrator Date November 10 , 2010	
			$\neg$
	CERTIFICATE OF INS	ERVICE INSPECTION	
I the undersigned holding a valid on	ammission issued by the Nat	tional Board of Boiler and Pressure Vessel Inspectors and the State	
	•	eam Boiler Inspection and Insurance Company of Connecticut of	1
Hartford, Co		have inspected the components described	
in this Owner's Report during the per		·	
	-	d examinations and taken corrective measures described in this	
Owner's Report in accordance with the		E Code, Section XI.  Fr makes any warranty, expressed or implied, concerning the	
		Report. Furthermore, neither the Inspector nor his employer	
		amage or a loss of any kind arising from or connected with this	
inspection.	,	,	
	> 0		
	Commiss	ions 14396 A, N, I PA 3045	
Inspector's Signature		National Board, State, Province, and Endorsements	
Date November 14,	20/6		
			_

**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 preestablished 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-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 Ano	Surface Anomaly #1, (6 readings were taken along the length and 3 across the width)									
Floor plate 2	Floor plate 2-FP-03B-2									
Average wal	Average wall thickness: 0.263"									
0.268	0.261	0.291 (max)	0.259	0.258	0.261					
0.266	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	Surface Anomaly #2, (6 readings were taken along the length and 7 across the width)										
Floor plate 2-FP-	Floor plate 2-FP-08C-3										
Average wall thic	kness: 0.275"										
0.271	0.272	0.269	0.281	0.279	0.276						
0.272	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/indention 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
- 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
- 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 3

2R14 Suppression Pool Inaccessible Areas Evaluation EC 0000620918

Page 8	3 of 8
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PREPARER:	M. Weis	Date: See Passport Milestones
NDEPENDENT REVIEWER:	M. Karasek	Date: See Passport Milestones
ndependent Reviewer Comments: have performed an Independent Reviewed the reference documents are easonable and well supported by the performed by an individual qualified pamiliar with the 10CFR50.55a required from the modern comments were made and have	d agree with the inputs. The outpoint inspection results from 2R14. Are r N-AN-ENG-CERT-PG04 (ISI/Cements for evaluating inaccessible	outs, conclusions, and actions are Independent Review was ISI/Component Supports) who is
APPROVER:	T. Ryan	Date: See Passport Milestones

# Exelon

### **ULTRASONIC THICKNESS EXAMINATION**

	-	/ 2	-		Proce		\A-335-004	Outage No.: _	N/A	Attachment
Summ	nary No.:	NDE-056	_		Procedure	Rev.:	7	Report No.: _	BOP-UT-17-032	읈
Woi	rkscope:	BOP/Li2R14	_		Work Order	r No.: <b>042</b>	289788-70	Page: _	1 of 4	nei
Code:	Engineering	Direction	Cat	t./Item:	N/A	Lo	cation:	U2 Suppression P		nt ວ
Drawing No.:		N/A		Des	cription: Sup	pression UT				
System ID:	060									
Component ID:	Supression Po	ool				Size/L	ength: N/A	Thickness/Diame	ter: N/A	
Limitations:	N/A		Compo	nent File No.: N	N/A		Start Time:	1400 Finish Tir	me: 1830	
	Calibration Ir	nformation		Pari	titioning Info	rmation	1	Component Informati	ion	
Calibration	Thickness (In)	Calibration Times / In	nitials	Component	Begin/Col/Ro	* * * * * * * * * * * * * * * * * * * *	Component		II & Floor	
Actual	Measured	Į		M. UPST Ext.	N/A	N/A	Outside Diar	-	rid Size: N/A	
0.100	0.100	Start: 1405	EP	Main UPST.	N/A	N/A	Max. Thickne	ess: N/A Min. Thi	ckness: N/A	
0.200	0.200	'	N/A EP	Main	N/A	N/A	Nominal Thic	ckness: N/A	Tmin.: N/A	
0.300	0.299		N/A	Main DNST.	N/A	N/A	l i	ess Location:	N/A	2R
0.400	0.399	Final: 1835	EP	M. DNST Ext.		N/A		ess Location:	N/A	14
0.500	0.500			Branch Branch Ext.	N/A N/A	N/A N/A	Surface Con		und Coated	Sup
Instrument:				BIAIICH EXL.					dila coatea	Pre:
Manufacturer:	Olympu	Transduc				Reference/Simula		Temp. Tool:	EVIECH	ssio
Model:	38 DL Plu	Wanutacti		Panametr		Serial No.:		Manufacturer: Serial No.:	12129510	n P 006
Serial No.:	10009331	Serial No.	.434"	809839 Freq.:	5 MHz	Туре:	1018 STEEL	Couplant:	12129310	208
Gain:	62 dB	Model:	.404	D7906-SM	3 WIF12	Ref./Simulator Blo	ock Temp.:	76 °F Type:	Water	Ina 18,
Range:	1.0"	# of Eleme	ents:	Dual		Material/Compone	ent Temp.:	79 °F Batch No.:	N/A	Atta
Comments/Ob	structions: Per	formed UT exam on t	he floor	and wall plate:	s according	to the WO instruc	tions			sible
Results:	Accept	Reject 🗌 l	nfo 🗸	See sup	plemental sl	neet for UT thickn	ess readings.			2R14 Suppression Pool Inaccessible Areas EC 0000620918, Attachment 1, I
Examiner	Level II	Signa	ature		Date Re	eviewer		Signature	Date	as Eval I, Page
Petersen, Eric		3		4		obideau, Kim R.		<b>3</b>	4/26/2017	valu ge
Examiner	Level N/A	Signa	ture		Date Si	te Review		Signature	Date	Evaluation Page 1 of 4
N/A						ewcomb, II, James	s L.		4/26/2017	ŭ 4
1	Level N/A	Signa	ture			NII Review		Signature	Date	
N/A					N/	Δ				1

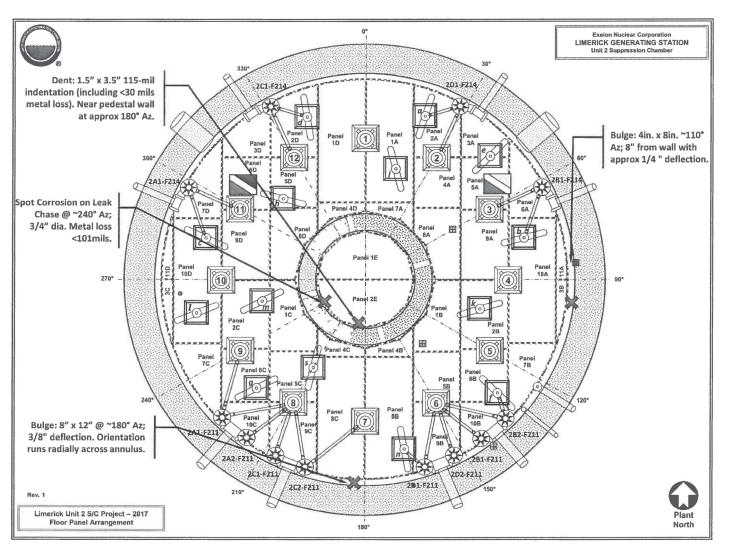
Report No.: BOP-UT-17-032

Page:

**1** of

Summary No.: NDE-056

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### **Supplemental Report**

Report No.: BOP-UT-17-032

Page:

Summary No.: NDE-056

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### **UT Measurements** Suppression Pool Panel UT Data

Line	Panel ID	Location		uements hes)	Comments	
Lille	railei iD	Location	Gen. Corr. Area	Sound Steel Area	Comments	
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		

# Exelon

### **Supplemental Report**

Report No.: BOP-UT-17-032

Page:

Summary No.: NDE-056

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**UT Data at Indication Locations** 

ltem	Indication	Panel ID	Indication ID	Description		UT Readings (inches)				Comments		
	<b>**</b>		,,,	CANADA SALASAN	Grid	Α	В	С	D	E	F	
				4in. x 8in. Bulge indication. Located	1	0.268	0.261	0.291	0.259	0.258	0.261	Top orientation toward: 1A-North West
1	Bulge	Floor_Plate 2-	2-FP-03B-2-	in the annulus area at approx 110-	2	0.266	0.259	0.261	0.254	0.255	0.232	105 Degree
1	puige	FP-03B-2	1	deg Az; 8" from wall with approx	. 3	0.267	0.266	0.263	0.261	0.270	0.260	Readings in 2" increments
				1/4 " deflection.	4						.,	

Item	Indication	Panel ID	Indication ID	Description				UT Readings (inches)				Comments
		,,,			Grid	Α	В	С	D	Е	F	· · · · · · · · · · · · · · · · · · ·
					1	0.271	0.272	0.269	0.281	0.279	0.276	Top orientation toward: 180 Degree 1A-
				8in. x 12in. Bulge indication. Located in annulus area at 180-deg Az. Approx 3/8" deflection;	2	0.272	0.269	0.271	0.288	0.281	0.201	North West  Readings in 2" increments
1		Fl Di-+- 3	2 50 000 2		3	0.271	0.272	0.272	0.273	0.277	0.281	
2	Bulge	FP-08C-3	7		4	0.272	0.275	0.277	0.269	0.272	0.271	
1		11-080-3	l'	Orientation runs radially across	5	0.276	0.277	0.275	0.280	0.278	0.277	
				annulus area.	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	

ltem	Indication	Panel ID	Indication ID	Description				JT Readi (inches				Comments
						Α	В	С	D	E	F	<b>经现代的</b>
3	Dent	Floor_Plate 2-	2-FP-02E	115-mil Dent (includes <30 mils metal loss). 1.5in. x 3.5in. Near	1	0.644	0.760					"A" Readings = Bottom of dent.
	Dent	FP-02E	2-77-026	pedestal wall at approx 180-deg Az.	2	0.759	0.758	-				"B" Readings = Adjacent area of panel
4	1	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