



Exelon Generation.

Oyster Creek Generating Station
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RA-13-117

10 CFR 50.73

December 5, 2013

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555 - 0001

Oyster Creek Nuclear Generating Station
Renewed Facility Operating License No. DPR-16
NRC Docket No. 50-219

Subject: Licensee Event Report (LER) 2013-002-00, Manual Scram Due to Lowering Vacuum

Enclosed is LER 2013-002-00, Manual Scram Due to Lowering Vacuum. This event did not affect the health and safety of the public or plant personnel. This event did not result in a safety system functional failure. There are no regulatory commitments made in this LER submittal.

Should you have any questions concerning this letter, please contact Mike McKenna, Regulatory Assurance Manager, at (609) 971-4389.

Respectfully,

Russell R. Peak
Plant Manager
Oyster Creek Nuclear Generating Station

Enclosure: NRC Form 388, LER 2013-002-00

cc: Administrator, NRC Region 1
NRC Senior Resident Inspector - Oyster Creek Nuclear Generating Station
NRC Project Manager - Oyster Creek Nuclear Generating Station

IEZZ
NRR

LICENSEE EVENT REPORT (LER)(See reverse for required number of
digits/characters for each block)

Estimated burden per response to comply with this mandatory collection request: 80 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the FOIA/Privacy Section (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects.resource@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

1. FACILITY NAME

Oyster Creek, Unit 1

2. DOCKET NUMBER

05000219

3. PAGE

1 OF 3

4. TITLE Manual Scram Due to Lowering Vacuum

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED																																					
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO.	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER																																				
10	06	2013	2013	- 002 -	00	12	5	2013	N/A	N/A																																				
9. OPERATING MODE N			11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply) <table border="0"><tr><td><input type="checkbox"/> 20.2201(b)</td><td><input type="checkbox"/> 20.2203(a)(3)(i)</td><td><input type="checkbox"/> 50.73(a)(2)(i)(C)</td><td><input type="checkbox"/> 50.73(a)(2)(vii)</td></tr><tr><td><input type="checkbox"/> 20.2201(d)</td><td><input type="checkbox"/> 20.2203(a)(3)(ii)</td><td><input type="checkbox"/> 50.73(a)(2)(ii)(A)</td><td><input type="checkbox"/> 50.73(a)(2)(viii)(A)</td></tr><tr><td><input type="checkbox"/> 20.2203(a)(1)</td><td><input type="checkbox"/> 20.2203(a)(4)</td><td><input type="checkbox"/> 50.73(a)(2)(ii)(B)</td><td><input type="checkbox"/> 50.73(a)(2)(viii)(B)</td></tr><tr><td><input type="checkbox"/> 20.2203(a)(2)(i)</td><td><input type="checkbox"/> 50.36(c)(1)(i)(A)</td><td><input type="checkbox"/> 50.73(a)(2)(iii)</td><td><input type="checkbox"/> 50.73(a)(2)(ix)(A)</td></tr><tr><td><input type="checkbox"/> 20.2203(a)(2)(ii)</td><td><input type="checkbox"/> 50.36(c)(1)(ii)(A)</td><td><input checked="" type="checkbox"/> 50.73(a)(2)(iv)(A)</td><td><input type="checkbox"/> 50.73(a)(2)(x)</td></tr><tr><td><input type="checkbox"/> 20.2203(a)(2)(iii)</td><td><input type="checkbox"/> 50.36(c)(2)</td><td><input type="checkbox"/> 50.73(a)(2)(v)(A)</td><td><input type="checkbox"/> 73.71(a)(4)</td></tr><tr><td><input type="checkbox"/> 20.2203(a)(2)(iv)</td><td><input type="checkbox"/> 50.46(a)(3)(ii)</td><td><input type="checkbox"/> 50.73(a)(2)(v)(B)</td><td><input type="checkbox"/> 73.71(a)(5)</td></tr><tr><td><input type="checkbox"/> 20.2203(a)(2)(v)</td><td><input type="checkbox"/> 50.73(a)(2)(i)(A)</td><td><input type="checkbox"/> 50.73(a)(2)(v)(C)</td><td><input type="checkbox"/> OTHER</td></tr><tr><td><input type="checkbox"/> 20.2203(a)(2)(vi)</td><td><input type="checkbox"/> 50.73(a)(2)(i)(B)</td><td><input type="checkbox"/> 50.73(a)(2)(v)(D)</td><td>Specify in Abstract below or in NRC Form 366A</td></tr></table>								<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(3)(i)	<input type="checkbox"/> 50.73(a)(2)(i)(C)	<input type="checkbox"/> 50.73(a)(2)(vii)	<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)	<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(ii)(B)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)	<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)	<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)	<input checked="" type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 50.73(a)(2)(x)	<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	<input type="checkbox"/> 73.71(a)(4)	<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.46(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 73.71(a)(5)	<input type="checkbox"/> 20.2203(a)(2)(v)	<input type="checkbox"/> 50.73(a)(2)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(C)	<input type="checkbox"/> OTHER	<input type="checkbox"/> 20.2203(a)(2)(vi)	<input type="checkbox"/> 50.73(a)(2)(i)(B)	<input type="checkbox"/> 50.73(a)(2)(v)(D)	Specify in Abstract below or in NRC Form 366A
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10. POWER LEVEL 20																																														

12. LICENSEE CONTACT FOR THIS LER

FACILITY NAME

Michael McKenna, Regulatory Assurance Manager

TELEPHONE NUMBER (Include Area Code)

(609) 971-4389

13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX
X	SM	EXJ	S240	Y	N/A	N/A	N/A	N/A	N/A

14. SUPPLEMENTAL REPORT EXPECTED☐ YES (If yes, complete 15. EXPECTED SUBMISSION DATE)☒ NO**15. EXPECTED SUBMISSION DATE**

MONTH	DAY	YEAR
N/A	N/A	N/A

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)

On October 6, 2013 at approximately 1040 EDT, during a planned reactor power ascension with reactor power at approximately 20% of rated thermal power, main condenser vacuum began to lower. In accordance with the abnormal operating procedure for degrading vacuum, Operators inserted a manual scram of the reactor at 1130 EDT.

Following the reactor SCRAM, operations and maintenance personnel identified an approximate 1" hole on Y-1-26, 'B' Condenser Steam Inlet Expansion Joint on the south side of 'B' Condenser. It was confirmed to be an active leak and subsequently the source of condenser vacuum degradation. A temporary leak repair was performed.

All control rods fully inserted and plant response was as expected. This event is being reported pursuant to 10CFR50.73(a)(2)(iv)(A) due to an actuation of the Reactor Protection System (RPS).

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NARRATIVE

Plant Conditions Prior To Event

Event Date: October 06, 2013
Unit 1 Mode: Startup

Event Time: 1130 EDT
Power Level: 20%

Description of Event

Reactor Startup from the 1M30 Maintenance Outage began at 0019 hours on 10/05/13. Criticality was achieved at 0520 hours. Reactor power was raised to approximately 25% power to perform turbine over speed testing with condenser vacuum at approximately 28.8" H₂O. ABN 14 was entered at 1050 on 10/06/2013 due to degrading condenser vacuum. Reactor power was lowered to approximately 20% in an attempt to stabilize plant conditions. At 1130, a manual reactor SCRAM was inserted when condenser vacuum degraded below 23" H₂O. All control rods were inserted, and condenser vacuum continued to degrade until stabilizing just above 20" H₂O. Therefore, the main condenser remained available for decay heat removal.

Following the reactor SCRAM, operations and maintenance personnel identified an approximate 1" hole on Y-1-26, 'B' Condenser Steam Inlet Expansion Joint on the south side of 'B' Condenser. It was confirmed to be an active leak and subsequently the source of condenser vacuum degradation. A temporary leak repair was performed.

Cause of Event

An approximate 1" hole on Y-1-26, 'B' Condenser Steam Inlet Expansion Joint on the south side of 'B' Condenser was the cause of the degrading condenser vacuum. It was confirmed to be an active leak and subsequently the source of condenser vacuum degradation.

Analysis of Event

The basic function of the expansion joint, Y-1-26 (Sola Basic Industries, model 97-5516) is to provide a flexible pressure retaining connection to absorb motion in a system caused by thermal expansion and low levels of vibration. The need to be flexible requires the expansion joint to be fabricated from 1/32" (wall thickness) commercial grade stainless steel A240 type 304.

Inspection of the hole showed a circumferential fracture from end to end of one of the three expansion joint convolutions. The fracture was found to be thick-lipped with ratchet marks. There was also a tangential crack perpendicular to fracture as well as a 1/32" – 1/16" indentation that was suggestive of impact damage. The indentation was approximately 1 – 1.5" diameter quarter circle. The end of the indentation stopped at the upper half of the fracture. A review of photos of the failure done by Exelon Power Labs showed that the fracture was most likely caused by fatigue cracking. A contributory cause of the failure was also noted to be the impact damage at the fracture site.

During 1M30 V-3-20 valve rework was performed which necessitated entering the North water box approximately 20 feet North of Y-1-26 expansion bellows. However, due to the location of the valve it was unlikely that damage was caused from the work performed. Work history of expansion bellows Y-1-26 documents visual inspections of the bellows done on a 1R frequency. The last inspection was performed up to and including 1R23, November 2010, with no defects noted. The damage likely occurred after the 1R23 inspection. Since that time, work activities performed around Y-1-26 expansion bellows, such as the Condenser Waterbox Inspection PM complete

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NARRATIVE

Analysis of Event Continued

on October 2012 during 1R24, likely resulted in an unseen accidental impact of tools or equipment.

Corrective Actions

A temporary leak repair was performed on the 1" hole on Y-1-26, 'B' Condenser Steam Inlet Expansion Joint on the south side of 'B' Condenser. A replacement of the Y-1-26 Expansion Bellows is planned for a future outage.

Previous Occurrences

There have been no similar Licensee Event Reports associated with this component failure submitted at OCNGS in the last two years.

Component Data

Component	IEEE 805 System ID	IEEE 803A Component
Expansion Joint	SM	EXJ