



Entergy Nuclear Operations, Inc.
Pilgrim Nuclear Power Station
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Plymouth, MA 02360

Kevin H. Bronson
Site Vice President

March 11, 2010

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

SUBJECT: Entergy Nuclear Operations, Inc.
Pilgrim Nuclear Power Station
Docket No.: 50-293
License No.: DPR-35

Licensee Event Report 2010-001-00

LETTER NUMBER: 2.10.017

Dear Sir or Madam:

The enclosed Licensee Event Report (LER) 2010-001-00, "Single Train of Reactor Building Closed Cooling Water System Inoperable for Time Period Exceeding Technical Specification Limits" is submitted in accordance with 10 CFR 50.73.

This letter contains no commitments.

Please do not hesitate to contact Mr. Joseph R. Lynch, (508) 830-8403, if there are any questions regarding this submittal.

Sincerely,

Kevin H. Bronson

FXM
Enclosure

cc: Mr. James S. Kim, Project Manager
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LICENSEE EVENT REPORT (LER)

Estimated burden per response to comply with this mandatory information collection request: 80 hrs. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records and FOIA/Privacy Service Branch (T-5 F52). U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects@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 and information collection does not display a currently valid control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

1. FACILITY NAME PILGRIM NUCLEAR POWER STATION	2. DOCKET NUMBER 05000-293	3. PAGE 1 of 5
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4. TITLE
Single Train of Reactor Building Closed Cooling Water System Inoperable for Time Period Exceeding Technical Specification Limits

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
01	10	2010	2010	001	00	03	11	2010	N/A	05000
									FACILITY NAME	DOCKET NUMBER
									N/A	05000

9. OPERATING MODE N	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR: (Check one or more)											
	<input type="checkbox"/> 20.2201(b)			<input type="checkbox"/> 22.2203(a)(3)(i)			<input type="checkbox"/> 50.73(a)(2)(i)(C)			<input type="checkbox"/> 50.73(a)(2)(vii)		
	<input type="checkbox"/> 22.2202(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(3)(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(3)(1)(ii)(A)			<input 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)		
10. Power Level 100	<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)			OTHER Specify in Abstract below or In NRC Form 366A		
	<input type="checkbox"/> 20.2203(a)(2)(vi)			<input checked="" type="checkbox"/> 50.73(a)(2)(i)(B)			<input type="checkbox"/> 50.73(a)(2)(v)(D)					
	<input type="checkbox"/>			<input type="checkbox"/>			<input type="checkbox"/>					
	<input type="checkbox"/>			<input type="checkbox"/>			<input type="checkbox"/>					

12. LICENSEE CONTACT FOR THIS LER

NAME Joseph R. Lynch, Licensing Manager	TELEPHONE NUMBER (Include Area Code) (508) 830-8403
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13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX
B	CC	SPT		Y					

14. SUPPLEMENTAL REPORT EXPECTED				15. EXPECTED SUBMISSION DATE		
<input checked="" type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)	X	NO				

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

On January 10, 2010 during a backwash evolution on the Reactor Building Closed Cooling Water (RBCCW) System heat exchanger, plant operators discovered a broken bolt on the pipe clamp for the seismic support for the instrument line of the local pump suction pressure gauge attached to the RBCCW "A" Train pump suction pipe. The seismic support is provided to ensure instrument line integrity and is relied on to ensure that RBCCW leakage limits will not be exceeded. The broken bolt compromised the design function of the seismic support and RBCCW "A" Train was conservatively declared inoperable until a new bolt was installed. Pilgrim Station was operating at 100% power when the condition was identified.

Subsequent engineering reviews could not determine the exact time that the bolt broke. Based on the condition of the bolt it was assumed that the bolt was broken for time period that exceeded the 72 hour allowable Technical Specification (TS) Limiting Condition of Operation (LCO) action statement for one RBCCW subsystem inoperable.

An immediate corrective action was completed to install a new bolt on the seismic support clamp. Additional corrective actions were taken to identify extent of condition and to walkdown the Reactor Building Auxiliary Bay areas where similar conditions could exist. No other broken bolts or seismic support damage was identified.

The probable apparent cause was identified to be corrosion that caused a progressive crack which eventually failed the bolt.

The event posed no threat to public health and safety.

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Narrative

BACKGROUND

The Reactor Building Closed Cooling Water (RBCCW) System provides cooling to the Core Standby Cooling System (CSCS) components and provides a heat sink for the Residual Heat Removal (RHR) System heat exchangers. The system also provides required cooling to the equipment located in the Reactor Building during normal planned station operations, and to provide a barrier between the primary system and the Salt Service Water (SSW) System.

The RBCCW System consists of two independent closed loops. Each loop has three centrifugal pumps and takes suction from the associated RBCCW heat exchanger. A 500 gallon head tank for each loop is located at the highest point in the system and accommodates system volume changes, maintains static pressure in the loop, detects gross leaks in the system, and provides a means for adding makeup water.

Each loop has a pump suction line that is provided with a suction pressure gauge and associated instrument line piping. The pump suction pressure gauge provides local indication only is not relied on for any accident or transient events. The instrument and associated piping are designated "Class I Pressure Boundary Only" (PBO) and as such must retain the system pressure boundary and prevent loss of water during seismic events. A pipe support is provided on the instrument line to ensure the PBO function is satisfied. The pipe support bracket is attached to the RBCCW suction line with a clamp that is secured in place by two bolts.

On 01/10/2010 plant operators identified that one of the two bolts on the instrument line seismic support clamp was broken on the RBCCW "A" Train. The failure of the bolt was unrelated to backwash activities. At the time of discovery the instrument line was intact and functional.

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Narrative

EVENT DESCRIPTION

On January 10, 2010 during a backwash evolution on the RBCCW System heat exchanger, plant operators discovered a broken bolt on the clamp of the seismic support for the instrument line of the local pump suction pressure gauge attached to the RBCCW "A" Train pump suction pipe. The seismic support is provided to ensure instrument line integrity and is relied on to ensure that RBCCW leakage limits will not be exceeded. The broken bolt compromised the seismic support. The RBCCW "A" Train was declared inoperable. A work request was immediately initiated and the broken bolt was replaced and the subsystem was returned to operable status. A 10 CFR 50.72 report was not required because the subsystem was restored to operable status prior to exceeding the 72 hour TS LCO action statement for one RBCCW subsystem inoperable as defined in TS 3.5.B.3.B.

Subsequent engineering review of the as-found condition revealed that firm evidence existed to indicate that the bolt had been broken before discovery for a time period that exceeded the 72 hour allowable TS LCO action statement for one RBCCW subsystem inoperable. As a result, a Licensee Event Report (LER) per 10 CFR 50.73 is required.

CAUSE

The probable apparent cause was identified to be corrosion that caused a progressive crack which eventually failed the bolt.

CORRECTIVE ACTION

The immediate corrective action included installation of a new bolt on the instrument line seismic support clamp. Additional corrective action was taken to identify extent of condition and to walkdown the Reactor Building Auxiliary Bay areas where similar conditions could exist. No other broken bolts or seismic support damage were identified. Guidance for performing system walkdowns and inspecting supports and fasteners was reviewed with System Engineering personnel. Additional corrective actions are planned to replace the bolt on the opposite side of the affected seismic support clamp and to replace both bolts on the suction gauge instrument line seismic support clamp on the RBCCW "B" Train.

Results of the formal cause evaluation and applicable corrective actions will be tracked in the Corrective Action Program under CR-PNP-2010-0130.

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SAFETY CONSEQUENCES

The event posed no threat to public health and safety.

The event occurred at during normal power operation while at 100% power with the mode switch in the "RUN" position. The reactor vessel pressure was approximately 1030 psig with reactor water temperature at saturation temperature for that pressure.

The Core Standby Cooling Systems (CSCS) consist of the High Pressure Coolant Injection (HPCI) System, Automatic Depressurization System (ADS), Core Spray (CS) System, and the Residual Heat Removal (RHR) System in the Low Pressure Core Coolant Injection (LPCI) mode. Although not part of the CSCS, the Reactor Core Isolation Cooling (RCIC) System is capable of providing water to the reactor vessel for high pressure core cooling, similar to the HPCI System. These systems were operable when the bolt failure was discovered.

The RBCCW System provides cooling to the CSCS System components and provides a heat sink for the RHR System heat exchangers. The system also provides required cooling to the equipment located in the Reactor Building during normal planned station operations, and provides a barrier between the primary system and the Salt Service Water (SSW) System.

The RBCCW System consists of two independent closed loops. Each loop has three centrifugal pumps and take suction from the RBCCW heat exchanger. A 500 gallon head tank is located at the highest point in the system and accommodates system volume changes, maintains static pressure in the loop, detects gross leaks in the system, and provides a means for adding makeup water. Head tank level is monitored and will alarm in the main control room if a level deviation exists. The system is designed with sufficient redundancy so that no single system component failure can prevent the system from performing its safety objective.

The bolt failure on seismic support clamp supporting the instrument line to the RBCCW "A" Train suction gauge has no affect on the RBCCW "B" Train.

The RBCCW "A" Train main suction line instrument piping that is supported by the seismic support was functional prior to and during the time that the bolt failure was discovered. After discovery, the RBCCW "A" Train was declared inoperable. The bolt on the seismic support was replaced and the subsystem was returned to operable status within eight (8) hours after the subsystem was declared inoperable. Subsequent engineering review of the as-found condition revealed that firm evidence existed to indicate that the bolt had been broken before discovery for a time period longer than permitted by technical specifications.

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REPORTABILITY

This report is submitted in accordance with 10 CFR 50.73(a)(2)(i)(B) for any operation or condition which was prohibited by Technical Specifications.

SIMILARITY TO PREVIOUS EVENTS

A review was conducted of Pilgrim Station LERs which involved either failure of an RBCCW subsystem or failure of seismic supports. No LERs were found which were directly applicable to this event. The following LERs addressed similar concerns:

LER 98-003-00 describes an event where non-conformances in the RBCCW and TBCCW System heat exchanger seismic support plates were identified to be outside the design basis and non-conforming with respect to design drawings and FSAR damping values. An operability evaluation was written and corrective actions were taken to restore full qualifications.

LER 96-008-00 describes an event where a leak was discovered on the RBCCW "B" Train heat exchanger and the condition resulted in declaring the subsystem inoperable. The condition resulted in entry into TS LCO 3.5.B.3.B and subsequent plant shutdown.

LER 79-039/01T-0 describes an event where an analytical re-analysis of the RBCCW "B" Train indicated that the as-built configuration would not remain functional during Safe Shutdown Earthquake. The event resulted from a design error. Three pipe supports were modified per PDC 79-24 A-1 to correct the condition.

ENERGY INDUSTRY IDENTIFICATION SYSTEM (EIS) CODES

The following EIS codes are applicable to this report:

COMPONENTS	CODES
Support	SPT
SYSTEMS	CODES
Closed / Component Cooling Water Systems (RBCCW)	CC