



Entergy Nuclear Operations, Inc.
Palisades Nuclear Plant
27780 Blue Star Memorial Highway
Covert, MI 49043
Tel 269 764 2000

October 2, 2008

10 CFR 50.73

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

Palisades Nuclear Plant
Docket 50-255
License No. DPR-20

Licensee Event Report 08-005, Completion of a Plant Shutdown Required by Technical Specifications

Dear Sir or Madam:

Licensee Event Report (LER) 08-005 is enclosed. The LER describes an event that occurred during a planned shutdown, when primary coolant system unidentified leakage exceeded one gallon per minute. The event was reported as a four-hour non-emergency report, in accordance with 10 CFR 50.72(b)(2)(i), as the initiation of a plant shutdown required by Technical Specifications, because if the event had occurred with the plant at normal operation, a shutdown would have been required.

This LER is being submitted in accordance with 10 CFR 50.73(a)(2)(i)(A), as the completion of a shutdown required by Technical Specifications.

Summary of Commitments

This letter contains no new commitments and no revisions to existing commitments.

A handwritten signature in black ink, appearing to read "Chris Schwarz", written over a horizontal line.

Christopher J. Schwarz
Site Vice President
Palisades Nuclear Plant

Enclosure (1)

CC Administrator, Region III, USNRC
Project Manager, Palisades, USNRC
Resident Inspector, Palisades, USNRC

ENCLOSURE 1

LER 08-005

**COMPLETION OF A PLANT SHUTDOWN
REQUIRED BY TECHNICAL SPECIFICATIONS**

3 Pages Follow

NRC FORM 366 (9-2007) U.S. NUCLEAR REGULATORY COMMISSION <div style="text-align: center; font-size: 1.2em; font-weight: bold;">LICENSEE EVENT REPORT (LER)</div> <p style="font-size: 0.8em;">(See reverse for required number of digits/characters for each block)</p>		APPROVED BY OMB NO. 3150-0104 EXPIRES 8/31/2010 <small>Estimated burden per response to comply with this mandatory information 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 Records Management Branch (T-6 E6), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to bjs1@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 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.</small>																																					
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5. EVENT DATE <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th style="width:10%;">MONTH</th> <th style="width:10%;">DAY</th> <th style="width:10%;">YEAR</th> </tr> <tr> <td style="text-align: center;">08</td> <td style="text-align: center;">05</td> <td style="text-align: center;">2008</td> </tr> </table>			MONTH	DAY	YEAR	08	05	2008	6. LER NUMBER <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th style="width:10%;">YEAR</th> <th style="width:10%;">SEQUENTIAL NUMBER</th> <th style="width:10%;">REV NO</th> </tr> <tr> <td style="text-align: center;">2008</td> <td style="text-align: center;">- 005</td> <td style="text-align: center;">- 00</td> </tr> </table>	YEAR	SEQUENTIAL NUMBER	REV NO	2008	- 005	- 00																								
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FACILITY NAME Laurie Lahti		TELEPHONE NUMBER (Include Area Code) (269) 764-2788																																					
13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT																																							
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ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) <p>During a planned shutdown, on August 5, 2008, at 1629 hours, with the plant in Mode 1, at approximately 97% power, Entergy Nuclear Operations, Inc. control room personnel noted that unidentified primary coolant system (PCS) leakage had exceeded the Technical Specification (TS) limit of one gallon per minute. Limiting Condition of Operation (LCO) 3.4.13, Condition A, was entered while the planned shutdown continued. All required actions for the condition were completed. The event was reported as a four-hour non-emergency report, in accordance with 10 CFR 50.72(b)(2)(i), as the initiation of a plant shutdown required by TS, because if the event had occurred with the plant at normal operation, a shutdown would have been required. The plant entered Mode 5 on August 6, 2008, at 1025 hours.</p> <p>The cause of the leakage was determined to be letdown relief valve RV-2006, which lifted when a second charging pump was started.</p> <p>RV-2006 was replaced during the planned shutdown. In addition, an engineering study is being completed for a modification to slow the associated orifice stop valve response to an open/close signal, and allow the associated pressure indicating controller to adequately control letdown pressure.</p> <p>This is reportable in accordance with 10 CFR 50.73(a)(2)(i)(A) as the completion of a plant shutdown required by TS.</p>																																							

(9-2007)

LICENSEE EVENT REPORT (LER) CONTINUATION SHEET

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
PALISADES NUCLEAR PLANT	05000255	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2 OF 3
		2008	- 004	- 00	

EVENT DESCRIPTION

During a planned shutdown, on August 5, 2008, at 1629 hours, with the plant in Mode 1, at approximately 97% power, Entergy Nuclear Operations, Inc. control room personnel noted that unidentified primary coolant system [AB] (PCS) leakage had exceeded the Technical Specification (TS) limit of one gallon per minute. Limiting Condition of Operation (LCO) 3.4.13, Condition A, was entered while the planned shutdown continued. All required actions for the condition were completed. The event was reported as a four-hour non-emergency report, in accordance with 10 CFR 50.72(b)(2)(i), as the initiation of a plant shutdown required by TS, because if the event had occurred with the plant at normal operation, a shutdown would have been required. The plant entered Mode 5 on August 6, 2008, at 1025 hours.

The cause of the leakage was determined to be letdown relief valve [RV;CB] RV-2006, which lifted when a second charging pump [P;CB] was started. The relief valve opened as a result of inadequate response of the letdown system pressure indicating controller [PIC;CB]. Due to the pressure sensitivity of the system, if the pressure indicating controller is unable to respond fast enough to reduce the pressure at the inlet of the letdown heat exchanger [HX;CB], over-pressurization protection of the heat exchanger is accomplished by the lifting of the relief valve to the quench tank [TK;AB].

RV-2006 was replaced during the planned shutdown. In addition, an engineering study is being completed for a modification to slow the associated orifice [OR] stop valve [V;CB] response to an open/close signal, and allow the associated pressure indicating controller to adequately control letdown pressure.

This is reportable in accordance with 10 CFR 50.73(a)(2)(i)(A) as the completion of a plant shutdown required by TS.

DESCRIPTION OF SYSTEM OPERATION

Pressure indicating controller (PIC)-0202 (letdown system pressure controller) is programmed to anticipate and reduce pressure spikes that occur when any of the three PCS letdown valves are opened or closed. Opening or closing of these valves is sensed by PIC-0202, which alters the position of backpressure regulating valves CV-2122 or CV-2012. This alteration of pressure provides a nominal inlet pressure to the letdown heat exchanger, E-58. PIC-0202 is designed to maintain letdown pressure above saturation pressure downstream of the letdown orifices to prevent flashing of letdown fluid. If PIC-0202 is unable to respond fast enough to alter the pressure at the inlet to E-58, over-pressurization protection of E-58 is accomplished by lifting RV-2006.

**LICENSEE EVENT REPORT (LER)
CONTINUATION SHEET**

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
PALISADES NUCLEAR PLANT	05000255	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	3 OF 3
		2008	- 004	- 00	

The letdown pressure controller interfaces with the pressurizer level program through the orifice valve operation. When pressurizer level is low, orifice stop valves are closed to increase pressurizer level. The stop valves open very quickly. When an orifice valve opens, a pressure surge is sent down the letdown line, which is sensed by the pressure transmitter (PT-0202). The backpressure control valves react to limit the pressure build-up in the lines. Due to the pressure sensitivity of the system, the controller does not have enough time to react to the pressure signal and reposition the back pressure valves. As a result, PIC-0202 monitors the position of the orifice stop valves to send a pre-determined signal to CV-2012 to start responding. This is a very sensitive tuning sequence since tenths of a second changes in PIC-0202 signal output to CV-2012 can result in poor system performance.

CAUSE OF THE EVENT

When the charging pump started, the system pressure increased. RV-2006 lifted due to improper coordination between the backpressure regulating valves and orifice stop valve response. The stop valves operate too quickly for the letdown pressure controller to anticipate the pressure surge, and the response of the letdown backpressure valves is too slow to respond.

RV-2006 setpoint repeatability issues allow the valve to open at a much lower system pressure, which magnifies the letdown system pressure control weaknesses.

CORRECTIVE ACTIONS

RV-2006 was replaced during the planned shutdown. In addition, an engineering study is being completed for a modification to slow the orifice stop valve response to an open/close signal and allow PIC-0202 to adequately control letdown pressure.

ASSESSMENT OF SAFETY CONSEQUENCES

The safety consequences of this event were minimal. RV-2006 relieved to the quench tank, as designed. All TS required actions met completion times.

PREVIOUS SIMILAR EVENTS

This is a long-standing design issue that has occurred several times in the past.