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United States Nuclear Regulatory Commission  
Document Control Desk  
Washington, DC 20555

Perry Nuclear Power Plant  
Docket No. 50-440

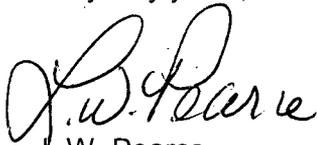
Ladies and Gentlemen:

Enclosed is Licensee Event Report (LER) 2006-006, "Primary Containment Airlock Door Inoperability Results in Operation Prohibited by Technical Specifications."

There are no regulatory commitments contained in this letter or its enclosure. Any actions discussed in this document that represent intended or planned actions are described for the NRC's information, and not regulatory commitments.

If there are any questions concerning this matter, please contact Mr. Jeffrey J. Lausberg, Manager – Regulatory Compliance, at (440) 280-5940.

Very truly yours,



L.W. Pearce

Enclosure: LER 2006-006

cc: NRC Project Manager  
NRC Resident Inspector  
NRC Region III

JE22

# 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: 50 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 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.

<b>1. FACILITY NAME</b> Perry Nuclear Power Plant	<b>2. DOCKET NUMBER</b> 05000440	<b>3. PAGE</b> 1 OF 4
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**4. TITLE**  
Primary Containment Airlock Door Inoperability Results in Operation Prohibited by Technical Specifications

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
12	31	2006	2006	006	000	03	01	2007	FACILITY NAME	DOCKET NUMBER

<b>9. OPERATING MODE</b>  1	<b>11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §:</b> (Check all that apply)										
	<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)							
<b>10. POWER LEVEL</b>  100	<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 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 checked="" 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								

**12. LICENSEE CONTACT FOR THIS LER**

Thomas J. Stec, Regulatory Compliance	TELEPHONE NUMBER (Include Area Code) (440) 280-5163
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**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

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

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

On January 1, 2007, at approximately 0400 hours, with the plant operating at 100 percent power, control room operators determined that a condition identified on December 8, 2006, resulted in the lower Primary Containment Airlock Inner Door being inoperable. Operators entered Technical Specification (TS) Limiting Condition for Operation 3.6.1.2, and implemented required actions to verify that the operable door was closed and locked.

The event was caused by less than adequate utilization of the of the work management electronic tracking process for potential operability reviews of work management documentation.

The air leak was repaired. The backlog of "outstanding" work management documentation reviews was eliminated. An operations night order was issued to reiterate expectations for senior reactor operator reviews of new work management documents. Future guidance will be provided to rework containment airlock tubing to facilitate maintenance on the door seal accumulator tubing and check valves for proper installation and fit up. The "compression fitting connection and inspection" instruction will be revised to include restrictions on short straight runs of tubing between two fixed position fittings.

This event is being reported in accordance with 10 CFR 50.73(a)(2)(i)(B), operation prohibited by plant TS.

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17. NARRATIVE (If more space is required, use additional copies of NRC Form 366A)

**INTRODUCTION**

On January 1, 2007, at approximately 0400 hours, with the plant operating at 100 percent power, control room operators determined that a condition identified on December 8, 2006, had resulted in the lower Primary Containment [NH] Airlock [AL] Inner Door being inoperable. Operators entered Technical Specification (TS) Limiting Condition for Operation (LCO) 3.6.1.2, Condition A, and implemented required actions A.1 and A.2 to verify that the (outer) operable door was closed and locked for the affected air lock.

**EVENT DESCRIPTION**

On December 8, 2006, an air leak on the lower containment airlock inner door inflatable seal air supply tubing [TBG] was identified and reported to an on-shift reactor operator (RO) in the control room. At 1711 hours, the RO initiated a work management document in the maintenance program database to track and repair the lower airlock inner door inflatable seal air leak. The RO notified the shift manager, i.e., senior reactor operator (SRO), about the leak. The RO did not initiate a condition report (i.e., CR) as required by the corrective action program. The shift manager did not request that a CR be generated for the air leak. No investigation of the location or severity of the air leak was initiated.

Following the discovery of the air leak on Friday December 8, 2006 through Monday December 12, 2006, four different SROs filled the position of on-shift unit supervisor. Procedure NOP-WM-1003, "Nuclear Maintenance Notification Screening and Minor Deficiency Maintenance Program," requires SROs pre-screen the maintenance program database for "outstanding" work management documents. This procedure also requires the SROs to verify that a CR has been generated for issues that are adverse conditions, are reportable, or affect operability of Quality, Augmented Quality, American Society of Mechanical Engineers (ASME) components. After the pre-screen, no actions were initiated and, as a result, no CR was generated for the air leak. No action was initiated to determine whether the lower airlock inner door inflatable seal tubing air leak affected operability of the lower containment airlock.

On December 13, 2006, the plant shut down for an unrelated air leak in the instrument air system [LD] as documented in LER 2006-005. On December 18, 2006, the plant restarted from Mode 4 to Mode 2 and subsequently to Mode 1. During these mode changes, and unknown to the operations staff, the lower airlock inner door remained inoperable. The air leak still existed and the airlock door should have been declared inoperable with TS LCO 3.6.1.2 required actions implemented. Making the mode changes while TS LCO 3.6.1.2 was not being met constituted operation prohibited by TS LCO 3.0.4.

On December 31, 2006, with the work management document for the air lock air leak remaining in a status of "outstanding" in the maintenance database, the on shift unit supervisor (i.e., SRO), who had been on shift on December 8, 2006, when the leak was initially discovered, received a note from the screening committee administrative assistant. The note requested that the RO (air lock air leak work management document initiator) write a CR to document the airlock air leak. The RO initiated the CR.

On January 1, 2007, at approximately 0200 hours, as the unit supervisor was reviewing the CR, an RO was dispatched to ascertain the location and severity of the air leak. The RO communicated the findings of his investigation to the control room staff and at approximately 0400 hours, it was determined that the airlock was inoperable. TS LCO 3.6.1.2 Condition A was entered and operators

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implemented required actions A.1 and A.2 to verify that the (outer) operable door was closed in the affected air lock and to lock the operable door closed in the affected air lock. A review of plant conditions determined that the TS LCO 3.6.1.2 required actions should have been implemented when the leaking tubing was identified on December 8, 2006 and that the subsequent mode changes on December 18, 2006, with the lower primary containment inner airlock door inoperable were prohibited by TS LCO 3.0.4 for entering mode changes when an LCO is not met.

**CAUSE OF EVENT**

The cause of the failure to recognize and declare the lower containment airlock inoperable and implement the required TS 3.6.1.2 actions in the required time period was less than adequate utilization of the of the work management electronic tracking process for SRO potential operability reviews of new work management documents (notifications). A contributing cause was less than adequate program monitoring or control of the work management process as related to operability identification. The number of outstanding documents indicated SRO review for operability concerns had not been documented.

The cause of the delay to initiate a CR to document the air leak on the lower containment airlock inflatable seal was less than adequate compliance with Attachment 6, "Operations SRO Notification Pre-Screening Review," step 3, of NOP-WM-1003. This step requires the SRO to verify that a CR has been generated for issues that are adverse conditions, reportable, or affects operability of quality, augmented quality or ASME components.

The cause of the fittings in the lower containment inner door inflatable seal air system developing leaks was a less than adequate design of the orientation of the airlock inflatable seal air tubing. This is a latent vendor design issue as the airlock was purchased and installed as a vendor unit from W. J. Wooley Manufacturing. The design of the unit had a compression fitting installed between two close fixed points not allowing full insertion of the tubing into the body of the fitting. The other three airlock doors were visually checked to verify that there were no air leakages from their inflatable door seal tubing. No problems were found; however, the latent design issue is similar for the other three airlock doors.

**EVENT ANALYSIS**

Based upon the following information, this event is considered to be of very low safety significance.

For this event, the inner airlock door was declared inoperable because the surveillance requirement for a seal pneumatic system test could not be met for the lower airlock inner door inflatable seal; however, the lower inner door airlock remained functional and the lower outer airlock door remained operable, providing primary containment integrity. Closure of a single door in each airlock is sufficient to provide a leak tight barrier following postulated events. Although the lower containment inner door was "inoperable" and may not have been able to perform its TS functions during accident conditions, the door functioned as designed during normal on-line conditions with air being supplied to the seals.

When the lower inner airlock door was declared inoperable, the remaining three containment doors were visually checked for air leakage. These three doors proved to be operable. The upper containment airlock remained operable. The lower outer airlock operable door was locked as required

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by LCO TS 3.6.1.2., required action A.2.

Two "probabilistic risk assessment" metrics were qualitatively considered: 1.) An increase in the plant core damage probability (CDP), and 2.) An increase in the plant large early release probability (LERP). It was determined that the plant CDP was not affected, and there was no increase in the LERP.

**CORRECTIVE ACTIONS**

Reviews were completed and appropriate actions taken by SROs for the "outstanding" work management documents in the maintenance program database. SROs, on each shift, are monitoring and managing the work management process related to operability identification. Repairs were made to stop the air leakage through tightening tube fittings and rebuilding a ball valve that was found to be leaking air. After completion of work activities, the appropriate surveillance test was completed declaring the lower primary containment inner airlock door operable.

An operations section night order was issued on January 9, 2007, reiterating the compliance expectations of NOP-WM-1003, Attachment 6, for SRO reviews of newly initiated work management documents.

Plant Operations Section management will perform pre-outage, outage, post-outage (RFO11), third quarter and fourth quarter, 2007, observations of the control room staff's compliance with NOP-WM-1003 Attachment 6 and review results to verify that the Control Room staff has adopted the expectations of NOP-WM-1003 Attachment 6.

Guidance will be provided to rework the containment airlock tubing to facilitate maintenance on the door seal accumulator tubing and check valves to assure proper installation and fit up of tubing. The "compression fitting connection and inspection" instruction will be revised to include restrictions on short straight runs of tubing between two fixed position Swagelok fittings where a lack of ability to flex the tubing prevents full insertion of the tubing into the fitting body.

**PREVIOUS SIMILAR EVENTS**

LER 05-005 documents an event on November 3, 2005, where a safety train maintenance outage was started which included de-energizing of containment isolation valve actuation logic [JM]. The on-coming Shift Manager determined that all TS requirements for the work had not been identified. TS 3.3.6.1, "Primary Containment and Drywell Isolation Instrumentation," exceeded the completion time for the condition's required action. Following the identification of the error, actions were taken that restored the actuation logic thus exiting the LCO required action. The cause of the failure to identify the required TS actions was determined to be a less than adequate review of the work documents on two occasions by multiple individuals. The corrective actions assigned to the 2005 event addressed causes different than those determined for this 2006 event and had no direct affect on reducing the probability of this 2006 event from occurring.

A review of corrective action program documents over the past 3 years did not identify any previous similar events.

Energy Industry Identification System Codes are identified in the text as [XX].