NRC FORM 366 (6-89) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104
EXPIRES 4/30/92

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Perry Nuclear Power Plant, Unit 1	0 5 0 0 0 4 4 0	1 OF 0 4

TITLE (4)
Failure to Properly Control Surveillance Testing Resulted in All Suppression Pool Level Instrumentation Being Out of Service Without Compensatory Actions Being Taken.

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES	DOCKET NUMBER(S)
										0 5 0 0 0
0 9	0 9	9 0	9 0 —	0 2 4 —	0 0	1 0	0 5	9 0		0 5 0 0 0

OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)							
	4		20.402(b)		20.405(c)		50.73(a)(2)(iv)		73.71(b)
POWER LEVEL (10)	0 1 0 0		20.405(a)(1)(i)		50.36(c)(1)		50.73(a)(2)(v)		73.71(c)
			20.405(a)(1)(ii)		50.36(c)(2)		50.73(a)(2)(vii)		OTHER (Specify in Abstract below and in Text, NRC Form 366A)
			20.405(a)(1)(iii)	X	50.73(a)(2)(i)		50.73(a)(2)(viii)(A)		
			20.405(a)(1)(iv)		50.73(a)(2)(ii)		50.73(a)(2)(viii)(B)		
			20.405(a)(1)(v)		50.73(a)(2)(iii)		50.73(a)(2)(x)		

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
	AREA CODE
Henry L. Hegrat, Compliance Engineer, Extension 6855	2 1 6 2 5 9 - 3 7 3 7

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	

SUPPLEMENTAL REPORT EXPECTED (14)		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE)	X NO				

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

On September 9, 1990 at 0238, surveillance testing resulted in all suppression pool level instrumentation being removed from service without the required compensatory actions being taken. This is violation of a Technical Specification 3.5.3.

The causes of this event were procedural deficiency, inadequate communications and inattention to detail. Surveillance Instruction "Containment Atmosphere Monitoring Isolation Valves Seat Leakage and Position Indication Test" was deficient in that it did not control the sequence of work and did not require an approval signature at the start of each subsection. Miscommunications occurred during shift changes and between Local Leak Rate Testing (LLRT), Instrument and Control (I&C) and Operations personnel on the same shift. Inattention to detail was evident in that compensatory actions required by Technical Specifications were not recognized as being required in the resulting plant configuration.

The actions taken to prevent recurrence include revising SVI-D23-T2002 to prohibit simultaneous performance of the subsections and requiring a Unit Supervisors signature in order to begin each subsection. This event will be added to the Local Leak Rate Testing training program as an example of inadequate communication during testing. All licensed operators will be trained to the lessons learned in this event during requalification training.

On September 9, 1990 at 0238, while performing surveillance testing, all suppression pool level instrumentation was removed from service without taking the appropriate compensatory action, resulting in a violation of Technical Specification 3.5.3. At the time of this event, the plant was in Operational Condition 4 (Cold Shutdown). The Reactor Pressure Vessel [RPV] was at atmospheric pressure with reactor coolant temperature at 83 degrees F.

On September 8, 1990, at 1015, Surveillance Instruction (SVI-D23-T2002) "Containment Atmosphere Monitoring Isolation Valves Seat Leakage and Position Indication Test" was reviewed by the Shift Supervisor (SS) to ensure that the applicable requirements of the Technical Specifications would be met for the instrumentation to be tested. With the understanding that the instruments were to be isolated one division at a time, potential and actual entries into Technical Specification Limiting Conditions of Operation (LCO) were documented on administrative tracking sheets in accordance with Operations Administrative Procedure (OAP-1701) "Tracking of LCO's". A Potential LCO (PLCO) is a Perry administrative tracking mechanism for a condition which does not result in an LCO for the present plant conditions, but one that could result in an LCO if plant conditions change. Later the next shift, at approximately 1700, Local Leak Rate Testing (LLRT) personnel, an Instrumentation and Control (I&C) supervisor, and the afternoon shift Unit Supervisor (US) discussed the actual performance of SVI-D23-T2002. At 2230, I&C technicians began the section of this SVI that removed the "A" train, or Division I, instruments from service. The instruments were removed from service by 0030 on September 9; however, leak rate monitoring could not begin on the "A" train until scaffolding had been erected to allow the LLRT personnel access to the test connections. At this time, the I&C Supervisor and the midnight shift Unit Supervisor discussed performance of the remainder of the SVI. Technical Specification 3.5.3 allows removing all instrumentation from service, provided that compensatory actions are taken. However, it was not clear to either individual that the PLCO's had been written only to account for performing the testing in series. A further miscommunication occurred in that the Unit Supervisor thought that the "A" train instrumentation would be returned to service prior to beginning testing of the "B" train, while the I&C and LLRT personnel thought that they had received permission to test both trains simultaneously. I&C technicians then began removing the "B" train, or division II, instruments from service at 0206 on September 9,1990 and completed this at 0238. When all of the instrumentation had been removed from service, seat leakage and position indication testing began on the "B" containment atmosphere monitoring isolation valves.

At 0300, on September 10, while taking Rounds, the operator noticed discrepancies between the suppression pool level readings. The operator investigated the progress of SVI-D23-T2002, contacted the LLRT personnel responsible for performing this SVI and discovered that all of the suppression pool level instrumentation had been inoperable since 0238 on September 9, 1990. Technical Specification compensatory actions were then begun, including obtaining suppression pool level by sounding. At 0430, on September 10, 1990 the suppression pool was sounded and level was determined to be 18.2 ft. The "B"

level instrumentation was returned to service at 0445 and it also indicated a pool level of 18.2 feet. The "A" instrumentation was subsequently tested and returned to service at 1802, on September 10, 1990.

The causes of this event are procedural deficiency, inadequate communication and inattention to detail. Following are the specific causes of each error:

1. SVI-D23-T2002 was deficient in that it did not control the sequence of work. The Precautions and Limitations allowed simultaneous performance of the various subsections of the Surveillance, but there was no precaution that indicated the consequences and requirements of this action. Earlier revisions to SVI-D23-T2002 allowed the various subsections to be performed in any order, but did not allow for their simultaneous performance. The Shift Supervisor reviewed the applicable Technical Specifications, but there was no mechanism for specifying whether they had been reviewed with the intent of performing each subsection in sequence or all subsections simultaneously. In this case the SS had written appropriate LCO and PLCO tracking sheets for each subsection to be performed in sequence. Although the individual subsections require the I&C technician to inform the Unit Supervisor that their performance will render instrumentation inoperable, it does not require the Unit Supervisor to sign an approval step for each subsection.

2. Miscommunications occurred during shift turnovers of both the LLRT personnel and the operations personnel, and between the same shift LLRT, I&C and operations personnel. On September 8, 1990 the Shift Supervisor approved the Technical Specification review, based upon his discussion with LLRT personnel that the work was to be performed sequentially. This information was not relayed to the following shifts. When the afternoon shift Unit Supervisor approved the commencement of SVI-D23-T2002, he approved the subsections to be performed in any order, but restricted their performance to one subsection at a time. The LLRT personnel and I&C supervision misunderstood this to mean that all of the subsections could be performed simultaneously. He also requested notification when a subsection had been completed. Miscommunications occurred between the midnight shift Unit Supervisor and the I&C Supervisor concerning what specifically had been approved with regard to the remaining subsections when work could not proceed on the "A" train. The Unit Supervisor was under the assumption, based upon the active LCO and PLCO that only the "A" instruments were being isolated in this SVI, while the I&C Supervisor believed that the "A" and "B" train could be simultaneously removed from service.

3. Inattention to detail was evident in that a more detailed examination of the SVI would have revealed that performing all of the subsections of SVI-D23-T2002 simultaneously would result in the simultaneous isolation of all of the suppression pool level instrumentation. Had this been realized, compensatory actions of Technical Specification 4.5.3.2 could have been taken. The LLRT personnel did not inform either the I&C supervisor or the control room when testing of the "B" isolation valves had been finished in order to allow instrument restoration to begin. Had the instruments been restored immediately following the isolation valve testing, the time limitations of Technical Specification 3.5.3 would have been met.

Suppression pool operability is governed by Technical Specification 3.5.3 and is verified by determining water level to be at least sixteen feet six inches every twelve hours in Operational Conditions 4 and 5. Suppression pool operability in these Operational Conditions is based upon NPSH, recirculation volume and vortex prevention plus a safety margin for conservatism. If the suppression pool level is less than sixteen feet six inches, a series of other preventive measures is required to be verified every twelve hours. If neither of these conditions can be met the ACTION Statement for Technical Specification 3.5.3 requires suspending core alterations, along with all operations that have the potential for draining the vessel. It also requires locking the reactor mode switch in Shutdown and establishing primary containment integrity within eight hours. During this event, the suppression pool was never declared inoperable, although the inoperable level instrumentation prevented correctly verifying pool level. Although the plant was in a configuration which allowed the suppression pool to contain less than sixteen feet six inches of water depth, these parameters were not verified every twelve hours. Because no activities were being performed with the potential for draining the reactor vessel and because the pool level was determined to be eighteen feet two inches both before and after the instruments had been isolated, this event is not considered to be safety significant. No previous events of this nature have occurred.

The actions taken to prevent recurrence include revising SVI-D23-T2002 to prohibit simultaneous performance of the various subsections and to require Unit Supervisor signature at the start of each subsection of Section 5.1. This event will be added to the LLRT training program as an example of inadequate communications and inattention to detail during testing. As part of the licensed operator requalification training program, all licensed operators will be trained to the lessons learned in this event, stressing communications and attention to detail in LCO and PLCO situations, and how Technical Specification Rounds can be used to detect anomalies within plant systems.

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