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 3

TITLE (4)

Failure to Perform Required Surveillance Prior to Resuming Fuel Movement.

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
1 0	1 1	9 0	9 0	—	0 3 0	— 0 0	1 1	0 9	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)			
	5	20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10)	0 1 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 October 11, 1990, while preparing to perform SVI-C71-T0427, the Rx Mode Switch Refuel Mode Channel Functional test, it was discovered that fuel movement had been allowed to proceed on October 10, 1990, in violation of Technical Specification 3.9.1.b. During the period October 1-10, 1990, fuel movement was suspended and 33 control rods were removed from the core and replaced while the associated portions of the one-rod-out interlock were bypassed and then reestablished. Fuel movement resumed on October 10, 1990, without first performing the required CHANNEL FUNCTIONAL TEST for the one-rod-out interlock. Following identification of the missed surveillance, CORE ALTERATIONS were suspended at 1007 on October 11, 1990, and all rods were verified to be fully inserted. The CHANNEL FUNCTIONAL TEST was initiated at 1435 on October 11, 1990 and successfully completed the same day. CORE ALTERATIONS were resumed following the successful completion of this test.

The cause of this failure to perform the required surveillance was a misinterpretation of the Technical Specification requirements. Corrective action has been taken to include a note in the work history data base to ensure that the CHANNEL FUNCTIONAL TEST be performed prior to resuming fuel movement following the removal and replacement of any control rods or control rod drive mechanisms. Additionally, licensed operators will receive training on this event during requalification training.

On October 11, 1990 at approximately 1230, while reviewing Surveillance Instruction SVI-C71-T0427, "Rx Mode Switch Refuel Mode Channel Functional" it was determined that fuel movement had been allowed to proceed without the requirements of Technical Specification 3.9.1.b having been met. At the time of discovery, the plant was in Operational Condition 5 (Refuel) with a planned refueling outage in progress. Reactor Pressure Vessel (RPV) temperature was 73 degrees F and reactor pressure was atmospheric.

Refueling began on September 28 and fuel offload was completed at 1630 on October 1, 1990. From 2245 on October 1 until 0403 on October 10, 1990 fuel movement was suspended while a control rod blade shuffle and a control rod drive mechanism (CRDM) replacement involving a total of 33 rods was performed. The portion of the one-rod-out interlock associated with these 33 rods was bypassed during this period, in accordance with Technical Specification 3.9.10.2, which allows the bypassing of the one-rod-out interlock for those control rods and/or CRDMs to be removed from the core. The one-rod-out interlock for the remaining rods is assumed to be OPERABLE during the period that the interlock for the removed rods is bypassed. Technical Specification 4.9.1.3 requires each of the refuel position interlocks to be demonstrated OPERABLE by performance of a CHANNEL FUNCTIONAL TEST (SVI-C71-T0427) prior to resuming CORE ALTERATIONS following repair, maintenance or replacement of any component that could affect the refuel position interlock. Technical Specification 4.9.10.2.2 requires a "functional test" of the one-rod-out interlock following the reinstallation of all control rods and/or CRDM's, if this interlock has been bypassed. Thus, Technical Specifications required the one-rod-out interlock to be verified OPERABLE once the 33 rods had been reinserted and the jumpers removed. Fuel movement resumed at 0406 on September 10, 1990 without the one-rod-out interlock CHANNEL FUNCTIONAL TEST having been performed. This discrepancy was identified on October 11, 1990 while preparing to perform the CHANNEL FUNCTIONAL TEST to meet the 7 day requirement for Technical Specification 4.9.1.2.

Following identification of the missed surveillance, CORE ALTERATIONS were suspended at 1007 on October 11, 1990, and all rods were verified to be fully inserted. SVI-C71-T0427 was initiated at 1435 on October 11, 1990 and successfully completed the same day. CORE ALTERATIONS were resumed following the successful completion of this test.

The cause of this failure to perform the required surveillance was a misinterpretation of the Technical Specification requirements. CORE ALTERATIONS as defined by Technical Specifications were never formally suspended between the start of fuel movement on September 28, 1990 and the completion of the control rod blade shuffle on October 10, 1990; therefore, it was believed that the provisions of Technical Specification 4.9.1.2 requiring a CHANNEL FUNCTIONAL TEST every 7 days during CORE ALTERATIONS, were sufficient to verify the operability of the reactor mode switch, refuel position interlocks per Technical Specification 3.9.1. Technical Specification Surveillance Requirement 4.9.1.3

however, requires each of the reactor mode switch refuel position interlocks that is affected by repair, maintenance or replacement of any component that could affect the interlock, to be demonstrated OPERABLE by the performance of a CHANNEL FUNCTIONAL TEST prior to resuming control rod withdrawal or CORE ALTERATIONS.

The Work Order associated with the control rod blade shuffle noted that the one-rod-out interlock would be defeated for all CRD's that were being removed for maintenance and for the shuffle of CRD blades. It further required notifying the Unit Supervisor that the one-rod-out interlock would be defeated for all CRD's that were being removed, so that he could ensure that LCO's were established as applicable. It did not however, clearly specify the retest requirements of a CHANNEL FUNCTIONAL TEST. Upon notification that the one-rod-out interlocks for the 33 rods were being bypassed, the Unit Supervisor initiated a Potential LCO (PLCO). A 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. The PLCO however, was cancelled upon completion of the Work Order because the Unit Supervisor believed that sufficient testing had been performed to demonstrate operability of the one-rod-out interlocks for the rods involved.

The purpose of the Reactor Mode Switch one-rod-out refueling interlock is to prevent the simultaneous withdrawal of two or more control rods and to thus prevent the possibility of an inadvertent criticality and the resulting damage to fuel assemblies and/or exposure of personnel to excessive radioactivity. Successful CHANNEL FUNCTIONAL TESTS were performed prior to, during and following the CRDM replacements and the control rod blade shuffle (on September 28, October 6 and October 22, 1990, respectively). Additionally, the work orders associated with the control rod blade shuffle verified that the position indication for all of the affected rods had been restored properly following reinsertion. All rods were verified to be fully inserted on October 10, 1990 prior to resuming fuel movement. Therefore, this event never resulted in more than one rod, with fuel surrounding it, being withdrawn at any one time.

The corrective actions taken for this event included discussing the event with the personnel involved and adding a note to the work history data base to remind personnel that STI-C71-T0427 must be performed prior to resuming fuel movement when any rods are removed and replaced in the future. Additionally, Operators will be trained on this event during requalification training.

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