

[illegible]

4429C 12.8 5 54.1/100 5.8 14

6	5	0	0	0	4	4	0	1	CF	CH
---	---	---	---	---	---	---	---	---	----	----

Limit Provided By TS 3.8.1.1

OPERATING MODE (B)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more of the following) (5)				
1		20.402(b)		20.405(a)	50.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10)	1, 0, 0	20.406(a)(1)(i)		50.36(a)(1)	50.73(a)(2)(v)	75.71(c)
		20.406(a)(1)(ii)		50.36(a)(2)	50.73(a)(3)(iv)	OTHER (Specify in Abstract Section and in Text, NRC Form 3064)
		20.406(a)(1)(iii)	X	50.73(a)(2)(ii)	50.73(a)(2)(iv)(4)	
		20.406(a)(1)(iv)		50.73(a)(2)(iii)	50.73(a)(2)(iv)(B)	
		20.406(a)(1)(v)		50.73(a)(2)(iv)	50.73(a)(2)(v)	

LICENSEE CONTACT FOR THIS LER (12)

Henry L. Hegrat, Compliance Engineer, Extension 5185

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	
	I	I I I	I I I				I	I I I I	I I I		
	I	I I I	I I I				I	I I I I	I I I		

SUPPLEMENTARY REPORT EXPECTED (14)

[illegible]

ABSTRACT (Limit to 1400) (max) = approximately fifteen single-spaced typewritten lines (16)

On October 11, 1991 at 1138, preferred source breaker EH1114 would not close on demand from its switch on control room panel 1H13-P877-1. Investigation determined that this breaker had been inoperable since September 4, 1991. As a result, the allowable outage time limit provided by Technical Specification 3.8.1.1 was exceeded.

The primary cause of this event was equipment malfunction, Other. Over the years, modifications were performed on the racking tool utilized to engage and turn the racking lead screw. These modifications allowed interference with the end of the racking release lever as it attempts to settle in the final detent (racked-in) position; thereby allowing the racking lead screw to be overturned, which places the breaker into a trip free condition.

To prevent recurrence, operations personnel visually inspected safety and nonsafety related bus breakers to ensure that their mechanical interlocks were disengaged. All auxiliary operators were retrained to perform visual checks of the mechanical interlock during future racking evolutions. Additionally, spring pins on the applicable racking tools will be shortened to one inch in length. Licensed personnel and auxiliary operators will be trained to this event during current events training.

NRC FORM 366A (6-89)		U.S. NUCLEAR REGULATORY COMMISSION		APPROVED LOMB NO. 0190-0104 EXPIRES 4/30/92  <small>ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: SEE HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (F-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20549, AND TO THE PAPERWORK REDUCTION PROJECT (2050-0100), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, D.C. 20503.</small>	
<b>LICENSEE EVENT REPORT (LER) TEXT CONTINUATION</b>					
FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)		PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Perry Nuclear Power Plant, Unit 1	0 5 0 0 0 4 4 0 9 1	—	0 2 1	—	0 0 2 OF 0 4
<small>TEXT: If more space is required, use additional NRC Form 366A's (17).</small>					
<div style="margin-left: 40px;"> <b>I. Introduction</b>   <p>On October 11, 1991 at 1138, preferred source breaker EH1114 would not close on demand from its switch on control room panel 1H13-P877-1. Investigation determined that this breaker had last been operated on September 4, 1991, and that the breaker had been inoperable since that time. As a result, the allowable outage time limit provided by Technical Specification 3.8.1.1 was exceeded. At the time of the event, the plant was in Operational Condition 1 (Power Operation) at 100 percent power with the Reactor Pressure Vessel [RPV] at 1024 psi and saturated conditions.</p> </div> <div style="margin-left: 40px; margin-top: 20px;"> <b>II. Event Description</b>   <p>On October 11, 1991, Surveillance Instruction (SVI-R43-T1317) "Diesel Generator Start And Load Division 1" was being performed. The Division I Diesel Generator had been successfully started, loaded, and at approximately 1138 hours the operators attempted to transfer Bus EH11 to its Preferred Source by closing breaker EH1114 from the Control Room Panel. The breaker would not close.</p> <p>Initial inspection of the breaker (BBC Brown Boveri, I-T-E Medium-Voltage, Type 5HK350) by two auxiliary operators provided indication that the fuses were good, the springs were charged, and the breaker appeared to be properly racked in. Next, maintenance personnel inspected and found nothing wrong with both the cell and auxiliary contact switch positions. Operations personnel then racked the breaker to test, and closed the breaker. It was at this point that operators noticed that the racking release lever may not have been set at the same position as when the breaker had been fully racked in. After finding no indication of mechanical or electrical malfunction, the breaker was racked in and subsequently closed from the control room. The breaker was declared operable on October 11, 1991, at 1443 hours.</p> </div> <div style="margin-left: 40px; margin-top: 20px;"> <b>III. Cause Analysis</b>   <p>The primary cause of this event was equipment malfunction, Other. Over the years, plant personnel performed modifications on the racking tools utilized to engage and turn the racking lead screw. When the one inch press-fit spring pin on the end of the racking tool required replacement, a one and one half inch spring pin was utilized. This additional half an inch allows interference with the end of the racking release lever as it attempts to settle in the final detent (racked-in) position; thereby allowing the racking lead screw to be overturned.</p> </div>					

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-330) U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20545, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1):  Perry Nuclear Power Plant, Unit 1	DOCKET NUMBER (2):  0 5 0 0 0 4 4 0 9 1	LER NUMBER (6):			PAGE (3):		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		0 2 1	0 2 1	0 0	0 3	OF 0 4	

TEXT (if more space is required, use additional NRC Form 366A's) (17)

When a breaker is being racked from test to fully in, the mechanical interlock will engage (trip button depresses) until the final detent on the racking lead screw is reached, where simultaneously the trip button will "move out and click" and the mechanical interlock disengages. However, it was determined that if the racking lead screw was overturned just slightly beyond the final detent, the mechanical interlock reengages. Reengagement of the mechanical interlock at this point in the racking evolution was a previously unknown condition in which a breaker could be fully racked in, auxiliary contacts made, springs charged, yet the breaker will not close. This would explain the condition breaker EH1114 was found to be in during the initial investigation of this event, where the fuses were good, springs were charged, and the breaker appeared to be properly racked in.

## IV. Corrective Action

Following the identification of the root cause of this event, operations personnel visually inspected safety and nonsafety related bus breakers to ensure that the mechanical interlock was disengaged. This inspection included visually verifying that the trip button was fully out, and that the trip linkage was appropriately aligned. Together, these two additional checks ensures that the mechanical interlock is disengaged, and that the breaker will close on demand.

All spring pins on the applicable racking tools will be shortened to one inch in length.

System Operating Instruction (SOI-R22) was revised to include visual checks of these additional mechanical interlock parameters as part of future racking evolutions.

All auxiliary operators were retrained to perform these two visual checks of the mechanical interlock during future racking evolutions.

All licensed personnel and auxiliary operators will be trained to this event during current events training.

## V. Safety Analysis

The operability of the AC and DC power sources and associated distribution systems during operation ensures that sufficient power will be available to supply the safety related equipment required for (1) the safe shutdown of the facility and (2) the mitigation and control of accident conditions within the facility. The minimum specified independent and redundant AC and DC power sources and distribution systems satisfy the requirements of General Design Criteria 17 of Appendix "A" to 10 CFR 50.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-650), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20549, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REGION NUMBER	
Perry Nuclear Power Plant, Unit 1	0 5 0 0 0 4 4 0 9 1	—	0 2 1	—	0 0 0 4 OF 0 4

TEXT (if more space is required, use additional NRC Form 305A's) (17)

Technical Specification Action requirements specified for levels of degradation of the power sources allow continued facility operation with restrictions commensurate with the level of degradation. The operability of the power sources are consistent with the initial condition assumptions of the safety analyses and are based upon maintaining at least Division 1 or 2 of the onsite AC and DC power sources and associated distribution systems operable during accident conditions coincident with assumed loss of offsite power and single failure of the other onsite AC or DC source.

The Standby Diesel Generator System provides an independent source of AC power to Division 1, 2 and 3 Class 1E buses in the event of a loss of the redundant offsite power supplies. During the entire event, Class 1E power was available from one of two physically independent circuits from the transmission network to the onsite electrical distribution system. Additionally, Class 1E power was also available from the Division 1 and Division 2 Diesel Generators, which were operable throughout the event. Therefore, this event is not considered to be safety significant because the Division 1 Diesel Generator would have started, loaded, and picked up its respected bus, if a loss of offsite power event would have occurred. Although this event was not considered to be safety significant, other breakers put in this condition could have resulted in a safety significant event.

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