

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) <b>Perry Nuclear Power Plant, Unit 1</b>	DOCKET NUMBER (2) <b>0 5 0 0 0 4 4 0</b>	PAGE (3) <b>1 OF 0 3</b>
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**Misunderstanding Of Technical Specification Results In Missed RACS Action Requirement**

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 9	3 0	8 6	8 6	0 6 5	0 0	1 0	3 1	8 6			0 5 0 0 0
											0 5 0 0 0

OPERATING MODE (9) <b>2</b>	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more of the following) (11)									
POWER LEVEL (10) <b>0 0 3</b>	<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.405(c)	<input type="checkbox"/> 50.73(a)(2)(iv)	<input type="checkbox"/> 73.71(b)						
	<input type="checkbox"/> 20.405(a)(1)(i)	<input type="checkbox"/> 50.38(c)(1)	<input type="checkbox"/> 50.73(a)(2)(v)	<input type="checkbox"/> 73.71(c)						
	<input type="checkbox"/> 20.405(a)(1)(ii)	<input type="checkbox"/> 50.38(c)(2)	<input type="checkbox"/> 50.73(a)(2)(vi)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)						
	<input type="checkbox"/> 20.405(a)(1)(iii)	<input checked="" type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(vii)(A)							
	<input type="checkbox"/> 20.405(a)(1)(iv)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(vii)(B)							
<input type="checkbox"/> 20.405(a)(1)(v)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)								

LICENSEE CONTACT FOR THIS LER (12)	
NAME <b>Paul Russ, Compliance Engineer, ext. 6472</b>	TELEPHONE NUMBER <b>2 1 1 6 2 1 5 9 1 - 3 1 7 3 1 7</b>

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)									
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRRDS

SUPPLEMENTAL REPORT EXPECTED (14)	EXPECTED SUBMISSION DATE (15)	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 fifteen single-space typewritten lines) (16)

Between 1246 on September 30, 1986 and 1150 on October 1, control rod movements were performed while control rod 30-27 was bypassed in the Rod Action Control System (RACS), without being disarmed either electrically or hydraulically. Under these conditions, control rod movement is prohibited by Technical Specification 3.1.4.2 except by a scram. This condition was discovered at approximately 1200 on October 3 during a review of plant data logs. The cause of the event is attributed to a misunderstanding of the RPCS Technical Specification requirements.

To prevent recurrence, plant operators will receive detailed training regarding the implementation of the control rod and rod pattern control system Technical Specifications. In addition, the disarming and remobilization of control rods in accordance with the system operating instruction will be tracked under Operations Administrative Procedure (OAP)-1701 "Tracking Of Limiting Conditions For Operation (LCO)" to ensure the proper coordination and review of the RACS bypass activities.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
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TEXT (If more space is required, use additional NRC Form 366A's) (17)

Between 1246 on September 30, 1986 and 1150 on October 1, control rod [AA] movements were performed while control rod 30-27 was bypassed in the Rod Action Control System (RACS), without being disarmed either electrically or hydraulically. Under these conditions, control rod movement is prohibited by Technical Specification 3.1.4.2 except by a scram. At the time of the event, the plant was in Operational Condition 2 (Startup) with nuclear heatup testing in progress. Reactor thermal power was approximately 2% of rated on September 30 and was increased to approximately 3% of rated on October 1. Reactor coolant temperature for the period ranged from approximately 400 degrees to 480 degrees and reactor vessel [RPV] pressure ranged from approximately 250 psig to 600 psig.

On September 21 at 0654, while conducting retest activities following the replacement of the transponder card for control rod 26-27, a data fault was received on control rod 30-27 during a Rod Gang Drive System (RGDS) self test. Plant operators declared control rod 30-27 inoperable and initiated a work order to troubleshoot and repair the control rod. At that time, control rod 26-27 was bypassed in the RGDS. RGDS allows only one control rod to be bypassed at one time, therefore control rod 30-27 could not be selected and driven into its full-in position to comply with Technical Specification 3.1.4.2. Consequently, plant operators bypassed control rod 30-27 in the RACS and performed a single rod scram in accordance with plant operating instructions. Control rod 30-27 was then disarmed hydraulically by closing its drive water and exhaust water isolation valves satisfying the applicable Technical Specification requirements. Troubleshooting identified the cause of the data fault as incorrectly landed connectors following the replacement of the transponder card for control rod 26-27. The connectors were relanded to their correct position at 1530. Control rod 30-27 was rearmed on September 22 and incorrectly declared operable at 0905 on September 23. The rod was maintained bypassed in the RACS because the fully inserted position was not its correct sequenced position.

Technical Specification 3.1.4.2 allows control rod movement to continue with inoperable control rods bypassed in the RACS below the low power setpoint (20 + 15 - 0% of rated thermal power) with one inoperable, immovable control rod if the Shutdown Margin is greater than or equal to Technical Specification 3.1.1, or; up to eight inoperable (but movable) control rods if the rods are inserted and disarmed either electrically or hydraulically, separated by at least two control cells, and there are no more than three inoperable rods in any one pattern control group.

Between 1246 on September 30 and 1150 on October 1, subsequent rod movements were performed in support of Startup Test Instruction (STI)-C51-012 "Average Power Range Monitoring (APRM) System Calibration" in violation of Technical Specifications. On October 1 at 1150, plant operators invoked Technical Specification Special Test Exception 3.10.2 "Rod Pattern Control System" to perform single rod scram testing in accordance with STI-C11-005 "Control Rod Drive System". Special Test Exception 3.10.2 allows operable control rods to be bypassed in the RACS for the purpose of control rod testing activities.

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

On October 3 at approximately 1200, during a review of plant logs, the Shift Technical Advisor (STA) discovered that control rod 30-27 had been rearmed but maintained bypassed in the RACS. Control rod 30-27 was returned to its sequenced position on October 3 at 2217 under the provisions of Special Test Exception 3.10.2 and taken out of bypass in the RACS.

The cause of this event is attributed to a misunderstanding of the RPCS Technical Specification requirements as related to the Rod Control and Information System (RCIS). Plant operators initially determined that an otherwise operable control rod could be bypassed in the RACS without having to meet the requirements of Technical Specification 3.1.4.2. Further review of this Technical Specification and its Bases determined that bypassing a control rod in the RACS renders the rod inoperable with respect to Technical Specification 3.1.4.2 requiring the conditions of the Action statement to be met.

The RCIS is comprised of four subsystems, Rod Position Information, Rod Action Control, Rod Gang Drive and Rod Interface. The combined function of these systems is to regulate control rod movement to achieve the desired power level and flux distribution. RACS provides the automatic supervision assuring that control rods will not be withdrawn or inserted whenever such movement would result in an undesirable reactivity condition. This automatic control maintains control rod reactivity worth such that the consequences of a control rod drop accident are mitigated. During this event, control rod 30-27 remained in its fully-inserted position with movement controlled administratively in accordance with the rod pull sheet even though the rod was not disarmed. Therefore, this event is not considered safety significant. No previous similar events were identified.

To prevent recurrence, the following corrective actions have been or will be completed:

- 1) Plant operators will be trained regarding the implementation of the control rod and rod pattern control system Technical Specifications.
- 2) The System Operating Instruction (SOI)-C11 "Control Rod Drive" will be revised to require the tracking of control rod immobilization and RACS bypass activities in accordance with Operations Administrative Procedure (OAP)-1701 "Tracking Of Limiting Conditions For Operations (LCO)". This change will provide for proper coordination and review of control rod disarming and remobilization.
- 3) The technicians involved with the incorrectly landed leads have been counseled regarding strict procedural compliance for equipment restoration in accordance with Instrumentation and Controls Administrative Procedure (IAP)-0503 "Plant Instrument Calibration and Maintenance".

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



# THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

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MURRAY R. EDELMAN  
SR. VICE PRESIDENT  
NUCLEAR

October 31, 1986  
PY-CEI/NRR-0551 L

U.S. Nuclear Regulatory Commission  
Document Control Desk  
Washington, D.C. 20555

Perry Nuclear Power Plant  
Docket No. 50-440  
LER 86-065-00

Dear Sir:

Enclosed is Licensee Event Report 86-065-00 for the Perry Nuclear Power Plant.

Very truly yours,

Murray R. Edelman  
Senior Vice President  
Nuclear Group

MRE:lap

Enclosure: LER 86-065-00

cc: Jay Silberg, Esq.  
P. Leech (2)  
K. Connaughton

U.S. Nuclear Regulatory Commission  
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