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U-603439
2C.220
November 20, 2000

Docket No. 50-461

10CFR50.73

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

Subject: Clinton Power Station
Licensee Event Report No. 2000-008

Dear Madam or Sir:

Enclosed is Licensee Event Report (LER) No. 2000-008: Failure to Meet Technical Specification Requirements for Reactor Cavity Upper Containment Pool Water Level During Refueling Operations. This report is being submitted in accordance with the requirements of 10CFR50.73.

Sincerely yours,

Michael T. Coyle
Vice President

JRF/blf

Enclosure

IE22

cc: NRC Clinton Licensing Project Manager
CPS Restart Manager, Region III, USNRC
NRC Resident Office, V-690
Regional Administrator, Region III, USNRC
Illinois Department of Nuclear Safety
INPO Records Center

NRC FORM 366 (6-1998) U.S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

APPROVED BY OMB NO. 3150-0104 EXPIRES 06/30/2001

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TITLE (4)
Failure to Meet Technical Specification Requirements for Reactor Cavity Upper Containment Pool Water Level During Refueling Operations

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 NAME	DOCKET NUMBER
									None	05000
10	26	2000	2000	- 008	- 00	11	20	2000	FACILITY NAME	DOCKET NUMBER
									None	05000

OPERATING MODE (9)	5	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)			
POWER LEVEL (10)	000	20.2201(b)	20.2203(a)(2)(v)	X 50.73(a)(2)(i)	50.73(a)(2)(viii)
		20.2203(a)(1)	20.2203(a)(3)(i)	50.73(a)(2)(ii)	50.73(a)(2)(x)
		20.2203(a)(2)(i)	20.2203(a)(3)(ii)	50.73(a)(2)(iii)	73.71
		20.2203(a)(2)(ii)	20.2203(a)(4)	50.73(a)(2)(iv)	OTHER
		20.2203(a)(2)(iii)	50.36(c)(1)	50.73(a)(2)(v)	Specify in Abstract below or in NRC Form 366A
		20.2203(a)(2)(iv)	50.36(c)(2)	50.73(a)(2)(vii)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (Include Area Code)
Dennis McMillan, Nuclear Station Engineer	(217) 935-8881, Extension 3920

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX

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

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

In early 1997, a generic concern was identified that certain acceptance criteria in Technical Specification (TS) surveillance procedures may not be adequate to assure compliance due to uncertainties in measuring plant process parameters. To address this issue, a review of plant parameters associated with TS Surveillance Requirements was performed. During the review, station engineers identified a potential discrepancy in the reactor cavity upper containment pool level during refueling operations. Further review of this potential discrepancy found that CPS had failed to meet the TS required minimum upper containment pool water level of 23 feet above the reactor pressure vessel (RPV) flange during previous refueling outages. The cause for this condition was a failure to account for as-built construction inaccuracies during the original TS development. The corrective actions for this event include performing an analysis to support refueling operations with an upper containment pool water level less than 23 feet above the RPV flange; revising the TS to change the required upper containment pool water level to 22 feet, 8 inches above the RPV flange; and revising operating procedures to reflect the TS change.

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

DESCRIPTION OF EVENT

In early 1997, a generic concern was identified that certain acceptance criteria in Technical Specification (TS) surveillance procedures may not be adequate to assure compliance due to uncertainties in measuring plant process parameters. To address this issue, a review of plant parameters associated with TS Surveillance Requirements (SR) was performed. During the review, station engineers identified a potential discrepancy in the reactor cavity upper containment pool water level requirement for refueling operations.

During refueling operations, the Technical Specifications require a minimum reactor cavity upper containment pool water level of greater than or equal to 23 feet from the top of the reactor pressure vessel (RPV) flange to the surface of the upper containment pool. This minimum depth of water is required for three reasons. They are: 1) to ensure that the radiological consequences associated with a fuel handling accident are acceptably low, 2) to ensure adequate backup decay heat removal capability, and 3) to ensure adequate coolant inventory is provided to allow sufficient time for an operator to take action to terminate an inadvertent drain down. Station engineers identified potential discrepancies while reviewing the Updated Safety Analysis Report (USAR), structural design and construction drawings, system operating procedures, and level markings on the side of the upper containment pool. The review identified that due to possible differences in the as-built construction and the original design, there may be little or no margin to meet the TS minimum water level requirement of 23 feet. To address this issue Condition Report (CR) 1-97-05-083 was initiated.

The corrective actions identified in CR 1-97-05-083 included performing an analysis to support a license amendment request allowing a lower minimum water level in the upper containment pool during refueling operations, and measuring (verifying) the water level between the RPV flange and the pool surface during Refueling Outage number 7 (RF-7). The results of the analysis supported the ability to perform refueling operations with an upper containment pool water level less than 23 feet above the RPV flange. Based on this analysis, a license amendment request was submitted to the NRC requesting a change in the TS required pool level during refueling operations from 23 feet to 22 feet, 8 inches. On October 12, 2000, the NRC issued License Amendment 133, approving the amendment request.

During RF-7 a direct measurement was taken of the actual distance from the RPV flange to the water surface of the upper containment pool. The measurement determined the distance to be 22 feet, 11 and 3/4 inches. On October 26, 2000, an evaluation of the results of this measurement determined that CPS had violated TS requirements for minimum upper containment pool level during previous refueling outages.

There were no other components or system inoperable at the time of this event that affected the severity of this event.

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CAUSE

The failure to comply with the minimum upper containment pool water level requirements during previous refueling outages was due to an oversight during the initial development of the CPS TS. During the development of the CPS TS, 23 feet was used as the minimum water level between the RPV flange and the top of the upper containment pool based on initial design requirements; however, no margin for construction tolerances or uncertainty was identified and evaluated.

CORRECTIVE ACTIONS

An analysis was performed to support refueling operations with an upper containment pool water level less than 23 feet above the RPV flange. This analysis determined that a slight decrease in water level has a minimal effect on nuclear safety.

AmerGen Energy Company, LLC (AmerGen) submitted a license amendment request on July 14, 2000, to change the TS required upper containment pool water level during refueling operations from 23 feet above the RPV flange to 22 feet, 8 inches. On October 12, 2000, the NRC approved the amendment request.

Operating procedures were revised to reflect the revised requirements for upper containment pool water level during refueling operations.

ANALYSIS OF EVENT

This event is reportable under the provisions of 10CFR50.73(a)(2)(i)(B) as an operation or condition prohibited by the plant's Technical Specifications. Failure to have 23 feet of water above the RPV flange during refueling operations prior to RF-7 was a violation of the following Technical Specifications: 3.5.2, Emergency Core Cooling System - Shutdown; 3.9.6, Reactor Pressure Vessel (RPV) Water Level - Irradiated Fuel; and 3.9.9, Residual Heat Removal (RHR) - Low Water Level.

An assessment of the safety consequences and implications of this event identified that the slight decrease (1/4 inch) in water level above the RPV flange had a minimal effect on nuclear safety.

ADDITIONAL INFORMATION

Clinton Power Station has not had any other reportable events in recent history involving the failure to maintain adequate water level in the upper containment pool during refueling operations.

For further information on this event, contact Dennis McMillan, Nuclear Station Engineer, (217) 935-8881, extension 3920.