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December 30, 1999

U.S. Nuclear Regulatory Commission
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DOCKET 50-255 - LICENSE DPR-20 - PALISADES PLANT
LICENSEE EVENT REPORT 99-007, STEAM GENERATOR TEMPERATURE GREATER THAN INDICATED PRIMARY COOLANT SYSTEM TEMPERATURE WHEN FORCED CIRCULATION WAS INITIATED

Licensee Event Report (LER) 99-007 is attached. The LER describes the discovery that forced circulation (starting the first primary coolant pump) was initiated in violation of Technical Specification 3.1.1.h. This occurrence is reportable to the NRC in accordance with 10 CFR 50.73(a)(2)(i)(B) as a condition prohibited by Technical Specifications.

SUMMARY OF COMMITMENTS

This letter contains no new commitments and no revisions to existing commitments.

Douglas E. Cooper
General Manager Plant Operations

CC Administrator, Region III, USNRC
Project Manager, NRR, USNRC
NRC Resident Inspector - Palisades

Attachment

IE22

PDR ADOCK 05000255

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)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
CONSUMERS ENERGY COMPANY - PALISADES NUCLEAR PLANT	05000255	1 OF 3

TITLE (4)
STEAM GENERATOR TEMPERATURE GREATER THAN INDICATED PRIMARY COOLANT SYSTEM TEMPERATURE WHEN FORCED CIRCULATION WAS INITIATED

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
										05000
12	04	1999	1999 --	007 --	00	12	30	1999	FACILITY NAME	DOCKET NUMBER 05000

OPERATING MODE (9)	N	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)
Daniel G. Malone, Regulatory Activities Administrator	(616) 764-2463

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 SUBMISSION DATE (15)	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)

Technical Specification 3.1.1.h requires that steam generator temperature be less than or equal to Primary Coolant System (PCS) loop Tcold temperature when forced circulation is initiated in the PCS, in order to ensure that an energy addition caused by heat transferred from the secondary system to the PCS will not occur. Contrary to the above, a subsequent review of steam generator and Tcold temperature indication revealed that the required steam generator temperature relationship to PCS loop Tcold temperature was satisfied on only three of four loops. With respect to one loop, steam generator temperature was approximately 7 degrees F greater than the indicated loop Tcold temperature when forced circulation was initiated.

This occurrence is reportable to NRC in accordance with 10 CFR 50.73(a)(2)(i)(B) as a condition prohibited by Technical Specifications.

There was no safety significance associated with this occurrence. PCS pressure lowered slightly with the initiation of forced circulation, indicating that bulk steam generator temperature was less than bulk PCS temperature, and no energy addition from the secondary system to the PCS occurred.

EVENT DESCRIPTION

At 0416 hours, on December 4, 1999, with the plant in refueling shutdown, forced circulation (starting the first primary coolant pump [P;AB]) was initiated. Technical Specification 3.1.1.h requires that steam generator [SG;AB] temperature be less than or equal to Primary Coolant System (PCS) [AB] loop Tcold temperature when forced circulation is initiated in the PCS, in order to ensure that an energy addition caused by heat transferred from the secondary system to the PCS will not occur.

Contrary to the above, a subsequent review of steam generator and Tcold temperature indication revealed that the required steam generator temperature relationship to PCS loop Tcold temperature was satisfied on only three of four loops. With respect to one loop, steam generator temperature was approximately 7 degrees F greater than the indicated loop Tcold temperature when forced circulation was initiated.

This occurrence is reportable to the NRC in accordance with 10 CFR 50.73(a)(2)(i)(B) as a condition prohibited by Technical Specifications.

ANALYSIS OF THE EVENT

At the start of the shift, the operating crew made the decision that the activity of starting primary coolant pumps could best be undertaken by switching roles for this specific activity, in order to align more closely with the roles previously filled by crew members during training and recent experience with this activity, from approximately one week earlier.

Approximately two hours prior to starting the first primary coolant pump, several members of the operating crew observed PCS loop Tcold temperature indications and confirmed that steam generator temperatures were less than the observed loop Tcold readings. However, in the time period between this verification and actually starting the first primary coolant pump, operators made adjustments aimed at cooling the PCS slightly, to bring PCS temperature nearer steam generator temperature. The underlying purpose of this action was to reduce the temperature difference between the PCS and the cooler steam generators, to limit the potential reduction in PCS pressure upon pump start associated with the transfer of heat energy from the PCS to the steam generators. This activity was ultimately responsible for reversing the required temperature relationship between the steam generators and one of the PCS loop Tcold indications.

Subsequently, the effect of this cooldown was not recognized by the operators who had been preparing to start the pump, and had now switched into the roles to do so. With the temperature prerequisite still believed to be satisfied, the operators proceeded with starting the first primary coolant pump.

SAFETY SIGNIFICANCE

There was no safety significance associated with this occurrence. PCS pressure lowered slightly with the initiation of forced circulation, indicating that bulk steam generator temperature was less than bulk PCS temperature, and no energy addition from the secondary system to the PCS occurred.

CAUSE OF THE EVENT

None of the licensed operators or senior licensed operators re-verified that the required temperature relationship between the steam generators and PCS remained satisfied for all four PCS loop Tcold indications, immediately prior to starting the pump. The failure to re-verify that this prerequisite was met was the result of weak crew performance in the areas of watch station turnover, attention to detail, questioning attitude and fulfilling expectations of the individual crew roles.

CORRECTIVE ACTION

Selected operating crew performance standards and expectations as well as revised performance expectations for watch station turnover and just-in-time training were reviewed and emphasized with each of the operating crews. Operating crew performance will remain a focussed assessment area.