NRC Form 386 (9-63)				LIC	ENSEE EVEN	T RE	PORT	(LER)	U.S. NU	CLEAR REGULATORY CON APPROVED OMB NO. 3150- EXPIRES: 6/31/86	MISSION 0104
Perry	Nuclear	Pow	er Plant,	Unit 1				[0 15 0 0	(2) 1014141010	F 0 1
	Personne	el Er	ror Durin	g valve	Line-Up an	d ins	trume	Pool Make	Deficienc	les Cause	
EVENT D	ATE (6)	ii sp	LER NUMBER	6) 6)	REPORT DATE	(7)	sion	DI Make	FACILITIES INVO	LVED (6)	
MONTH DA	Y YEAR	YEAR	SEQUENTIAL	REVISION NUMBER	MONTH DAY	YEAR	*****	FACILITY NAM	AES	DOCKET NUMBER(S)	
			****							0 15 0 0 0 0	11
0 7 2	589	8 9	0 2 4	-00	d 8 2 4	8 9				0 15 10 10 101	11
OPERATI MODE	NO 2	THIS REP	ORT IS SUBMITTE	D PURBUANT 1	TO THE REQUIREMENT	TE OF 10	CFR 5: 10	Check one or more o	of the following) (1	1)	
	20.407(b)			-	20.405(c)	() (1)		BD.73(6)(2)(W)		73.71(6)	
LEVEL	0,0,0	20.4	K06 (x) (1) (ii)		50.36(c)(2)			50,73(e)(2)(vii)		OTHER (Specify in Abstract	
		20.4	106(a)(1)(iii)	x	50.73(e)(2)(l)		-	50.73(e)(2)(viii)(/	A)	below end in Text, No 366A)	RC Form
	t	20.4	106 (a) (1) (iv)		50.73(e/(2)(H)			50.73(e)(2)(viii)(B)		
		20.4	606(a)(1)(v)		50.73(e)(2)(iii)			50.73(e)(2)(x)		L	
				L	ICENSEE CONTACT	OR THIS	LER (12)			TELEDHONE MUNEED	
NAME									AREA CODE	TELEPHONE NUMBER	
Gregor	y A. Dur	nn, C	ompliance	Enginee	er, Extensi	on 64	84		21 11 6	2 1 51 91- 1 317	1 31
			COMPLETE	ONE LINE FOR	EACH COMPONENT	FAILURE	DESCRIBE	D IN THIS REPOR	IT (13)		
CAUSE SYS	TEM COMPO	NENT	MANUFAC- TURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFAC- TURER	REPORTABLE TO NPRDS	
	11	1					1				
					L	1			+		
		RECTED	SUPPLEM	ENTAL REPORT					EXPECT SUBMISS DATE (1	ED MONTH DAY	R I
X TESTITY	imit to 1400 and	DR IR P	superimetely fifteer	single-space type	ewritten lines/ (16)				1	110151	10 1
	On July with th Technic referen 2, 1989 allowal condit	y 23, he Su cal S nce 1 9 the ble 1 ion.	1989 at ppression pecificat eg of a S upper co imit. Th	0413, e h Pool M tion (TS SP level ontainme he instr	entry into lakeup (SPM) 3.0.4. instrumen ent pool (U uments and	Opera U) Sy On Ju t was CP) w UCP	tiona stem ly 25 foun as fo level	1 Conditi inoperabl , 1989 a d open ar ound to be were res	lon 2 was le, in vi vent val nd uncapp below t stored to	completed olation of ve on the ed. On August he water level an operable	t 1
The causes of these events are personnel error and instrument application deficiencies. During SPMU system instrument fill and vent on July 18, 1989 technicians apparently failed to properly restore the system. Additionall following completion of outage activities, the UCP skimmer plates were not returned to their correct position. The UCP level instruments had been replaced during the refuel outage with a more reliable design but troubleshooting indicates that a problem exists with the new configuration. To prevent recurrence, the technicians involved with the fill and vent activity have been counseled, while all other Instrument and Control field personnel have been instructed on the lessons learned from this event. Als the associated Instrument Maintenance Instruction will be revised to includ step-by-step signoffs for system verification. To resolve the problem with UCP level instrument performance, a design evaluation is in progress. In t interim, operations personnel are performing visual verification of the UCP level utilizing operator plant equipment rounds. A supplemental report will be issued upon completion of the design review.						plication ly 18, 1989 Additionally, s were not ad been t figuration. d vent					
						trol field event. Also, d to include roblem with ress. In the of the UCP report will $\mathcal{J} \lesssim$	32				

NRC Form 3/16 (9-83)

NRC Form 366A (9-63)	LICENSEE EVENT REPORT (LER) TEXT CONTIN	NUATION	U.S. NUCLEAR REGU APPROVED ON EXPIRES: 8/31/J	ULATORY COMMISSION NB NO. 3150-0104 NB
FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)		PAGE (3)
		YEAM SEQUI	NTIAL PEVISION	

Perry Nuclear Power Plant, Unit 1

0 15 10 10 14 141 0 81 9 - 012 14 - 0 10 012 OF 0 13

On July 23, 1989, at 0413, an Operational Condition change was completed without meeting all applicable Technical Specification Limiting Conditions for Operation, in violation of Technical Specification (TS) 3.0.4. At the time of the event, the plant was entering Operational Condition 2, Startup, following the first refueling outage. The reactor pressure vessel [RPV] was depressurized, and reactor coolant temperature was approximately 125 degrees Fahrenheit.

On July 25, 1989 during an operations channel check of Suppression Pool (SP) [TK] level instrumentation, a discrepancy between redundant channels of water level indication was observed. Technicians were sent into the plant to fill and vent the SP level instrumentation. Upon starting the fill and vent lineups, it was observed that the reference leg vent valve for SP level transmitters [LT] 1G43-NO60 and NO70 was open and uncapped. This condition caused the instrument reference leg to sense pressure of the Auxiliary Building [NF] versus the pressure in the Containment Building [NH] where the SP is located, thereby rendering the instrument inoperable. Technicians closed and capped the reference leg vent valve, returning the level instrument to operability and eliminating instrumentation discrepancies.

On August 2, 1989 during an operations plant walkdown, Upper Containment Pool (UCP) [DA] water level was visually observed to be below the top of the weir structure separating the reactor cavity and the dryer/separator pool. This level is known to be equal to the TS limit of 22 feet 10 inches above the RPV head flange. A work order was completed to raise the skimmer [SKR] plates and pool level was increased.

Both of these conditions resulted in the Suppression Pool Makeup (SPMU) [BT] system being inoperable. Because Technical Specification 3.6.3.4 requires the SPMU system to be operable in Operational Conditions 1, 2 and 3, the entry into Operational Condition 2 on July 23 was made in violation of TS 3.0.4

The cause of these events are personnel error and improper instrument application. During a SP instrument fill and vent on July 18, 1989, technicians apparently failed to return the components to the proper operating condition as required by Instrument Maintenance Instruction (IMI-E2-42), Filling and Venting Suppression Pool Level Instrument Lines, thereby rendering the system inoperable. The apparent cause of the low UCP level is an instrument application deficiency. Evaluation has determined that during the refueling outage, a plant modification was implemented to replace level switches [LS] with a more reliable level dectector. These instruments (Drexel-Brook Series 506 capacitance probe) failed to initiate an alarm on low level. Upon troubleshooting these instruments, it has been postulated that they may have been placed in a configuration that would cause electronic interference and disable the instrument. The lack of a dependable alarm function, along with inaccuracies in the level indication, contributed to the improper placement of upper pool skimmer plates, which had been lowered during the refueling outage to support draining of the reactor cavity.

LICENSEE	EVENT	REPORT	(LER)	TEXT	CONTINUATION
----------	-------	--------	-------	------	--------------

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104 EXPIRES: 8/31/88

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)	PAGE (3)	
		YEAR SEQUENTIAL REVISION		
Perry Nuclear Power Plant, Unit 1	0 5 0 0 0 4 40	8 9 - 0 2 4 - 0 0	0 3 OF 0 3	
TERT (# mane apage & required, use additional NRC Form 386A's) (17)				

The SP is an open top body of water located at the bottom of the containment vessel. The design of the Reactor building structure is such that a water seal is formed between the containment and drywell portions when the SP level is maintained. The water provides a heat sink for safety relief valve operation while acting as a pressure suppressent during a Loss of Coolant Accident (LOCA). This source of water is also a supply for the emergency core cooling systems. During post-LOCA conditions suppression pool water inventory may be decreased due to distribution of SP water for these functions. A supplemental source of water for the SP is supplied from the upper containment pool, through two functionally independent trains of the SPMU system. As designed, the upper pool water is gravity drained to the SP either automatically or manually in post-LOCA situations. The improper valve lineup on the SPMU instruments resulted in the inoperability of only the automatic initiation of one of the two redundant SPMU trains. The manual initiation of the affected train was not prohibited, and the manual and automatic operation of the unaffected train was fully capable of performing the intended safety function.

The UCP level was being maintained at a constant level approximately 1/2 to 2 inches below TS limit by the pool skimmer. This decrease in water level amounts to less than 2% of the total available water in the UCP. Therefore, these events are considered to be of no potential safety significance. No previous similar events have been identified.

To prevent recurrence the technicians responsible for leaving the system in the nonoperational condition have been counseled, also all other Instrument and Control Section field personnel have been instructed on the lessons learned from this event. IMI-E2-42 will be revised to include step-by-step signoffs for system verification. Additionally, as a corrective action for LER 89-023, Plant Administrative Procedure (PAP-0205), Operability of Plant Systems, will be modified to specifically require documentation of independent verifications to be completed at the site of performance.

To resolve the problem with UCP level instrument performance, a design evaluation is being performed. In the interim, Plant Equipment Rounds have been revised to provide for a once per shift visual observation of pool water level by non-licensed operators. A supplemental report will be issued upon completion of the design review.

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

NRC Form 386A