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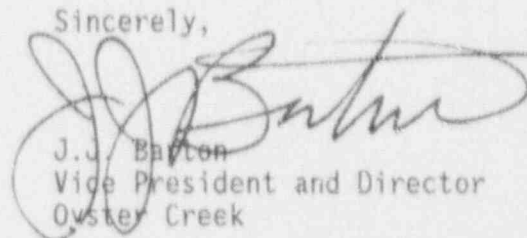
U.S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, D.C. 20555

Gentlemen:

Subject: Oyster Creek Nuclear Generating Station  
Docket No. 50-219  
Licensee Event Report

This letter forwards one (1) copy of Licensee Event Report 92-010.

Sincerely,



J. J. Bayton  
Vice President and Director  
Oyster Creek

Enclosure

cc: Administrator, NRC Region 1  
Senior NRC Resident Inspector  
Oyster Creek NRC Project Manager

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## LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Oyster Creek										DOCKET NUMBER (2) 015000102119										PAGE (3) 1 OF 014																													
TITLE (4) Low Reactor Water Level Scram During Startup Caused by a Turbine Valve Adjustment Change Due to a Loose Locking Device																																																	
EVENT DATE (5)										LER NUMBER (6)										REPORT DATE (7)										OTHER FACILITIES INVOLVED (8)																			
MONTH DAY YEAR										SEQUENTIAL NUMBER REVISION NUMBER										MONTH DAY YEAR										FACILITY NAME DOCKET NUMBER(S)																			
08249292										010000										092292										015000102119																			
OPERATING MODE (9) N										THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5. (Check one or more of the following) (11)																																							
POWER LEVEL (10) 000										20.402(a)										20.406(a)										50.73(a)(2)(h)										73.71(b)									
										20.406(a)(1)(ii)										50.73(a)(1)										50.73(a)(2)(i)										73.71(a)									
										20.406(a)(1)(iii)										50.73(a)(2)										50.73(a)(2)(iv)										OTHER (Specify in abstract below and in NRC Form 308A)									
										20.406(a)(1)(iv)										50.73(a)(2)(i)										50.73(a)(2)(iv)(A)																			
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LICENSEE CONTACT FOR THIS LER (12)																																																	
NAME M. Godknecht															TELEPHONE NUMBER																																		
															AREA CODE 609 971-4189																																		
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																																																	
CAUSE										SYSTEM										COMPONENT										MANUFACTURER										REPORTABLE TO NRC									
SUPPLEMENTAL REPORT EXPECTED (14)																																																	
YES (If yes, complete EXPECTED SUBMISSION DATE)															NO																																		
															EXPECTED SUBMISSION DATE (15)																																		
															MONTH DAY YEAR																																		

ABSTRACT (Limit to 1400 spaces; i.e., approximately fifteen single-space typewritten lines) (16)

On August 24, 1992, the reactor was critical in the intermediate range and a plant heatup was in progress. At 0850 hours, high steam flow occurred during warmup of the #1 Turbine that resulted in a reactor low water level scram. This event was caused by a non-conservative drift in the opening adjustment of the #2 Turbine Stop Valve due to the locking screws loosening on its restoring arm. This drift resulted in the premature opening of the #2 Turbine Stop Valve after an adjustment was made to the position of the #2 Stop Valve Internal Bypass Valve. The opening of the Stop Valve caused a high steam flow and resultant drop in reactor pressure, which caused a level increase due to voiding (swell). Operators were acting to control and reduce water level when a second adjustment was made to the position of the Internal Bypass Valve that closed the Stop Valve, resulting in a pressure spike that caused void collapse. A rapid reduction in reactor water level followed (shrink), which caused a reactor scram. Subsequent to the scram, the plant was cooled down and the #2 Stop Valve operating mechanism was inspected. The operating mechanism was reset, and the restoring arm adjustment was locked with set screws, lock nuts and a thread locking compound. The operating mechanism was tested and the plant was restarted.

## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES 8/31/85

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		YEAR 1	SEQUENTIAL NUMBER	REVISION NUMBER	
		9 2	0 1 0	0 0	

TEXT (If there is space at the end of the line, use additional NRC Form 486A's (117))

DATE OF OCCURRENCE

The event occurred on August 24, 1992 at 0850 hours.

IDENTIFICATION OF OCCURRENCE

During warmup of the Main Turbine (EIIS-TA), an excess steam demand transient resulted in a reactor (CFI-RCT) low water level scram. This is considered reportable in accordance with 10 CFR 50.73(a)(2)(iv).

CONDITIONS PRIOR TO OCCURRENCE

A plant startup was in progress with reactor power in range 8 of the intermediate range and reactor coolant temperature approximately 400°F. The Main Turbine was being warmed while the plant was heating up.

DESCRIPTION OF OCCURRENCE

On August 24, 1992, the reactor was critical in the intermediate range of the Nuclear Instrumentation System (EIIS-IG) and a plant heatup was in progress. Steam was being drawn off the reactor to warm up the Main Turbine. The Turbine Control Valves (CFI-FCV) were open with the Main Stop Valves (CFI-SHV) closed, and the warmup was being controlled using the #2 Stop Valve Internal Bypass Valve (CFI-XCV).

Approximately five minutes before the event, the operator warming the Turbine made an adjustment to the Internal Bypass Valve position and continued to monitor Turbine warm up. After about five minutes, a second operator who was manually controlling reactor water level, noted a sudden, rapid increase in level. Suspecting an overfeed problem, he announced the level problem and took action to reduce the Feedwater System (EIIS-SJ) flow into the reactor, while a third operator increased Reactor Water Cleanup System (EIIS-CE) letdown flow. Once level was turned at 170 in. above the top of active fuel (TAF), feedwater flow was reestablished and letdown flow was reduced to its previous value.

During the period that level was being stabilized, the operator controlling the Turbine warmup noted that pressure in the Turbine Steam Chest was higher than expected and closed down on the Internal Bypass Valve. Subsequently, reactor water level took a sharp drop. Feedwater flow to the reactor was increased; however, water level dropped below the low level scram setpoint of 137 in. TAF and both Reactor Protection Systems (EIIS-JC) actuated, which in turn caused a full reactor scram. Reactor water level was recovered at 135 in. The entire transient lasted approximately 90 seconds.

## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 2150-0104

EXPIRES 8/31/85

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TEXT (If more space is required, use additional NRC Form 255A's) (17)

APPARENT CAUSE OF OCCURRENCE

This event was caused by a drift in the adjustment of the #2 Stop Valve that resulted in an unexpectedly high steam flow. The opening adjustment for the #2 Turbine Stop Valve and its associated Internal Bypass Valve, had drifted in the non-conservative direction due to the locking screws loosening on its restoring arm. The most probable cause for the loosened locking screws is worn threadform in the restoring arm that allowed the locking screws to loosen with time and vibration.

When the operator made the last adjustment to the position of the Internal Bypass Valve before the event, the instrumentation in the control room indicated that only the Internal Bypass Valve should be open. However, due to the restoring arm position change, the #2 Stop Valve operating mechanism was attempting to open the #2 Stop Valve main disk. After about five minutes, the differential pressure across the #2 Stop Valve dropped to the point where the operating mechanism opened the #2 Stop Valve main disk.

The opening of the Stop Valve Main Disk caused a steam flow transient with a resultant drop in reactor pressure. The drop in reactor pressure caused a level increase due to voiding. When the operator closed the Internal Bypass Valve, the Stop Valve main disk also closed and the pressure spike caused void collapse. A rapid reduction in reactor water level followed, which caused the scram.

The excess steam flow had more of an effect on reactor water level under these operating conditions for the following reasons:

- 1) Reactor water level was being manually controlled. Under conditions where the Feed System would be in automatic, the compensation for shrink and swell would be better controlled.
- 2) Because of the low feedwater flow rate, there was very little subcooling in the reactor and most of the water in the reactor was at saturation temperature. Thus the pressure decrease resulting from the increased steam flow caused a large swell in level.

ANALYSIS OF OCCURRENCE AND SAFETY SIGNIFICANCE

The reactor low water level scram setting of 137 in. TAF has been established to assure that the reactor is not operated at water levels below that for which the fuel cladding integrity safety limit is applicable. Therefore this condition has minimal safety significance because protective features operated as designed.

## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

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TEXT (IF ABOVE ABOVE IS REQUIRED, SEE INSTRUCTIONS NRC Form 365A 5/1/77)

CORRECTIVE ACTION

Subsequent to the scram the plant was cooled down and the #2 Stop Valve operating mechanism was inspected. During the inspection, the restoring arm position drift and loose locking screws were discovered. The operating mechanism was reset, and the restoring arm adjustment was locked using a different process that includes set screws, lock nuts and a thread locking compound. This process no longer relies on the internal threads of the restoring arm. The operating mechanism was tested and the plant was restarted. During the next refueling outage, the threads of the restoring arm for the position locking screws will be repaired.

SIMILAR EVENTS

None