

February 4, 1995

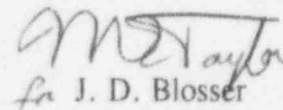
U. S. Nuclear Regulatory Commission  
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ULNRC-03138

Gentlemen:

**DOCKET NUMBER 50-483  
CALLAWAY PLANT UNIT 1  
FACILITY OPERATING LICENSE NPF-30  
LICENSEE EVENT REPORT 94-006-01  
MISSED TECH SPEC 4.3.2.2 SURVEILLANCE OF THE MECHANICAL  
TURBINE TRIP FUNCTION AND SUBSEQUENT TECH SPEC 3.0.3 ENTRY  
DUE TO COGNITIVE PERSONNEL ERROR**

The enclosed Licensee Event Report is submitted pursuant to 10CFR 50.73(a)(2)(i)(B) concerning a condition prohibited by Callaway Plant Technical Specifications.

  
for J. D. Blosser

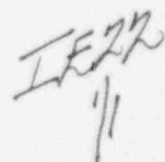
Manager, Callaway Plant

JDB/HDB/JGB/lrj

Enclosure

cc: Distribution attached

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Mr. J. B. Martin  
Regional Administrator  
U. S. Nuclear Regulatory Commission  
Region III  
801 Warrenville Road  
Lisle, Illinois 60532-4351

Mr. L. Raynard Wharton (2 copies)  
Licensing Project Manager  
U. S. Nuclear Regulatory Commission  
OWFN - Mail Stop 13E21  
Washington, D. C. 20555

Manager, Electric Department  
Missouri Public Service Commission  
P. O. Box 360  
Jefferson City, MO 65102

Records Center  
Institute of Nuclear Power Operations  
700 Galleria Parkway  
Atlanta, GA 30339

Mr. Steve Wideman  
Supervisor, Licensing  
Wolf Creek Nuclear Operating Corporation  
P. O. Box 411  
Burlington, KS 66839

Mr. M. J. Farber  
Chief, Reactor Projects Section III A  
U. S. Nuclear Regulatory Commission  
Region III  
801 Warrenville Road  
Lisle, Illinois 60532-4351

Mr. Thomas A. Baxter  
Shaw, Pittman, Potts & Trowbridge  
2300 N. Street N.W.  
Washington, D.C. 20037

NRC Senior Resident Inspector

# LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) <b>Callaway Plant Unit 1</b>										DOCKET NUMBER (2) <b>0 5 0 0 0 4 8 3 1</b>										PAGE (3) <b>OF 0 4</b>															
TITLE (4) <b>Missed Tech Spec 4.3.2.2 Surveillance of the Mechanical Turbine Trip Function and Subsequent Tech Spec 3.0.3 Entry Due to Cognitive Personnel Error</b>																																			
EVENT DATE (5)						LER NUMBER (6)						REPORT DATE (7)						OTHER FACILITIES INVOLVED (8)																	
MONTH		DAY		YEAR		YEAR		SEQUENTIAL NUMBER		REV. NO.		MONTH		DAY		YEAR		FACILITY NAMES																	
																		DOCKET NUMBER(S)																	
0 9		0 2		9 3		9 4		0 0 6		0 1		0 2		0 4		9 5		0 5 0 0 0																	
OPERATING MODE (9)				THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR : (Check one or more of the following) (11)																															
POWER LEVEL (10) <b>1 0 0</b>				20.402(b)								20.405(c)								50.73(a)(2)(iv)								73.71(b)							
				20.405(a)(1)(i)								50.36(c)(1)								50.73(a)(2)(v)								73.71(c)							
				20.405(a)(1)(ii)								50.36(c)(2)								50.73(a)(2)(vii)								OTHER (Specify in							
				20.405(a)(1)(iii)								X 50.73(a)(2)(i)								50.73(a)(2)(viii)(A)								Abstract below and in							
				20.405(a)(1)(iv)								50.73(a)(2)(ii)								50.73(a)(2)(viii)(B)								Text, NRC Form 366A)							
20.405(a)(1)(v)								50.73(a)(2)(iii)								50.73(a)(2)(ix)																			
LICENSEE CONTACT FOR THIS LER (12)																																			
NAME <b>H. D. Bono, Supervising Engineer, Site Licensing</b>														TELEPHONE NUMBER																					
														AREA CODE																					
														3 1 4		6 7 6 - 4 4 2 8																			
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																																			
CAUSE		SYSTEM		COMPONENT		MANUFACTURER		REPORTABLE TO NPD/S		CAUSE		SYSTEM		COMPONENT		MANUFACTURER		REPORTABLE TO NPD/S																	
X		T A		P S V		G 0 8 0		N																											
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 fifteen single-space typewritten lines)(16)

On 9/2/93 at 2110 CDT, during routine Technical Specification (T/S) 4.3.4.2 Turbine Overspeed Protection (TORP) surveillance testing, the turbine electrical trip system failed its portion of the surveillance due to electrical trip solenoid valve CHFY0004A failing to actuate to the trip position. Subsequently, the mechanical turbine trip system was relied upon to fulfill the T/S 3/4.3.2, Table 3.3-3, Turbine Trip Engineered Safety Features Actuation System (ESFAS) function from 9/2/93 at 2110 CDT until 10/1/93 at 0201 CDT without having been response time tested in accordance with T/S 4.3.2.2. This event was due to cognitive personnel error and constituted an unintentional entry into T/S 3.0.3 during this time period. The plant was in Mode 1 at 100% reactor power on 9/2/93.

On 12/8/94, during a review of a similar industry event, a utility engineer determined that the actual mechanical turbine trip response time had not been measured as required by T/S 3/4.3.2.

This event will be reviewed with pertinent utility personnel. A review of other T/S 3/4.3.2 ESFAS response time requirements will be performed to ensure compliance. CHFY0004A was sent to General Electric for troubleshooting and refurbishment. No root cause of failure could be determined. A T/S change has been submitted to remove turbine trip response time testing requirements from T/S 3/4.3.2.

# LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)	
Callaway Plant Unit 1	0500048394	YEAR	SEQUENTIAL NUMBER	REV NO.	02	OF 04

TEXT (if more space is required, use additional NRC Form 366A/e)(17)

## BASIS FOR REPORTABILITY:

Technical Specification (T/S) 4.3.2.2 requires the ENGINEERED SAFETY FEATURES RESPONSE TIME of each Engineered Safety Features Actuation System (ESFAS)<sup>(1)</sup> be demonstrated to be within its required limit at least once per 18 months. The mechanical turbine trip system<sup>(2)</sup> was relied upon to fulfill the T/S 3/4.3.2, Table 3.3-3 Turbine Trip ESFAS function from 9/2/93 at 2110 CDT until 10/1/93 at 0201 CDT without having been response time tested in accordance with T/S 4.3.2.2. This event constituted an unintentional entry into T/S 3.0.3 and is therefore reportable per the requirements of 10CFR50.73(a)(2)(i)(B) as a condition prohibited by the plant's Technical Specifications.

## CONDITION AT TIME OF EVENT:

Mode 1 - Power Operations; coasting down in preparation for refuel outage from 9/2/93 until 10/1/93. 100% Reactor Power on 9/2/93.

## DESCRIPTION OF EVENT:

On 9/2/93 at 2110 CDT, during routine T/S 4.3.4.2 Turbine Overspeed Protection surveillance testing, the turbine electrical trip system failed its portion of the surveillance due to electrical trip solenoid valve, CHFY0004A<sup>(3)</sup>, failing to position to the TRIP position. The electrical trip solenoid valve could not be replaced on line, however, a review by utility personnel determined that the mechanical turbine trip system had met T/S 4.3.4.2 surveillance requirements and thus the Turbine Overspeed Protection System was still operable in accordance with T/S 3/4.3.4. Callaway continued to operate in this condition until 10/1/93 at 0201 CDT when the plant entered Mode 3 conditions in preparation for a planned refuel outage.

It should be noted that when the turbine was manually tripped at 0122 CDT, the turbine electrical trip system functioned as designed.

On 12/8/94, during a review of a similar industry event, a utility engineer determined that although the T/S 3/4.3.4 requirements for Turbine Overspeed Protection had been met, the mechanical turbine trip response time requirement of 2.5 seconds had not been evaluated as required by T/S 3/4.3.2 and Table 3.3-5 Item 8.b. During the T/S 3/4.3.4 Turbine Overspeed Protection quarterly surveillance, the mechanical turbine trip system actuated in a quick and efficient manner, but the response time of the mechanical trip was not measured. Since the mechanical turbine trip system was relied upon to meet the Turbine Trip function, but had not been formally response time tested, this condition represented a violation of Technical Specifications.

# LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)		
Callaway Plant Unit 1	0   5   0   0   0   4   8   3	YEAR	SEQUENTIAL NUMBER	REV NO.	0   3	OF	0   4
		9   4	-   0   0   6	-   0   1			

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

## ROOT CAUSE:

The root cause of this event was cognitive human performance error. Utility personnel failed to recognize that the mechanical turbine trip system response time had not been verified to meet the requirements of T/S 4.3.2.2.

## CORRECTIVE ACTIONS:

1. This event will be reviewed with the On-Site Review Committee, Licensing and Fuels, Shift Supervisors and Nuclear Engineering.
2. A review will be performed of other Technical Specification Table 3.3-5 requirements to assure that all required testing for individual trains of a system has been identified and is being performed.
3. The electrical trip solenoid valve was sent to General Electric for troubleshooting and refurbishment. No root cause of failure could be determined. As a normal part of refurbishment, all o-rings were replaced and the valve internal parts were cleaned and tested.
4. A T/S change has been submitted to relocate the response time testing limits from T/S 3/4.3.2 to the Final Safety Analysis Report (FSAR). A safety evaluation has been performed which would support a subsequent FSAR change to delete the turbine trip response time test surveillance.

## SAFETY SIGNIFICANCE:

Although the mechanical turbine trip response time was not evaluated, the mechanical turbine trip system complied with T/S 3/4.3.4 Turbine Overspeed Protection surveillance requirements. Additionally, when the turbine was manually tripped on 10/1/94, the turbine electrical trip functioned as designed and met the required response time. A review of mechanical turbine trip system surveillance data indicates the mechanical trip function had an actual response time of less than or equal to 2.976 seconds as measured using the Balance of Plant sequence of event computer points from a reactor trip on 9/20/92.

A safety evaluation was performed by Union Electric and Westinghouse which indicates that deletion of the response time testing surveillance for the turbine trip function on steam generator high-high water level will not cause the Departure from Nucleate Boiling, Reactor Coolant System pressure limit, or the peak linear power acceptance criteria to be exceeded. This event, therefore, did not present a threat to the public health and safety.

# LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REV NO.		
Callaway Plant Unit 1	0 5 0 0 0 4 8 3 9 4	-	0 0 6	-	0 1	0 4 OF 0 4

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

## PREVIOUS OCCURRENCES:

None.

## FOOTNOTES:

The system and component codes listed below are from IEEE Standard 805-1984 and 803A-1984, respectively.

- (1) System - JE
- (2) System - TA
- (3) System - TA, Component - PSV