

LICENSEE EVENT REPORT (LER)

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TITLE (4) **Condition Prohibited by Technical Specifications Due to Turbine Stop Valve and Turbine Control Valve Missed Surveillances**

EVENT DATE (5)			LER NUMBER (6)				REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)							
MON	DAY	YR	YR	SEQUENTIAL NUMBER	REVISION NUMBER	MON	DAY	YR	FACILITY NAMES		DOCKET NUMBER (8)						
05	07	97	97	- 0 1 1	- 0 0	06	06	97			0	5	0	0	0		
													0	5	0	0	0

OPERATING MODE (9) **1**

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR (11)

POWER LEVEL (10) **0 2 7**

10 CFR 50.73(a)(2)(i)(B)

OTHER _____

(Specify in Abstract below and in text, NRC Form 366A)

LICENSEE CONTACT FOR THIS LER (12)

Norm Peterson - Compliance Supervisor

TELEPHONE NUMBER
AREA CODE **313** NUMBER **586-4258**

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)														
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE) NO

EXPECTED SUBMISSION DATE (15)

MONTH DAY YEAR

ABSTRACT (16)

On May 7, 1997 at approximately 0000 hours, while increasing reactor power following a reactor startup, it was determined that the Turbine Stop Valve (TSV) Closure and Turbine Control Valve (TCV) Fast Closure Channel Functional Tests had not been performed prior to entry into Operational Condition 1 as required by Technical Specification Limiting Condition for Operation (LCO) 3.3.1. Reactor power was verified to be less than 30% Rated Thermal Power (RTP), the Channel Functional Tests were performed, and the TSV Closure and TCV Fast Closure scram functions were declared Operable within 24 hours of discovery, as allowed by Technical Specification 4.0.3 following identification of a missed surveillance.

The cause of this event was failure to recognize, during the development of the applicable surveillance procedures and schedules, that LCO 3.3.1 requires the TSV Closure and TCV Fast Closure scram functions to be Operable prior to entry into Operational Condition 1. The Applicability requirements have been misinterpreted since initial plant operation to allow entry into Operational Condition 1 prior to performance of the Channel Functional Tests because of the safety analysis assumptions, and the industry-wide interpretation of the Applicability for these scram functions in the Standard Technical Specifications, from which the Fermi 2 Technical Specifications were derived.

Reactor power remained below 30% RTP during this event; therefore, the assumptions in the accident analyses were met and there was no threat to the public health or safety. Additionally, the Channel Functional Tests were performed satisfactorily, verifying that these scram functions had indeed been Operable. Corrective actions include revising the surveillance procedure and the surveillance scheduling database to reflect the Operational Condition 1 Applicability. The change in the interpretation of the Applicability for this Technical Specification will be included in Licensed Operator Requalification Training.

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TEXT (17)

Initial Plant Condition:

Operational Condition: 1 (Power Operation)
 Reactor Power: 27 Percent
 Reactor Pressure: 955 psig
 Reactor Temperature: 540 degrees Fahrenheit

Description of the Event:

Technical Specification Limiting Condition for Operation (LCO) 3.3.1 requires that the Reactor Protection System (RPS) Turbine Stop Valve (TSV) Closure and Turbine Control Valve (TCV) Fast Closure scram functions (Table 3.3.1-1 functions 9 and 10) be Operable in Operational Condition 1. The Channel Functional Tests for these instruments are required to be performed every 92 days in accordance with Table 4.3.1.1-1. These surveillances had not been performed within the required frequency, and were not performed prior to entry into Operational Condition 1. This resulted in operation in a condition prohibited by Technical Specifications. This event is reportable in accordance with 10CFR50.73 (a)(2)(i)(B).

The TSV Closure and TCV Fast Closure Channel Functional Tests were beyond their required periodicity due to the length of the recent maintenance outage, and were scheduled to be performed at the 27% power plateau during plant startup. This power level was chosen based upon a long standing misinterpretation of the Applicability requirements for this Technical Specification. The Applicability of Technical Specification LCO 3.3.1, Table 3.3.1-1, functions 9 and 10 is Operational Condition 1(j). Footnote (j) states, "This function shall be automatically bypassed when turbine first stage pressure is ≤ 161.9 psig, equivalent to Thermal Power less than 30% of Rated Thermal Power." This Applicability has been interpreted from the time of initial power operation to require that these functions be Operable only at or above 161.9 psig turbine first stage pressure (TFSP) in Operational Condition 1. Therefore, the surveillance procedures and scheduling efforts were keyed to this specified Operational Condition.

On May 7, 1997 at 0000 hours, while holding reactor power at 27% following a reactor startup, it was determined that the TFSP had exceeded 161.9 psig without the TSV Closure and TCV Fast Closure Channel Functional Tests being performed. The Channel Functional Tests were in readiness for being performed when the Nuclear Shift Supervisor (NSS) noted the apparent discrepancy and ordered power level reduced. Reactor power was immediately reduced to 22.9% RTP and turbine first stage pressure to 156.6 psig in accordance with the Table 3.3.1-1 Action Statement. The Channel Functional Tests were performed and the TSV Closure and TCV Fast Closure functions declared Operable within 24 hours of discovery, as allowed by Technical Specification 4.0.3, following identification of a missed surveillance.

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Cause of the Event:

The cause of this event was failure to recognize, during the development of the applicable surveillance procedures and schedules, that Technical Specification LCO 3.3.1 requires the TSV Closure and TCV Fast Closure scram functions to be Operable prior to entry into Operational Condition 1. Technical Specification Table 3.3.1-1 lists the Applicable Operational Condition for these two functions as Operational Condition 1(j). Footnote (j) states, "This function shall be automatically bypassed when turbine first stage pressure is \leq 161.9 psig, equivalent to Thermal Power less than 30% of Rated Thermal Power." Rather than acting as an Operational Condition modifier, footnote (j) literally specifies the acceptance criteria for the automatic bypass function. The interpretation that Applicable Operational Condition 1(j) means Operational Condition 1 above 161.9 psig, which is equivalent to 30% RTP, was assumed to be acceptable in the past based upon the analytical assumption that these two scram functions are not needed below 30% RTP, and are in fact, bypassed below the turbine first stage pressure corresponding to 30% RTP (161.9 psig). A contributing factor was the industry - wide acceptance of this interpretation following issuance of the Standard Technical Specifications (STS), from which the Fermi 2 Technical Specifications were derived. Custom Technical Specifications, which preceded the STS for BWR/4s and which had been in use at older BWR/4s, were interpreted as not requiring these functions to be Operable in Mode 1 below 30% RTP. The Improved Standard Technical Specifications (ISTS) for the BWR/4s, NUREG 1433, issued in 1992, and Revision 1, issued in 1995, clearly specify the Applicability as greater than or equal to 30% RTP, which continued to foster the misinterpretation of the Fermi 2 Technical Specification.

Analysis of the Event:

Closure of the TSVs and fast closure of the TCVs result in the loss of a heat sink, producing increasing reactor pressure, neutron flux, and heat flux transients that must be limited. Therefore, reactor scrams are initiated at the start of TSV closure and on TCV fast closure in anticipation of the transients that would result from the closure of these valves. The TSV Closure scram function is the primary scram signal for the turbine generator trip event analyzed in the Updated Final Safety Analysis Report (UFSAR). The TCV Fast Closure scram function is the primary scram signal for the generator load rejection event analyzed in the UFSAR. For these events, the reactor scrams reduce the amount of energy required to be absorbed and ensure that the Minimum Critical Power Ratio (MCPR) Safety Limit is not exceeded. Both analyses assume that the respective function is available at \geq 30% RTP. Reactor power was determined to remain below 30% RTP during this event. Therefore, the assumptions in the accident analyses were met and there was no threat to the public health or safety. Additionally, the Channel Functional Tests performed on these instruments on May 7, 1997 verified that the scram functions were Operable and would have functioned to mitigate the events for which they were designed, had they been called upon to do so.

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Corrective Actions:

A. Immediate Corrective Action

Power was verified to be less than 30%, and the Channel Functional Tests were performed to verify the Operability of the TSV Closure and TCV Fast Closure scram functions.

B. Corrective Actions to Prevent Recurrence

1. The Channel Functional Test surveillance procedure for the TSV Closure and TCV Fast Closure scram functions (24.110.05) will be modified by June 30, 1997 to reflect the Operational Condition 1 Applicability for these functions.

2. The Surveillance Scheduling and Tracking (SST) data base has been updated to reflect the Operational Condition 1 Applicability for these functions.

3. The change in the interpretation of the Applicability for this specification will be included in the Operating Experience segment of Licensed Operator Requalification Training, Cycle 97-04. The training is scheduled to be completed by August 15, 1997.

Additional Information:

A. Failed Components

None

B. Previous LERs on Similar Problems

There have been previous LERs associated with the misinterpretation of the Technical Specification Applicability requirements by individuals (e.g., LER 89-035), and with the failure to properly incorporate the Applicability requirements into procedures (e.g., LER 87-048), but none involving the widespread misreading of the Applicability requirements by both plant and industry personnel described herein. Due to the industry wide acceptance of the original interpretation, it is unlikely that the corrective actions taken for the previous events would have prevented this most recent event.