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December 27, 1990

U.S. Nuclear Regulatory Commission
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Gentlemen:

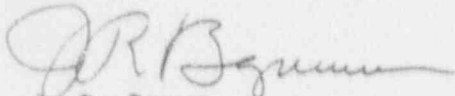
TENNESSEE VALLEY AUTHORITY - SEQUOYAH NUCLEAR PLANT UNIT 2 - DOCKET
NO. 50-328 - FACILITY OPERATING LICENSE DPR-77 - LICENSEE EVENT REPORT
(LER) 50-328/90019

The enclosed LER provides details concerning an improper test of a thermal overload heater on 2-FCV-63-72. This event is being reported in accordance with 10 CFR 50.73(a)(2)(i) as an operation prohibited by technical specifications.

If you have any questions concerning this matter, please contact M. A. Cooper at (615) 843-8422.

Very truly yours,

TENNESSEE VALLEY AUTHORITY


J. R. Bynum

Enclosure
cc: See page 2

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U.S. Nuclear Regulatory Commission
December 27, 1990

cc (Enclosure):

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Region II
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LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Sequoyah Nuclear Plant, Unit 2 | DOCKET NUMBER (2) | PAGE (3) | 050003 | 2 | 8 | 10 | 04

TITLE (4) Improper test of a thermal overload heater on Valve 2-FCV-63-72 resulted in an operation prohibited by technical specifications.

EVENT DAY (5) | LER NUMBER (6) | REPORT DATE (7) | OTHER FACILITIES INVOLVED (8)
MONTH | DAY | YEAR | SEQUENTIAL | REVISION | MONTH | DAY | YEAR | FACILITY NAMES | DOCKET NUMBER(S)
1 | 1 | 2 | 7 | 9 | 0 | 9 | 0 | 0 | 1 | 9 | 0 | 0 | 1 | 2 | 2 | 7 | 9 | 0 | Sequoyah, Unit 1 | 050003 | 2 | 7

OPERATING MODE (9) | THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5: (Check one or more of the following)(11)
20.402(b) | 20.405(c) | 50.73(a)(2)(iv) | 73.71(b)
POWER LEVEL (10) | 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 Abstract below and in Text, NRC Form 366A)
20.405(a)(1)(iii) | X | 50.73(a)(2)(i) | 50.73(a)(2)(viii)(A)
20.405(a)(1)(iv) | 50.73(a)(2)(ii) | 50.73(a)(2)(viii)(B)
20.405(a)(1)(v) | 50.73(a)(2)(iii) | 50.73(a)(2)(ix)

LICENSEE CONTACT FOR THIS LER (12)
NAME | TELEPHONE NUMBER
Melissa D. Meade, Compliance Licensing Engineer | 6 | 1 | 5 | 8 | 4 | 3 | - | 7 | 7 | 6 | 6

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

SUPPLEMENTAL REPORT EXPECTED (14) | EXPECTED MONTH | DAY | YEAR | SUBMISSION DATE (15)
YES (if yes, complete EXPECTED SUBMISSION DATE) | X | NO

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)
On November 27, 1990, with Unit 2 in Mode 1, during review of an October 31, 1990, performance of SI-251.2, it was determined that the thermal overload heater (TOLH) on 2-FCV-63-72 was improperly tested after replacing the valve motor and overload. SI-251.2 was performed as the postmodification testing (PMT), but the procedure was not updated to incorporate the new motor data prior to the performance. LCOs 3.8.3.2, 3.6.2.1, and 3.5.2 were entered on November 27, 1990, at 1048 EST. The SI was revised and performed without requiring adjustment on the TOLH. The LCOs were exited at 2245 EST on November 27, 1990. This event is attributed to a lack of attention to detail in that the review cycle of the workplan change that added the TOLH replacement did not include all required plant sections. As corrective action, training on AI-19, Parts IV and VI, emphasizing the requirements for the workplan change form (WCF) review process has been conducted. The AI-19 WCF will be revised to include the Maintenance Planning and Technical section in the review cycle when applicable. As a result of an incomplete review of deficiencies identified during the performance, a training session was held with design engineers to ensure reviews are conducted utilizing relevant design output documents.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
Sequoyah Nuclear Plant Unit 2	0500032890	0	1	9	0	0

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

Description of Event

On November 27, 1990, at 0900 Eastern standard time (EST), with Unit 2 in Mode 1 (32 percent power, 555 degrees Fahrenheit, 2235 pounds per square inch gage), the system engineer discovered during review of a Surveillance Instruction (SI) 251.2, "Channel Calibration of Class 1E Motor Operated Valve Overload Relay Heaters," performance package, that the thermal overload heater (TOLH) on Valve 2-FCV-63-72 was improperly tested on October 31, 1990, after a modification. During the Unit 2 Cycle 4 refueling outage, the motor for the valve was discovered to be damaged. An exact replacement was not readily available; therefore, it was replaced with a larger motor. Because this was emergent work during the outage, the replacement was an expedited design and installation process. An advance authorization of the design change notice (DCN) was issued on October 7, 1990, to allow work to proceed replacing the motor. The workplan (WP), implementing the design change was approved on October 9, and the motor was replaced on October 10. The final DCN was issued on October 26, including additional scope of replacing the TOLH. A workplan change form (WCF) was issued to incorporate the final DCN on October 28. This WCF included a postmodification test of SI-251.2 to verify calibration of the new TOLH. In the original WP approval cycle, SI-251.2 was identified as requiring revision to incorporate the new motor data, but did not require the procedure to be revised prior to declaring the valve operable. The review on the WCF did not include the Maintenance Planning and Technical (MP&T) section, the responsible section for the SI-251.2 procedure. If the WCF had been reviewed by MP&T, the required revision would have been identified prior to declaring the valve operable. On October 31, the TOLH was replaced and tested using the previous motor's running current of 13.8 A and locked rotor current of 118.5 A, rather than the running current and locked rotor current values for the new motor, 18.4 A and 146.68 A, respectively.

During the performance of the SI, the test performers recorded three deficiencies that should have identified the problem. The first was that the heater number of the installed heater differed from the number in the procedure. The other two were that trip times exceeded the allowable band in the procedure. The deficiencies were evaluated by Nuclear Engineering (NE) and determined to be acceptable as the differences were in the conservative direction, with respect to allowing the valve to perform its safety function prior to a trip by the thermal overloads (TOLs).

Limiting Conditions for Operation (LCOs) 3.8.3.2, 3.6.2.1, and 3.5.2 were entered on November 27, 1990, at 1048 EST upon discovery of the event. The SI was revised and successfully performed without requiring adjustment. The LCOs were then exited at 2245 EST on November 27, 1990.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)				PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
Sequoyah Nuclear Plant Unit 2		05	003	28	9	0
		--	0	1	9	--
		0	0	0	3	0
		0	3	0	4	

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

Cause of Event

The cause of this event has been attributed to a lack of attention to detail on the part of the modifications engineer responsible for the WP in that he did not obtain proper reviews on the WCF. Had MP&T been included in the WCF review cycle, the required revision would have been identified. A contributing cause for the omission of the MP&T section from the review cycle is they are a relatively new organization and have not been added to the WCF form as a review section.

An inadequate design review of the test deficiencies is another contributing cause of this event. The design engineer did not research the cause of the discrepancies, rather he evaluated the acceptability as the differences were conservative.

Analysis of Event

This event is being reported in accordance with 10 CFR 50.73(a)(2)(i) as an operation prohibited by technical specifications (TSs) because the operability of the TOLH was not verified in accordance with TS SR 4.8.3.2 before returning the valve to service.

TOLHs are installed in motor-operated valves to protect the motor in the event of a fault. The TS SR ensures the protection device will not prevent the valve from performing its safety function. In this event, the operability of the TOL was not verified because the test performed used nonconservative values for running current and locked rotor current. However, the overloads would not have prevented the valve from performing its safety function because the overloads were sized correctly, and when retested using the correct motor current values, they performed properly without adjustment. Therefore, this event caused no adverse affect on the health and safety of the public.

Corrective Action

As immediate corrective action, the SI was revised and performed using the correct motor current values. To prevent recurrence, a training session on Administrative Instruction (AI) 19, Part IV, "Plant Modifications: After Licensing," and Part VI, "Modifications: Permanent Design Change Control Program," have been completed with modifications engineers emphasizing the requirements for the WCF review process. AI-19, Parts IV and VI, will be revised to include MP&T as lead in a review section on the WCF form by March 1, 1991. Additionally, because the design engineer's evaluation of the test deficiencies was not as detailed as expected, a training session was held with design engineers to ensure reviews are conducted utilizing relevant design output documents.

Additional Information

Two previous LERs were issued regarding TOLHs. LER 50-327/84069 described an event where a TOLH was not reset after testing. LER 50-327/87049 provided details of a design error of incorrect sizing of TOLs. Neither of these events are related to the occurrences described in this report.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)				PAGE (3)
		YEAR	NUMBER	REVISION NUMBER		
Sequoyah Nuclear Plant Unit 2	05000328	19	0	1	9	4

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

Additional Information (Continued)

LER 50-327/90023 described an event regarding an SI being improperly revised after a modification resulting in not properly verifying containment integrity. This event is similar to the one described in this report in that both resulted from personnel oversight regarding procedure revisions after modifications. However, the event in this report is an administrative oversight in that the WCF did not receive adequate review, and the event in LER 50-327/90023 was a technical oversight of a procedure revision. Accordingly, the corrective actions resulting from the event in LER 50-327/90023 could not be expected to prevent this event.

Commitments

- i. AI-19, Parts IV and VI, will be revised to include MP&T as a review section on the WCF by March 1, 1991.

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