

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Oconee Nuclear Station, Unit One	DOCKET NUMBER (2) 05000 269	PAGE (3) 1 of 7
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TITLE (4) Missed Valve Surveillance Results In Borated Water Storage Tank Technical Inoperability

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER(S)
07	01	96	96	08	01	10	31	96	Oconee, Unit Three	05000 287
OPERATING MODE (9) N THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR (Check one or more of the following) (11)										
POWER LEVEL (10)		100	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 Abstract below and in Text, NRC Form 366A)	
			20.405(a)(1)(iii)		X	50.73(a)(2)(i)(B)			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)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME Lanny V. Wilkie, Safety Review Manager	TELEPHONE NUMBER AREA CODE (864) 885-3518
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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)

YES (If yes, complete EXPECTED SUBMISSION DATE)	X	NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
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ABSTRACT (Limit to 1400 spaces, i.e. approximately fifteen single-space typewritten lines) (16)

On August 29, 1996, a Component Engineer initiated a problem report because several surveillances of relief valves were not performed within the time frame specified by the ASME Inservice Testing Program (IST). The valves in question were declared inoperable. An engineering review determined on September 3, 1996, at 1210 hours, that two of these valves, 1LP-61 and 3LP-61, rendered the Borated Water Storage Tanks (BWST) inoperable for Units 1 and 3. These valves are required to open and break vacuum when liquid is discharged from the tanks. The BWST provides a source of borated water for Emergency Core Cooling Systems. The other inoperable valves had no affect on operability of any systems. A notification was made to the NRC and a Limiting Condition for Operation (LCO) was entered per Technical Specification 3.2.2. The LCO was exited when the valves were removed from the system. After testing determined that valves 1LP-61 and 3LP-61 would have performed their safety function, they were reinstalled. The root causes of the event are Improper/Lack of communications and Managerial Methods; Deficient Management Monitoring. Management will review this incident with all engineering personnel and reinforce use of the Problem Investigation Process to document and track corrective actions.

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BACKGROUND:

Each Oconee Unit has a dual function vacuum breaker/relief valve for the Borated Water Storage Tank (BWST). Although there is only one valve body, the relief valve function is designated LP-60 and the vacuum breaker is designated LP-61. During normal filling of the BWST, the relief valve is required to open to prevent overpressure. In an accident, the vacuum breaker is required to open to allow air to enter, assuring adequate NPSH for the Emergency Core Cooling System pumps.

Technical Specification 4.0.4 requires valve testing in accordance with the ASME Section XI IST program. ASME/ANSI OM-1 1987 "Operation and Maintenance of Nuclear Power Plants" is the governing document for the required relief valve testing. OM-1 covers the scope of valves and the required testing frequency. It requires that all Class 2 and 3 valves in the program be tested within each 10 year period, with a minimum of 20% of the valves (each group) tested within any 48 months. LP-60 and LP-61 are the only valves in their group on each unit.

Nuclear Station Directive (NSD) 203, Operability, states that pumps/valves which do not meet the overall requirement of IWP/IWV shall be declared inoperable. Systems shall be considered operable if they meet the overall requirements of Technical Specifications (TS).

If the BWST is neither available or operable when the reactor is critical TS 3.2.2 requires the BWST to be restored to operability within one hour or the reactor be placed in a Hot Shutdown condition within 6 hours and Cold Shutdown within an additional 30 hours.

EVENT DESCRIPTION:

The third ten-year interval of Inservice Testing Program (IST), which incorporated ASME OM-1 requirements for Oconee Nuclear Station, began on July 1, 1992. During personnel changes in 1992 and 1993, the assignment of personnel for relief valve engineering support was changed. In the transfer of information between the two personnel, the new relief valve engineer understood the implementation date for the new code requirements was 4 years from July 1, 1993. Therefore, the relief valve engineer

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thought the relief valve part of the IST program would need to be in compliance by June 1997, which would include the 1EOC17 refueling outage. In 1994, a Valve Engineering review team recommended that a formal relief valve testing program be formulated and implemented for all Duke Power nuclear stations. This program was to provide guidance and direction in meeting the new code requirements. This document was issued and the program implemented in June 1995.

Just prior to the 1EOC16 refueling outage on Unit 1 in November 1995, the status of the relief valve program and related portions of the IST program was discussed by representatives responsible for each program. During the discussion, the relief valve engineer indicated that there was time to meet the code requirements because the 4 year implementation period ended in July 1997. The IST engineer questioned that date; subsequent research indicated the date was July 1996. Consequently, there was one refueling outage for code implementation on Unit 1 and no outage on Unit 3. Unit 2 valves were to be tested in the May 1996 refueling outage.

After this realization, discussions were held with engineering supervision to determine the best course of action. It was decided that it was too late to make the necessary preparations to support testing Unit 1 relief valves in the 1EOC16 outage. It was also decided that a Problem Investigation Process (PIP) was not needed at this time because there was a possibility that unscheduled outages could provide a window to allow testing. The relief valve engineer was assigned to track this problem, but he did not write any work request or contact outage scheduling personnel to add the Unit 1 and 3 valves on an outage work list.

The affected valves on Unit 2 were added to the outage scope and tested during the Unit 2 refueling outage which started March 28, 1996.

On July 1, 1996, the testing of these valve became overdue. A PIP was not originated then because the relief valve engineer did not realize there would be an impact on system operability. Therefore formal operability and reportability evaluations were not begun.

After discussions with the IST engineer, the relief valve engineer initiated a PIP on August 29, 1996, documenting the missed surveillances

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of relief valves specified by the ASME IST program. A formal operability evaluation was performed. Nuclear Station Directive 203 requires that the valves in question be declared inoperable. This was reported to the Shift Supervisor. On September 3, 1996, at 1210 hours, an engineering review determined that two of these valves, 1LP-61 and 3LP-61, rendered the Borated Water Storage Tanks (BWST) inoperable for Units 1 and 3. These valves are required to open and break vacuum when liquid is discharged from the tank. The other inoperable valves had no affect on operability of any systems.

A Limiting Condition for Operation (LCO) was entered per Technical Specification 3.2.2. at 1210 hours and a notification was made to the NRC at 1241 hours. At 1310 hours, the one hour action statement to restore operability of Units 1 and 3 BWSTs expired, and the units were operated under the action statement to be at Hot Shutdown conditions by 1810 hours. No power reduction commenced because Engineering was preparing an operability evaluation to justify that the system would be operable with the valves removed.

At 1327 hours, 3LP-61 (Unit 3 BWST Vacuum Breaker) was removed and, at 1440 hours, 1LP-61 (Unit 1 BWST Vacuum Breaker) was removed. Screens were installed to prevent foreign materials from entering the BWSTs while the valves were not in place.

At 1737 hours, the LCO was exited after Engineering provided Operations with an operability evaluation that addressed the BWST configuration with the valves removed. With the valves removed from the system, relief and vacuum breaker functions were assured. The UFSAR does not take any credit for retention of radioactive gasses within the BWST after a LOCA. Testing demonstrated that valves 1LP-61 and 3LP-61 would have performed their safety function. Therefore, although the valves were declared inoperable, there was no present or past inoperability. The valves were reinstalled on the BWSTs on September 6, 1996.

The initial NRC notification was made under 10CFR50.72(b)(2)(iii)(D) as "Any event or condition that alone could have prevented the fulfillment of the safety function of structures or systems that are needed to mitigate the consequences of an accident." After testing demonstrated that the

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valves were operable, the reportability was reviewed. On September 25, 1996, the initial notification was retracted. This Licensee Event Report is being made under 10CFR50.73(a)(2)(i)(B) as a condition outside of Technical Specifications, due to missing IST surveillances.

CONCLUSIONS:

There are two root causes for this event. One is Improper/Lack of Communication of the initial start date for implementation of required testing. This occurred during the transfer of engineering personnel responsible for relief valves. This resulted in less time available to complete the testing during the initial four year time frame. Also, there was a lack of communication between the valve engineering group and the system engineering group as to the impact of this single component on system operability.

Another root cause is Managerial Methods; Deficient Management Monitoring of this situation once it was identified. When the problem of the potential for missing the testing schedule was brought to management's attention, the proper action was not directed. A Problem Investigation Process report should have been issued when the problem was first identified. This would have driven the proper involvement of the appropriate individuals.

A review of operating experience at Oconee indicates that there was one event involving a missed technical specification surveillance; however, the root cause of that event was different. Therefore, this event is considered non-recurring.

There were no personnel injuries nor radioactive exposures as a result of this event.

There was no NPRDS equipment failure associated with this event.

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CORRECTIVE ACTIONS:

Immediate

1. Borated Water Storage Tank declared inoperable and Limiting Condition for Operation was entered.

Subsequent

1. 1LP-61 and 3LP-61 were removed from the Borated Water Storage Tanks (BWST) for Units 1 and 3. The BWSTs were declared "operable but degraded."
2. 1LP-61 and 3LP-61 were successfully tested as to their vacuum setpoint and were declared operable.
3. 1LP-61 and 3LP-61 were re-installed on their respective BWST.

Planned

1. All the other missed IST relief valves will be tested during the present shutdown of the Oconee units.
2. Complete the detailed Oconee relief valve program document.
3. Engineering Management will review this incident with all engineering personnel and reinforce the need to use the Problem Investigation Process to document corrective actions requiring management oversight.
4. Review the IST programs for other requirements added by the third ten year interval and assure all requirements are being met.

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SAFETY ANALYSIS:

LP-60 and LP-61 are a vacuum breaker/relief valve combination. During normal filling the relief valve (LP-60) is required to prevent overpressure. In an accident, the vacuum breaker (LP-61) is required to relieve to allow air to enter and prevent the Emergency Core Cooling Systems pumps from losing suction and to maintain the Borated Water Storage Tank (BWST) integrity. After valves 1LP-61 and 3LP-61 were declared inoperable and later tested, their respective relief setpoint was found to be lower than required. Therefore, the vacuum breakers were capable of opening and admitting sufficient air to maintain the pressure in the BWST above design vacuum when liquid is removed. Also there were no challenges to the capability of these valves from an accident situation during the time frame of this event. Therefore, the health and safety of the public was not affected by this event.