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February 2, 2000

U.S. Nuclear Regulatory Commission
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Washington, D.C. 20555

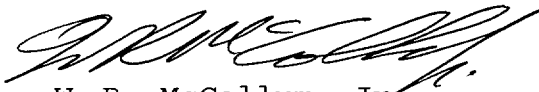
Subject: Oconee Nuclear Station
Docket Nos. 50-270
Licensee Event Report 50/270/00-01, Revision 0
Problem Investigation Process No.: O-00-00043

Gentlemen:

Pursuant to 10 CFR 50.73 Sections (a) (1) and (d), attached is Licensee Event Report 270/00-01, concerning a pressurizer relief valve setpoint found outside of tolerance during testing.

This report is being submitted in accordance with 10 CFR 50.73 (a) (2) (B). This event is considered to be of no significance with respect to the health and safety of the public.

Very truly yours,



W. R. McCollum, Jr.

Attachment

IE22

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February 2, 2000

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cc: Mr. Luis A. Reyes
Administrator, Region II
U.S. Nuclear Regulatory Commission
61 Forsyth Street, S. W., Suite 23T85
Atlanta, GA 30303

Mr. D. E. LaBarge
U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Washington, D.C. 20555

INPO Records Center
700 Galleria Parkway, NW
Atlanta, GA 30339-5957

Mr. M. C. Shannon
NRC Senior Resident Inspector
Oconee Nuclear Station

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Oconee Nuclear Station, Unit 2 DOCKET NUMBER (2) 050-270 PAGE (3) 1 of 6

TITLE (4) Pressurizer Relief Valve Setpoint Found Out-of-Tolerance

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)
1	6	00	2000	-01	-00	2	2	00		050

OPERATING MODE (9) 1 THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR (Check one or more of the following) (11)

POWER LEVEL (10) 100	<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.405(c)	<input type="checkbox"/> 50.73(a)(2)(iv)	<input type="checkbox"/> 73.71(b)
	<input type="checkbox"/> 20.405(a)(1)(i)	<input type="checkbox"/> 50.36(c)(1)	<input type="checkbox"/> 50.73(a)(2)(v)	<input type="checkbox"/> 73.71(c)
	<input type="checkbox"/> 20.405(a)(1)(ii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(vii)	<input type="checkbox"/> OTHER (Specify in Abstract below and in Text, NRC Form 366A)
	<input type="checkbox"/> 20.405(a)(1)(iii)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)(B)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)	
	<input type="checkbox"/> 20.405(a)(1)(iv)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)	
	<input type="checkbox"/> 20.405(a)(1)(v)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12) NAME: L.E. Nicholson, Regulatory Compliance Manager TELEPHONE NUMBER: AREA CODE (864) 885-3292

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 (f yes, complete EXPECTED SUBMISSION DATE) X NO EXPECTED SUBMISSION DATE (15) MONTH DAY YEAR

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

On January 6, 2000, with Oconee Unit 2 at 100 percent full power (mode 1), notification was received from an off-site testing facility that the initial as-found lift pressure (2547 psig) of one Reactor Coolant System (RCS) pressurizer Safety Valve, during testing, was greater than the Technical Specification limits of 2500 psig including tolerance of +/- 25 psi.

The cause is believed to be set point drift. This valve was replaced with a certified spare and is now at the off-site testing facility. Corrective action to be taken includes disassembly, inspection, and refurbishment. This valve will be tested as part of routine certification testing for pressurizer safety relief valves prior to being reinstalled.

The condition posed no threat to public health and safety.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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 (MNB 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

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EVALUATION:

BACKGROUND

The Reactor Coolant System (RCS) [EIIS:AB] serves as a barrier which prevents release of radionuclides contained in the reactor coolant from reaching the atmosphere. System pressure limits have been established to assure the integrity of the RCS. The design pressure of the RCS is 2500 psig. The maximum transient pressure as specified by American Society of Mechanical Engineers (ASME) Code, Section III, Summer 1967, is 110 percent of design pressure. Thus, the safety limit for RCS pressure is 2750 psig. The pressurizer code safety relief valves (PCSRV) [EIIS:RV] prevent overpressurization of the RCS during transients and accidents that involve a mismatch between the primary heat source(s) and the secondary heat sink. Technical Specification 3.4.10 requires both PCSRVs to be operable (with lift settings greater than 2475 psig and less than 2525 psig, i.e. within +/-1% of setpoint) whenever the reactor [EIIS:RCT] is in Modes 1, 2 and Mode 3 with all RCS cold leg temperatures > 325 degrees F. One PCSRV is required by Technical Specifications to be tested every refueling outage.

The PCSRVs were manufactured by Dresser Industries. Since equipment to test and establish setpoints for these valves is not present on site, the valves are removed during scheduled refueling outages, shipped to a vendor, tested and adjusted as necessary, and returned to Oconee. Meanwhile, spare PCSRVs are installed to replace those being tested. When the tested valves are returned to Oconee, they become the spares. In this manner, each pair of PCSRVs is rotated between the three Oconee units.

EVENT DESCRIPTION

During Unit 2 cycle 16 refueling outage the certified spare pressurizer code safety relief valves, (PCRVS) 2RC-67 (S/N BL-8894) and 2RC-68 (S/N BT-4976), were installed. The PCRVS as-left setpoints were within the required Technical Specification tolerance of +/- 1 percent. PCRVS 2RC-67 (S/N BL-8894) and 2RC-68 (S/N BT-4976) remained on Unit 2 pressurizer for the entire fuel cycle.

During the Unit 2 cycle 17 refueling outage, PCSRVs Serial Numbers (S/N) BL-8894 (2RC-67) and BT-4976 (2RC-68) were removed for testing.

**LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION**

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These PCSRVs were tested on December 20, 1999. PCSRV 2RC-68 (S/N BT-4976) as-found lift pressure was 2510 psig which met the Technical Specification. PCSRV 2RC-67 (S/N BL-8894) as-found lift pressure was 2547 psig, which is approximately 1% above setpoint and 1% above the Technical Specification 3.4.10 limit.

On January 6, 2000, Duke engineering evaluated the results of the vender tests and concluded that the as found lift pressure of 2RC-67 was outside the Technical Specification limit. Problem Investigation Process (PIP) report number O-00-0043 was written to document the as-found set point pressure of 2547 psig.

On January 18, 2000, the NRC approved Oconee's Technical Specification change request (Amendment No. 309) for section 3.4.10, changing the PCSRV setpoint tolerance from +/- 1% to +/- 3%. This change is for all three units. If this Technical Specification Amendment had been in effect, this LER would not have been required, as the as-found setpoint was within the three percent tolerance.

CAUSAL FACTORS

The cause is believed to be set point drift. There are certain mechanical conditions for pressurizer relief valves that could cause the as-found set point pressure to be out of tolerance. Examples of these conditions include the valve internals being out of alignment, binding, wearing, the valve disk bonding to the seat, testing/calibration of instruments and not being able to reproduce the as-left test conditions repeatedly and accurately. The inspection of the PCSRV had not been performed when this report was written. This PCSRV had not shown any signs of leakage during the past fuel cycle. Therefore, it is believed there should not be any abnormal wear or misalignment of the internal parts and the out of tolerance would be contributed to set point drift.

The final test report, describing the test results and mechanical condition of the PCSRVs from the off-site testing facility and the valve manufacture has not been received when this report was prepared. If significant information becomes available upon receipt of these reports, determining the root cause was not set point drift, than a supplement to this LER will be submitted.

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CORRECTIVE ACTIONS**Immediate:**

1. Unit 2 Pressurizer Code Safety Relief Valves were replaced with certified spares.

Planned:

1. Field representatives from the valve manufacture will disassemble the valve and inspect the internals for any abnormal conditions, at the off-site testing facility.
2. The vendor procedure that controls the test conditions at the off-site testing facility has been revised for the Unit 2 PCSRVs as-left testing in 1999. The procedure change will attempt to better match the calibration and test environmental conditions for the as-found and the as-left setpoint testing. This change should provide more consistent set point testing, calibration and increase test repeatability. Oconee will evaluate the results from this vendor procedure revision after the as-left set point and the as-found set point has been tested using this revised procedure. This should take place when Unit 2 PCSRVs as-found setpoint have been tested after 2EOC18 refueling outage in 2001.
3. Pressurizer Code Safety Relief Valve 2RC-67 (S/N BL-8894) will be reworked, calibrated and tested with the revised test procedure for certification.

There are no NRC commitments contained in this LER.

SAFETY ANALYSIS

The primary function of the pressurizer code safety relief valves (PCSRV) is to maintain the Reactor Coolant System (RCS) pressure below the transient pressure safety limit of 2750 psig during normal operation or anticipated operational occurrences. During normal operation and most plant transients, the PCSRV setpoint is not challenged because of the

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normal pressure control mechanisms. The pressurizer spray valve opens at approximately 2205 psig, introducing a cooler RCS water spray, which quenches pressurizer steam and reduces RCS pressure. If the pressure reaches approximately 2355 psig, the Reactor Protection System (RPS) [EIIS:JC] receives a trip signal which shuts down the reactor and reduces heat input to the RCS. The PCSRVs alone can not prevent overpressure; they act in conjunction with the RPS to prevent overpressure. If pressure increases to 2450 psig, the pilot operated relief valve would open and relieve RCS pressure. The PCSRVs are necessary only during plant transients in which the normal pressure control functions are insufficient.

The startup accident is the limiting design basis event with respect to peak RCS pressure. The startup accident was reanalyzed for +/- 3% PCSRV setpoint tolerance for the approved Technical Specification 3.4.10 revision. The startup accident peak RCS pressure with the new +/- 3% PCSRV setpoint tolerance is less than the acceptance criterion of 2750 psig. Therefore, PCSRV (2RC-67) being 2% high, would have performed its intended safety function and prevented overpressurization of the RCS.

ADDITIONAL INFORMATION

There was one LER reporting pressurizer code safety relief valves (PCSRV) setpoint being out of tolerance in the past two years. LER 269/99-04, Unit 1 Pressurizer Relief Valve was found out-of-tolerance, by 3% above Technical Specification. Prior to implementation of the Improved Technical Specifications (ITS) on March 27, 1999, PCSRVs were required to be "operable". PCSRVs outside "Tolerance" required an operability evaluation to demonstrate that the valves would have performed their function of maintaining RCS less than 2750 psig for all accidents.

Oconee has tested both PCSRVs every refueling outage while the ASME Section III requires only one to be tested. Duke has recognized that the environmental test conditions may affect the results of the tests and is requiring the vendor to revise the test procedure. The PCSRVs are refurbished with new springs, bellows and other new parts whenever there are any questions about their physical condition.

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This condition did not result in personnel injuries, radiation overexposures, or releases of radioactive materials. Therefore, it did not posed any threat to public health and safety.