APPENDIX B

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Inspection Report: 50-313/88-11
50-368/88-11

Operating License: DPR-51
NPF-6

Dockets: 50-313
50-368

Licensee: Arkansas Power & Light Company (AP&L)
P.O. Box 551
Little Rock, Arkansas 72203

Facility Name: Arkansas Nuclear One (ANO), Units 1 and 2

Inspection At: ANO Site, Russellville, Arkansas

Inspection Conducted: April 18-22, 1988

Inspectors: _____ 5/9/88
D. L. Kelley, Reactor Inspector, Test Programs Section, Division of Reactor Safety — Date

_____ 5/4/88
J. I. Tapia, Project Engineer, Project Section A, Division of Reactor Projects — Date

Accompanying Personnel: R. V. Azua, Reactor Inspector, Test Programs Section, Division of Reactor Safety

W. C. Seidle, Chief, Test Programs Section Division of Reactor Safety on April 21-22, 1988

Approved: _____ 5/10/88
W. C. Seidle, Chief, Test Programs Section Division of Reactor Safety — Date

Inspection Summary

Inspection Conducted April 18-22, 1988 (Report 50-313/88-11)

Areas Inspected: No inspection of Unit 1 was conducted.

Results: Not applicable.

Inspection Conducted April 18-22, 1988 (Report 50-368/88-11)

Areas Inspected: Routine, unannounced inspection of containment integrated leak rate test (CILRT).

Results: Within the one area inspected, one apparent violation was identified (failure to correctly follow procedures, paragraph 2).

DETAILS

1. Persons Contacted

AP&L

*S. M. Quennoz, Plant General Manager
*P. Michalk, Licensing Specialist
*R. Lane, Manager, Engineering
*B. Baker, Manager, Plant Modifications
*E. C. Ewing, General Manager, Plant Support
*D. B. Lomax, Plant Licensing Supervisor
*R. P. Wewers, Work Control Center Manager
*D. Howard, Manager, Licensing
*H. Greene, Quality Assurance Superintendent
*S. McGregor, Engineering Services Superintendent
*J. Taylor-Brown, Quality Control/Quality Engineering Superintendent
*J. McWilliams, Maintenance Manager
D. Crabtree, Engineering Program Supervisor, CILRT Test Director
R. Oxner, Engineering Services, CILRT Test Director

Bechtel, Inc.

B. Patel, Lead Engineer (CILRT)
L. Young, Lead Engineer (CILRT)
K. Pimentel, Engineer (CILRT)
R. Blum, Engineer (CILRT)

NRC

*R. V. Azua, Reactor Inspector
*D. L. Kelley, Reactor Inspector
*J. I. Tapia, Project Engineer
*R. Haag, Resident Inspector
*W. Johnson, Senior Resident Inspector
*W. C. Seidle, Chief, Test Programs Section

The NRC inspectors also contacted other plant personnel, including operators, technicians, and administrative personnel.

*Denotes those present during the exit interview.

2. Unit 2 Containment Integrated Leak Rate Test (70307/70313)

During the week of April 18-22, 1988, the licensee performed a full pressure, short-time duration CILRT on Unit 2. The NRC inspectors were onsite to observe the test performance. The NRC inspectors' reviews and observations are detailed below:

a. Pretest Reviews and Observations

The NRC inspectors reviewed the licensee's CILRT Test Procedure No. 1092.031, Revision 0, to ascertain that the requirements of Unit 2 Technical Specifications, ANSI N45.2, ANSI/ANS 56.8 (1981) and Bechtel Topical Report BN-TOP-1 had been addressed.

Specific areas within the procedure that were examined were the correlation of the requirements of BN-TOP-1 and the validation of selected valve lineup lists with current Piping and Instrumentation Diagrams (P&IDs). The following valve lineup sheets were compared to the system P&IDs to verify that the listed test position was correctly identified:

- Appendix B, pages 79, 80, and 81 of 130, "Sampling System," P&ID No. 6600-2-M2237, Sheet 1
- Appendix B, pages 43 and 44 of 130, "Service Water System," P&ID No. 6600-Z-M2210, Sheet 3.
- Appendix B, pages 73 and 74 of 130, "Component Cooling Water System," P&ID No. 6600-2-M2234, Sheet 1

The instrument calibration data for the 18 dry bulb temperature sensors, 6 dewpoint temperature sensors, and 2 absolute pressure sensors were examined to verify that the instrument calibration dates were current and the calibration standards were traceable to the National Bureau of Standards.

The NRC inspectors also inspected the Data Acquisition Station (DAS) to examine the licensee and Bechtel logs, review the completed step signoffs of the test procedure, and examine sensor scanning equipment.

Several hours prior to the licensee's final walkdown and containment closure, the NRC inspectors performed an independent walkdown of the Unit 2 containment. During the walkdown, the NRC inspectors assessed the general containment readiness for the test, observed the performance of several valves being positioned for test (see Attachment A) and randomly selected several valves for independent test position verification (see Attachment B).

While observing two plant operators positioning valves in the containment for the CILRT, the NRC inspectors noted the ILRT tag "completed by" and "verified by" signatures were already on the tags prior to any operator action. While observing the operators position Valve 2SA-97, which is accessible from a platform approximately 5 feet from the floor, the NRC inspectors noted that only the operator positioning the valve stepped up on the platform. The NRC inspectors, standing next to the operator who was to verify the valve position, could not verify the valve position from the floor. The

operator who was to verify the valve position did not step up on the platform, yet the test tag with the verifiers signature on it was hung on the valve. The tag was hung by the operator who manipulated the valve, not the verifier. The NRC inspectors did verify the valve position as correct by stepping up on the platform and noting the valve stem position. This action by the plant operator does not appear to meet the intent of what is generally accepted as independent verification.

Further evidence of faulty valve position verification was discovered during the random sample of valve positions performed by the NRC inspectors. When examining Valve ZPS-5878 and its associated pipe cap, the NRC inspectors noted the valve appeared to be closed and the pipe cap was in place. The valve lineup sheet and the attached ILRT tag called for the valve to be open and the cap removed for the test. The signatures and dates on the tag indicated the valve had been positioned and verified correct the day before the NRC inspectors examined it. This is an apparent violation of the CILRT Test Procedure No. 1092.031, Revision 0, valve lineup and verification requirements. (50-368/8811-01)

The licensee was informed of this finding and took immediate corrective action. The corrective action was to position Valve ZPS-5878 correctly and remove the pipe cap. Further action taken by the licensee was to reverify all valve and associated pipe caps whose test position was valve open and pipe cap removed.

No other violations or deviations were identified.

b. CILRT Test Performance Observations

The licensee completed preparations for the CILRT, sealed the containment on April 20, 1988, and commenced containment pressurization at 6:30 p.m. A reduction of pressurization rate was initiated at approximately 14 psig to perform a walkdown of the containment penetration areas. One valve in the fire system, 2FS-3275, was noted to be slowly filling the balloon attached to the downstream vent line; this indicated leakage. The licensee quantified the leakage and determined that the leakage would not invalidate the test. The valve was left as is and periodically observed.

The test pressure of 54 psig was attained at 1:55 p.m. on April 21, 1988. The start of the CILRT was declared at 9:30 p.m. on April 21, 1988. The test was completed 8 hours later at 5:30 a.m. on April 22, 1988. The flow for the verification test was established at 5:45 a.m. on April 22, 1988, and the test was complete the same day at 10:45 a.m.

During the performance of the CILRT and subsequent verification test, the NRC inspectors made several random tours. During these tours, data points, graph plots, and the log books were examined.

At the completion of the test, the interim Bechtel report was reviewed. The report indicates acceptable data and conclusions. The NRC inspectors will perform an indepth review of the results when the final report is issued. The results of this review will be documented in a later NRC report.

No violations or deviations were identified.

3. Exit Interview

The NRC inspectors met with Mr. S. M. Quennoz, General Manager, Plant Operations, and other members of the AP&L staff on April 22, 1988. At this meeting, the NRC inspectors summarized the scope and finding of the inspection. No proprietary information was identified by the licensee.

ATTACHMENT A

LIST OF VALVES & OPENINGS
THAT NRC INSPECTORS
OBSERVED BEING OPEN/CLOSED BY
ANO PERSONNEL

Steam Generator Secondary System/Emergency Feedwater

Valve No.	Valve Description	Test Position	Normal Position	Correct Position
2SGS-1065A	2PP-1065 Isol	Closed	Closed	Yes
2SGS-1065B and Cap	2PP-1065 Isol	Closed	Closed	Yes
2SGS-10B	"B" SG Sample	Open	Open	Yes
2SGS-11B	"B" SG Sample	Open	Open	Yes
	Service Air System			
2SA-97	Serv Air Ctmt Isol	Closed	Closed	Yes
2C-1	Equip Hatch - All bolts present and torqued.			

ATTACHMENT B

LIST OF VALVES
INSPECTED BY NRC INSPECTORS
DURING CILRT VALVE LINEUP VERIFICATION

Steam Generator Secondary System/Emergency Feedwater

Valve No.	Valve Description	Test Position	Normal Position	Correct Position
2SGS-1015A and Cap	2PP-1015 Isol Off Closed SG Blowdown Line	Closed	Closed	Yes
2SGS-1015B and Cap	2PP-1015 Isol Off Closed SG Blowdown Line	Closed	Closed	Yes
2SGS-10A	"A" SG Sample	Open	Open	Yes
	Service Air System			
2SA-3028 and Cap	Serv Air Line PP Isol	Open	Closed	Yes
	Instrument Air System			
2BA-3045 and Cap	In Ctmt PP Isol	Open	Closed	Yes
	Chilled Water System - Containment, Turbine, & Auxiliary Buildings			
2AC-50	Sup Hdr Isol	Closed	Open	Yes
	Chemical and Volume Control System			
2CVC-1167	Pump Seal Vent	Open	Closed	Yes
2CVC-1166 and Cap	Pump Seal Vent	Open	Closed	Yes
	Safety Injection System			
2SI-25A	2T-2A Smp Isol Vlv	Open	Open	Yes
	Fuel Pool System			
2FP-35	In Ctmt Isol	Closed	Closed	Yes

		Hydrogen & Nitrogen Addition System		
$2N_2$-21	Cont N_2 Sup Isol	Open	Open	Yes
		Sampling System		
2PS-7956	SIT Hdr Vent	Closed	Closed	Yes
2PS-7957	SIT Hdr Vent	Closed	Closed	Yes
2PS-5878 and Cap	2PP-5878 Isol	Open	Closed	No
2PS-73		Closed	Open	Yes
2PS-5839A	PP-5839 Isol	Open	Closed	Yes
2PS-5839B	PP-5839 Isol	Open	Closed	Yes
		Reactor Coolant Pump Connections		
2RCP-6008-1	"A" RCP Seal Isol	Closed	Open	Yes
2RCP-6018-1	"B" RCP Seal Isol	Closed	Open	Yes
2RCP-6038-1	"D" RCP Seal Isol	Closed	Open	Yes