

APPENDIX B

U. S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-313/84-11
50-368/84-11

Licenses: DPR-51
NPF-6

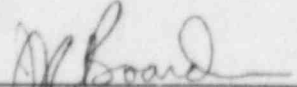
Dockets: 50-313
50-368


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

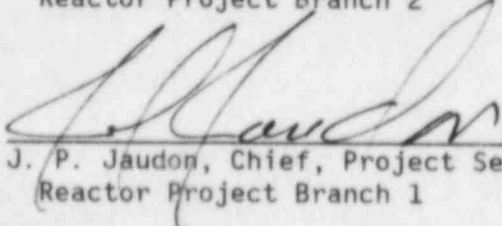
Facility Name: Arkansas Nuclear One (ANO), Units 1 and 2

Inspection At: ANO Site, Russellville, Arkansas

Inspection Conducted: March 26-30, 1984

Inspector:  5/11/84
J. R. Boardman, Reactor Inspector
Project Section A, Reactor Project Branch 1
Date

Approved:  5/11/84
W. D. Johnson, Chief, Project Section A
Reactor Project Branch 2
Date

 5/10/84
J. P. Jaudon, Chief, Project Section A
Reactor Project Branch 1
Date

Inspection Summary

Inspection Conducted March 26-30, 1984 (Report 50-313/84-11)

Areas Inspected: Routine, unannounced inspection of the Arkansas Nuclear One maintenance program. The inspection involved 25 inspector-hours onsite by one NRC inspector.

Results: Within the one area inspected, two violations (failure to document and to follow procedures for maintenance of main steam isolation valves, and failure to document and to follow procedures for maintenance of high pressure coolant injection valves) were identified.

Inspection Summary

Inspection Conducted March 26-30, 1984 (Report 50-368/84-11)

Areas Inspected: Routine, unannounced inspection of the Arkansas Nuclear One maintenance program. The inspection involved 8 inspector-hours onsite by one NRC inspector.

Results: Within the one area inspected, no violations or deviations were identified.

DETAILS1. Persons ContactedPrincipal Licensee Employees

- *J. M. Levine, ANO General Manager
- *E. C. Ewing, Manager Engineer & Technical Support
- *T. H. Cogburn, Manager Special Projects
- *L. K. Dugger, Consultant to General Manager
- *E. L. Sanders, Maintenance Manager
- *L. W. Schempp, Manager, Nuclear Quality Control
- C. Shively, Plant Engineer Superintendent
- T. Baker, T. A. Supervisor
- V. Pettus, Mechanic Maintenance Superintendent
- G. Provencher, Quality Assurance Supervisor
- D. Taylor, Senior Maintenance Coordinator
- R. Cooney, Maintenance Coordinator
- G. Helmick, P&S Supervisor
- *R. M. Cooper, Quality Assurance Engineer
- *R. J. Huggins, Special Projects Coordinator

*Present at the exit interview.

The NRC inspector also contacted other plant personnel.

2. Maintenance Program

The purpose of this inspection was to determine whether or not the maintenance program would lead to the accomplishment of maintenance in accordance with the Technical Specifications, licensee commitments, and accepted industry codes and standards.

The NRC inspector selected two related job orders for Unit 1; these were Job Orders 23706 and 23707, which were for main steam isolation valves CV-2691 and CV-2692. It was found that these job orders did not document requirements for all quality related activities of the repair of these valves nor did they in all instances include appropriate quantitative or qualitative acceptance criteria for the work accomplished. Specific deficiencies noted on these two job orders were as follows:

- Work Plan 1402.69, Revision 0, dated October 7, 1982, "Main Steam Isolation Valve (MSIV) Disassembly, Inspect, Repair, and Reassembly," was used as a part of both job orders. Section 7.10.28 of this work plan required a measurement of 28.43"-27.93" to be recorded. For valves CV-2691 and CV-2692, this value was recorded as 27.250" and 26.960", respectively. There was no record of any licensee action to evaluate, or to correct, these out of tolerance values.

Additionally, there was no procedure found which required an action to address these nominally unacceptable values. After the NRC inspector raised a question about these valves, the licensee did an engineering review of the recorded values and found them to be acceptable.

- Work Plan 1402.69 required joint preload by requiring the torquing of bolts. The NRC inspector found that actual torque values were not recorded, thread lubricants used were not recorded, and the torque wrenches used were not recorded. It could, therefore, be concluded that the preload was not accurately known and that the tools used were not traceable.
- Seven body to bonnet studs and nuts were replaced as part of Job Order 23707 for CV-2692. The manufacturer's drawing specifies that the materials will be SA-540, grade B23 and ASTM A194, grade 7, respectively, and that the studs and nuts will be to ASME, Section III, Class II. Licensee Plant Engineering Action Request (PEAR) 83-0201 was for an engineering review of the requisition for these studs and nuts. Plant engineering confirmed that the material was to be ordered to ASME Section III, Class II. The studs and nuts were subsequently ordered, received, accepted, and installed as ASME Section III, Class NF. There was no documentation to support this reduction in specified quality requirements, nor to indicate engineering review of the lessened material specifications.
- Job Orders 23706 and 23707 contained seven forms 1032.05A, "Tool/Part Log" sheets. These forms are used to account for tools and material. These logs did not account for all the materials used such as eyebolts for disassembly, balloons used as pipe plugs adjacent in piping, and plywood valve seat covers; nor did they account for the use of all torque wrenches used. In no case was the torque wrench used identified. It was also noted that these forms did indicate that various taps and dies were used; however, the work instructions did not provide for the use of these tools. The NRC inspector found no documentation of measurement of damage to finished fasteners that can adversely affect the strength of the pressure boundary. It was concluded that there was little discipline in the use of forms 1032.05A, and a lack of understanding of the potential adverse effects of some maintenance activities on pressure boundaries.
- It was also noted that, when the completed work package was accepted and entered into the licensee's management records system, there was a report of magnetic particle inspection of 47 bonnet studs which indicated that there were bad thread areas in 6 studs. There was no document found in the licensee's record system which showed the resolution of this problem.

The examples delineated above indicate a failure to provide adequate instructions for all phases of safety-related maintenance and a failure to follow rigorously the instructions provided. As such, they constitute an apparent violation of 10 CFR Part 50, Appendix B, Criterion V. (50-313/8411-01)

The NRC inspector also reviewed Job Orders 45707 and 47516. These were for overhaul of valves CV-1219 and CV-1220, which are 2½" Velan globe valves used in the HPCI system of Unit 1. It was noted that neither of the job orders contained instructions on the lubricants to be used or the torque values required in body to bonnet make up. It was noted that such instructions were contained in the Velan maintenance instructions in the licensee's technical library. The NRC inspector also found that the spiral wound, metal and asbestos gasket used in the assembly of the bonnet to the body of valve CV-1219 was not the gasket specified for this valve. There was no authorization or documentation, such as a Plant Engineering Action Request (PEAR), for this substitution of material. This is an apparent violation of 10 CFR Part 50, Appendix B, Criterion V. (50-313/8411-02)

The NRC inspector concluded that, while the infrastructure of procedures and instructions for the maintenance program is extensive, there appears to be:

- Inadequate discipline to its requirements
- Inadequate use of engineering expertise to resolve problems found
- A poor appreciation of the significance to pressure boundaries of preload values, fastener lubrication, contact areas of threaded surface, and the use of manufacturer's instructions.

While the violations listed constitute examples of specifics found wrong on four maintenance jobs, they could also be considered symptomatic of the conclusions stated above. The licensee had been identified as being in Category 3 for maintenance in the systematic assessments of licensee performance for both 1982 and 1983 (NRC Inspection Reports 50-313/8227; 50-368/8224 and 50-313/8322; 50-368/8322). Resolution of the apparent problems indicated by the conclusions listed above appears to be a necessary element in the improvement of maintenance. As such it is considered an unresolved item (50-313/8411-03; 50-368/8411-01).

3. Unresolved Item:

An unresolved item is a matter about which more information is required in order to determine whether it is acceptable, a violation, or a deviation. One new unresolved item is discussed in this report.

<u>Paragraph</u>	<u>Items</u>	<u>Description</u>
2	50-313/8311-03 & 50-368/8311-01	Maintenance Program

4. Exit Interview

An exit interview was conducted March 30, 1984, with personnel in paragraph 1 of this report. The NRC resident inspector also attended this exit interview. At this meeting the scope of the inspection and the findings were summarized.