

U. S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT
REGION IV

Dockets 50-313/81-18
50-368/81-16

Licenses DPR-51
NPF-6

Licensee: Arkansas Power and Light Company
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:

Inspectors: D M Hunnicutt 7/2/81
for W. D. Johnson, Senior Resident Reactor Inspector Date

for D M Hunnicutt 7/2/81
L. J. Callan, Resident Reactor Inspector Date

Approved: D M Hunnicutt 7/2/81
D. M. Hunnicutt, Chief, Reactor Project Section 2 Date

Inspection Summary

Inspection conducted during period of May 22 through June 21, 1981
(Report 50-313/81-18)

Areas Inspected: Routine, announced inspection following surveillance, observation, maintenance, follow-up on previously identified items, operational safety verification, review of plant operations.

The inspection involved 96 inspector-hours on site by two NRC inspectors.

Results: Of the four areas inspected, one apparent violation was identified (Failure to perform local leak rate tests properly, paragraph 3).

Inspection conducted during period of May 22 - June 21, 1981
(Report 50-368/81-16)

Areas Inspected: Routine, announced inspection including surveillance, environmental qualification of ESF equipment, review of plant operations, follow-up on previously identified items, redundant MFW isolation valves, inspection during long-term shutdown, follow-up on TMI action plan requirements, review of plant operations (refueling).

The inspection involved 117 inspector-hours on site by two NRC inspectors.

Results: Of the eight areas inspected, two apparent violations were identified in two areas (Failure to perform local leak rate tests properly, paragraph 3; control room ventilation radiation monitor operability, paragraph 8).

DETAILS SECTION1. Persons Contacted

J. P. O'Hanlon, ANO General Manager
 D. Rueter, Director, Technical/Environmental Services
 B. A. Baker, Operations Manager
 T. N. Cogburn, Plant Analysis Superintendent
 E. C. Ewing, Plant Engineering Superintendent
 L. Sanders, Maintenance Manager
 J. McWilliams, Unit 1 Operations Superintendent
 J. Albers, Planning and Scheduling Supervisor
 D. D. Snellings, Technical Analysis Superintendent
 M. Bolanis, Health Physics Supervisor
 L. Taylor, Operations Technical Engineering
 L. W. Schempp, Manager, Nuclear Quality Control
 B. A. Terwillinger, Operations Assessment Superintendent
 P. Jones, Instrumentation and Controls Superintendent
 J. C. Garrett, Material Management Supervisor
 C. Burchard, Assistant Health Physics Supervisor
 H. Roark, Electrical Maintenance Supervisor
 J. Benham, Instrumentation and Controls Supervisor
 B. West, Instrumentation and Controls Supervisor
 J. Waxenfelter, Instrumentation and Controls Supervisor
 B. Neal, Instrumentation and Controls Supervisor
 D. Wagner, Assistant Health Physics Supervisor
 B. Lovett, Engineer
 L. Dugger, Special Projects Manager
 G. Marshall, Assistant Electrical Engineer
 D. Howard, Licensing Engineer
 R. Turner, Electrical Engineering Supervisor

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

2. Followup on Previously Identified Items (Units 1 and 2)

(Closed) Open Item 368/8016-02 and 313/8016-02:
 Safety Review Committee (SRC) Audits and Training.

Revision 5 to the Quality Assurance (QA) Manual for Operations adequately addresses the training requirements for SRC auditors and the overlap of responsibility for audit activities between the SRC and the QA section. However, the NRC inspector noted that Section 18.1.1 of Revision 5 to the QA Manual for Operations prevents functional overlap of SRC and QA audits by stating, in part:

" . . . The Quality Assurance section performs audits of these activities except for those activities identified in section 6.5.2 of the Technical Specifications which are performed by the Safety Review Committee . . ."

The licensee has satisfactorily completed the required corrective action on the above item. However, the NRC inspector believes that the above requirement means the functional overlap of audit activities is to be avoided by precluding the QA organization from performing those audits assigned to the SRC by Technical Specification 6.5.2. The licensee, on the other hand, interprets the above statement to mean that the SRC has "responsibility" for the audits required by Technical Specification 6.5.2 and does not preclude the audits from being performed by the QA section under the cognizance of the SRC. The licensee's SRC has, in fact, delegated the majority the Technical Specification 6.5.2 audits to the QA section since January, 1981. This item will remain unresolved pending further review. (313/8118-04; 368/8116-04).

(Closed) Level V Violation 368/8107-04; 2SW-1067 not installed on 'A' HPSI system.

Procedure 2104.39, HPSI System Operation, has been revised to reflect the removal of 2SW-1067.

3. Monthly Surveillance Observation (Units 1 and 2)

The NRC inspector observed the technical specification required surveillance testing on the Unit 1 Containment Personnel Hatch (Barrel Test per 1304.23) and verified that testing was performed in accordance with adequate procedures, that test instrumentation was calibrated, that limiting conditions for operation were met, that removal and restoration of the affected components were accomplished, that test results conformed with technical specifications and procedure requirements and were reviewed by personnel other than the individual directing the test, and that any deficiencies identified during the testing were properly reviewed and resolved by appropriate management personnel.

The inspector also witnessed portions of the following test activities:

- . Unit 1 Low Pressure Injection, Train A (OP 1104.4 Supp. II)
- . Unit 1 Reactor Protective System Channel A Test (OP 1304.37)
- . Unit 1 Engineered Safeguards Actuation System Digital Subsystem No. 2 Test (OP 1304.46)

Unit 2 Low Temperature Overpressure Relief System (Workplan 2407.25)

The procedure covering local leakage rate tests (LLRT) of containment penetrations for Unit 1 is 1304.23. The corresponding procedure for Unit 2 is 2304.15. These procedures permit LLRT at less than the 59 psig required by Unit 1 Technical Specification 4.4.1.2.2 and at less than the 54 psig required by Unit 2 Technical Specification 4.6.1.2. These Technical Specifications reflect the requirements of 10 CFR 50 Appendix J, Sections III.B.2 and III.C.2. These sections require that Type B tests be performed at not less than P_a and that Type C tests be performed at P_a . P_a is 59 psig for Unit 1 and 54 psig for Unit 2. The NRC inspector reviewed records of recent LLRT for both units and found that a number of tests have been conducted at pressures less than P_a during 1980 and 1981 under Job Orders 2384, 6786, 6547, and 3060. This is an apparent violation. (313/8118-01; 368/8116-01).

4. Review of Plant Operations (Units and 2)

A. Training

The NRC inspector attended a requalification training lecture for licensed personnel on the subject of mitigation of core damage for a loss of coolant accident. The inspector verified that the lesson plan objectives were met and that the training was in accordance with the approved operator requalification program.

The NRC inspector also attended a portion of the licensee's health physics training program for new employees and verified that the lesson plan objectives were met.

No violations or deviations were noted.

B. Security

The NRC inspector verified by observation that adequate scores were achieved by two individuals during their initial weapons qualification test. The inspector further noted that the weapons qualification for security personnel was conducted in a highly controlled and professional manner.

No violations or deviations were noted.

5. Operational Safety Verification (Unit 1)

The inspectors observed control room operations, reviewed applicable logs and conducted discussions with control room operators. The inspectors verified the operability of selected emergency systems, reviewed tagout records and verified proper return to service of affected components.

Tours of accessible areas of the units were conducted to observe plant equipment conditions, including potential fire hazards, fluid leaks, and excessive vibrations and to verify that maintenance requests had been initiated for equipment in need of maintenance. The inspectors, by observation and direct interview, verified that the physical security plan was being implemented in accordance with the station security plan.

The inspectors observed plant housekeeping/cleanliness conditions and verified implementation of radiation protection controls. The inspector walked down the accessible portions of the Penetration Room Ventilation (both trains), Control Room Recirculation (both trains), and Train A Low Pressure Injection systems to verify operability. The inspector also witnessed portions of the radioactive waste system controls associated with radwaste shipments and barreling.

These reviews and observations were conducted to verify that facility operations were in conformance with the requirements established under Technical Specifications, 10 CFR, and administrative procedures.

The NRC inspector observed on June 1, 1981, that the reserve air bottles for the outside air dampers on VSF-9 and 2VSF-9, the control room recirculation and filtration units, were empty and that one of the dampers (CV-7910) was in the failed open position. The result of the depressurized (empty) reserve air bottles would be an inability to close the outside air dampers, if desired, while the control room ventilation system was in the recirculation mode. The licensee repressurized the reserve air bottles. A design change will apparently be required to make damper CV-7910 operable.

Station operations personnel were unable to state the conditions under which it would be desirable to close these dampers and their closing is not addressed in plant procedures. The NRC inspector requested that the licensee review the design basis for this system to determine whether the above observed conditions constituted a degradation of system operability and to provide operating guidance to station operations personnel. This is an unresolved item. (313/8118-02; 368/8116-03).

RE-8001 is the area radiation monitor in the Unit 1 control room. When the radiation level detected by this instrument reaches the warning setpoint, the instrument initiates control room isolation and recirculation. The NRC inspector found that the licensee did not have a system to determine the proper setpoint for this instrument and that the setpoint had been changed several times this year without an apparent basis for the change. This item is unresolved pending determination by the licensee of the proper instrument setpoint and establishment of a system to control the setpoint. (313/8118-03).

6. Tour of the Unit 2 Reactor Building to Observe the Installation of Class IE Electrical Equipment (Reference TI 2515/35)

The NRC inspector conducted a walkdown for selected instruments and components in the ESF Systems, Reactor Building Isolation System, and systems related to taking the plant to a cold shutdown condition. The purpose of this inspection was to determine that selected equipment, as installed, does not compromise the supporting environmental qualification data which was submitted by the licensee as part of their formal response to IE Bulletin 79-01B. The installations were compared to the "as-built" drawings and schematics and no discrepancies were identified. Observations made during this inspection were reported by memorandum to IE Headquarters for consideration by the appropriate reviews in NRR. No violations or deviations were identified.

7. Redundant Main Feedwater Isolation Valves (Unit 2)

Section 3(h) of Facility Operating License NPF-6 requires the following:

"The licensee shall achieve full implementation of its proposed modifications to the main feedwater system to preclude unacceptable mass and energy blowdown into the containment in the event of main steamline break accident prior to startup following the first regularly scheduled refueling outage. The modifications shall consist of the installation of one additional main feedwater line which shall be designed to close upon receipt of a containment isolation signal. The required modifications are described in Section 6.2.1.1.2.6 of the Final Safety Analysis Report as updated through Amendment No. 45."

During the recent refueling outage, the licensee performed DCR 2-84, which installed an additional main feedwater isolation valve in each of the main feedwater lines. The new valves were supplied by the Borg Warner Corporation with Limitorque Corporation motor operators. The valves are designated as 2CV-1023-2 and 2CV-1073-2. They are designed to close in less than 15 seconds upon receipt of a channel 2 Main Stream Isolation Signal (MSIS). The other MFW isolation valves, 2CV-1024-1 and 2CV-1074-1 close upon receipt of a channel 1 MSIS. The new valves were installed under Job Order 8105. The NRC inspector observed portions of this installation work and reviewed records associated with Purchase Order 11406-M-2258B-CC to verify the following items:

- . The valves were built to code class B31.1
- . Operators are seismically qualified, Class IE
- . Valve body material is traceable
- . Valve actuation time is less than 15 seconds
- . Valves are located upstream of previous MFW isolation valves.

No violations or deviations were identified.

8. Inspection During Long-Term Shutdown (Unit 2)

The inspector observed control room operations, reviewed applicable logs and conducted discussions with control room operators during this inspection period. The inspector verified surveillance tests required during the shutdown were accomplished, reviewed tagout records, and verified applicability of containment integrity. Tours of accessible areas, including exterior areas were made to make independent assessments of equipment conditions, plant conditions, radiological controls, safety, and adherence to regulatory requirements and to verify that maintenance requests had been initiated for equipment in need of maintenance. The inspector observed plant housekeeping/cleanliness conditions, including potential fire hazards, and verified implementation of radiation protection controls. The inspector by observation and direct interview verified that the physical security plan was being implemented in accordance with the station security plan. The inspector reviewed the licensee's jumper/bypass controls to verify there were no conflicts with Technical Specifications and verified the implementation of radioactive waste system controls. The inspector witnessed portions of the radioactive waste systems controls associated with radwaste shipments and barreling.

Technical Specification Table 3.3-6 requires that the alarm/trip setpoint for the control room ventilation intake duct monitor (2RITS-8750-1) be set at less than two times background. The NRC inspector reviewed the calibration records and a portion of the recorder charts for this instrument for the period January through June 11, 1981. The recorded and observed control room ventilation intake duct area background averaged less than 1000 counts per minute for this time period, but the alarm/trip setpoint was 5000 counts per minute. This is an apparent violation of a Technical Specification Limiting Condition for Operation. The NRC inspector also found that the licensee had no system for periodic determination of background and desired instrument setpoint. (368/8116-02)

The NRC inspector reviewed the licensee's health physics (H.P.) practices in the Unit 2 reactor building during the current period of shutdown maintenance. As a result of this review, the inspector noted the lack of approved procedures to cover many of the H.P. activities and practices relating to access to the reactor building when the reactor is shutdown. The existing procedures (e.g., 1012.01 "High Radiation Area Doors" and 1602.35 "Radiation Protection Manual") cover only the type of high radiation areas that are found outside of the Reactor Building, but are not applicable to the specific case of the Reactor Building itself as a high radiation area. The licensee is requested to include procedures covering their H.P. policies relating to access control to the Reactor Building in their response to the previously identified need to develop and implement procedures in the health physics area (313/8020-02; 368/8020-02).

9. Follow-up on Three Mile Island Action Plan Requirements (Unit 2)

The NRC's Office of Nuclear Reactor Regulation issued NUREG-0737 entitled, "Clarification of TMI Action Plan Requirements," to the licensee as a letter dated October 31, 1980. This document incorporates all TMI-related items approved for implementation by the NRC as of October 31, 1980, and includes a listing of requirements and implementation schedules.

The inspector is reviewing, on a continuing basis, the licensee's actions in response to the requirements of NUREG-0737. The inspector's review of certain of the licensee's actions in this regard is summarized below. The numbering system and short titles correspond to those used in Enclosure 1 of NUREG-0737.

II.B.1 Reactor Coolant System Vents

During the recent outage, the licensee installed a high point vent system for the Reactor Coolant System which can be operated from the control room. This system was installed under DCP 80-2003 and provides the capability to remotely vent the reactor vessel head and the pressurizer to the quench tank or to containment atmosphere. Power to operate the solenoid valves is provided through key operated switches in the control room. These switches are normally "off" with the keys removed. NUREG 0737 requires the licensee to submit design information and system operating procedures to the NRC for review by July 1, 1981.

II.F.1.(3) Containment High Range Radiation Monitor

The licensee has installed DCP 81-2026 which replaces the containment high range radiation monitors. The new system was not yet operable at the end of this inspection period.

II.F.1(4) Containment Pressure Monitor

The licensee has installed DCP 79-2149 which provides two channels of containment pressure indication in the control room over a range of 0-210 psia, with one channel recorded. The NRC inspector observed the pressure transmitter calibrations and the system string checks.

II.F.1(5) Containment Water Level

The licensee has installed DCP 79-2151 to increase the range of the containment water level instruments. Two instruments are provided with an indicating range of 0-12 feet, with one channel recorded. This DCP also replaced the containment sump level instrument with a "Q" system. The NRC inspector observed the string checks on these instruments.

II.F.1(6) Containment Hydrogen

The licensee has installed DCP 79-2150 which provides two channels of containment hydrogen concentration indication in the control room over a range of 0-10%.

No violations or deviations were identified. This review will be continued in future inspection periods.

10. Review of Plant Operations (Refueling) (Unit 2)

The NRC inspector performed a walkdown and valve lineup check of the High Pressure Safety Injection system and the Emergency Feedwater system to verify that they were returned to service in accordance with approved procedures following the refueling outage. All discrepancies were resolved in discussions with operations personnel. No violations or deviations were identified.

11. Exit Interview

The inspectors met with Mr. J. P. O'Hanlon (Plant General Manager) and other members of the AP&L staff at the end of various segments of this inspection. At these meetings, the inspectors summarized the scope of the inspection and the findings.