



**UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
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ARLINGTON, TEXAS 76011-8064**

February 29, 2000

C. Randy Hutchinson, Vice President
Operations
Arkansas Nuclear One
Entergy Operations, Inc.
1448 S.R. 333
Russellville, Arkansas 72801-0967

SUBJECT: NRC INSPECTION REPORT 50-313/99-20; 50-368/99-20

Dear Mr. Hutchinson:

This refers to the inspection conducted on December 19, 1999, through February 5, 2000, at the Arkansas Nuclear One, Units 1 and 2, facility. The enclosed report presents the results of this inspection.

During the 7-week period covered by this inspection, your conduct of activities at the Arkansas Nuclear One facility was generally characterized by safety-conscious operations, sound engineering and maintenance practices, and careful radiological controls.

Based on the results of this inspection, the NRC has determined that one Severity Level IV violation of NRC requirements occurred. The violation is being treated as a noncited violation (NCV), consistent with Section VII.B.1.a of the NRC Enforcement Policy. The NCV is described in the subject inspection report. If you contest the violation or severity level of the NCV, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC, 20555-0001, with copies to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region IV, 611 Ryan Plaza Drive, Suite 400, Arlington, Texas 76011; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the Arkansas Nuclear One, Units 1 and 2, facility.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response, if requested, will be placed in the NRC Public Document Room (PDR).

Entergy Operations, Inc.

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Should you have any questions concerning this inspection, we will be pleased to discuss them with you.

Sincerely,

/RA/

P. Harrell, Chief
Project Branch D
Division of Reactor Projects

Dockets: 50-313
50-368
Licenses: DPR-51
NPF-6

Enclosure:
NRC Inspection Report
50-313/99-20; 50-368/99-20

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OFFICIAL RECORD

ENCLOSURE

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket Nos.: 50-313; 50-368

License Nos.: DPR-51; NPF-6

Report No.: 50-313/99-20, 50-368/99-20

Licensee: Entergy Operations, Inc.

Facility: Arkansas Nuclear One, Units 1 and 2

Location: 1448 S. R. 333
Russellville, Arkansas 72801

Dates: December 19, 1999, through February 5, 2000

Inspectors: R. Bywater, Senior Resident Inspector
K. Weaver, Resident Inspector

Approved by: P. Harrell, Chief, Project Branch D
Division of Reactor Projects

Attachment: Supplemental Information

EXECUTIVE SUMMARY

Arkansas Nuclear One, Units 1 and 2 NRC Inspection Report 50-313/99-20; 50-368/99-20

This routine announced inspection included aspects of licensee operations, engineering, maintenance, and plant support. The report covers a 7-week period of resident inspection.

Operations

- The licensee was well prepared for the Y2K transition and no safety significant events occurred (Section O1.2).
- The Unit 1 startup went well. Unit 1 operators demonstrated good attention to detail when they identified needed procedure improvements associated with the expected rod position for the doubling count rate specified in Procedure 1102.008, "Approach to Criticality" (Section O1.3).
- The inspectors concluded that the licensee's Technical Specification interpretation regarding reactor building penetration isolation valves was incorrect. The licensee's interpretation would cause intentional entry into a Technical Specification limiting condition for operation that was not allowed by the Technical Specifications (Section O1.4).
- A minor violation was identified for the presence of foreign material in the Unit 1 reactor building, during a period when the emergency core cooling system sump was required to be operable, and had not been previously evaluated for acceptability and included in the containment building closeout procedure. The licensee's evaluation concluded that the foreign material did not create a concern with the operability of any safety system (Section O2.1).

Maintenance

- A violation of 10 CFR Part 50, Appendix R, Section III.O, was identified for having an inadequate reactor coolant pump lube oil collection system. This Severity Level IV violation is being treated as a noncited violation, consistent with Section VII.B.1.a of the NRC Enforcement Policy. This violation is in the licensee's corrective action program as Condition Report 1-2000-014 (Section M2.1).
- Preventive Maintenance Task 14118 for the Unit 1 Reactor Building Spray Pump P-35A service water bearing cooler was inadequate, in that the instructions required this cooler be flushed on a quarterly basis with no as-found service water flow verification to ensure past operability of the pump. Engineering personnel immediately initiated a preventive maintenance change request to require an as-found flow verification prior to flushing this cooler (Section M2.2).
- Severe corrosion was observed on the Unit 1 auxiliary cooling water piping in the intake structure where it penetrated the floor into the service water bay. The degradation was due to the pipe never being painted or coated on the outside surface area for protection.

Nondestructive examination was subsequently performed, and engineering personnel determined that the pipe remained operable, but recommended that the pipe be replaced in the next refueling outage (Section M2.3).

Engineering

- The licensee's evaluation of a plan to isolate the Unit 1 makeup tank relief valve path to facilitate maintenance was acceptable (Section E1.1).

Report Details

Summary of Plant Status

At the beginning of this inspection period, Unit 1 was at 100 percent power. On December 31, 1999, Unit 1 operators reduced reactor power to approximately 80 percent in preparation for the turn of the century and possible Year 2000 (Y2K) rollover concerns for system generation capability. On January 1, 2000, operators commenced a power increase and returned Unit 1 to 100 percent power. On January 7, 2000, Unit 1 operators commenced a power reduction and placed Unit 1 in hot standby mode to repair a lube oil leak on the Reactor Coolant Pump (RCP) P-32D motor. Although pump rotation stopped following coastdown, maintenance personnel identified that the antirotational device (ARD) failed. A temporary modification was installed to prevent pump rotation in either the forward or reverse direction. On January 11, Unit 1 operators took the reactor critical and commenced a power increase to approximately 72 percent power with three RCPs in operation. On January 12, Unit 1 reached approximately 72 percent power and remained at approximately 72 percent power until February 4. On February 4, Unit 1 operators commenced a plant shutdown to repair the RCP P-32D ARD. On February 5, Unit 1 entered the hot shutdown mode and was in hot shutdown at the end of this inspection period.

At the beginning of this inspection period, Unit 2 was at 100 percent power. On December 31, 1999, Unit 2 operators reduced reactor power to approximately 80 percent in preparation for the turn of the century and possible Y2K rollover concerns for system generation capability. While at reduced power, maintenance activities were performed on the Main Feedwater Pump 2P-1A. On January 1, 2000, following repairs to the Main Feedwater Pump 2P-1A, Unit 2 operators commenced a power increase and returned Unit 2 to 100 percent power. Unit 2 was at or near 100 percent power at the end of this inspection period.

I. Operations

O1 Conduct of Operations

O1.1 General Comments (71707)

The inspectors observed various aspects of plant operations, including shift manning, to verify compliance with Technical Specifications (TS), plant procedures, and the Updated Final Safety Analysis Report (UFSAR). The inspectors also observed the effectiveness of communications, management oversight, proper system configuration and configuration control, housekeeping, and operator performance during routine plant operations and surveillance testing.

The conduct of operations was professional. Evolutions were generally well controlled and performed according to procedures. Shift turnover briefs were comprehensive. Housekeeping was generally good and discrepancies were promptly corrected. Safety systems were found properly aligned. Specific events and noteworthy observations are detailed below.

O1.2 Unit 1 and Unit 2 - Y2K Transition

a. Inspection Scope (71707)

The inspectors were present in the Units 1 and 2 control rooms during the Y2K transition to observe plant performance and licensee response to any related event.

b. Observations and Findings

The licensee implemented the final phases of its Y2K preparedness and transition plan, which included providing augmented staffing of critical positions in all departments to provide rapid onsite response to any events. The licensee was well prepared for any Y2K-related events and no safety significant events occurred. A minor issue regarding computer terminal activation of electronic dosimeters for personnel entering the radiologically controlled area was promptly corrected.

c. Conclusions

The licensee was well prepared for the Y2K transition and no safety significant events occurred.

O1.3 Unit 1 - Plant Startup with Three RCP Operation

a. Inspection Scope (71707)

On January 11, 2000, Unit 1 operators performed a reactor startup in accordance with Procedures 1102.008, "Approach To Criticality," Revision 17, and 1102.002, "Plant Startup," Revision 66. The inspectors observed the operators make the reactor critical.

b. Observations and Findings

The inspectors observed that Unit 1 operators successfully performed the reactor startup. However, Unit 1 operators did identify that they did not obtain a count rate doubling as predicted by Procedure 1102.008. Procedure 1102.008 indicated that the count rate doubling was expected to occur from 46 percent on Group 2 to 100 percent on Group 4. The actual count rate doubling occurred at 25 percent withdrawn on Group 5. When the Unit 1 operators identified that the count rate doubling did not occur as expected with 100 percent withdrawn on Group 4, they stopped the approach to criticality by inserting Group 4 in accordance with Step 8.7 of Procedure 1103.008. The Unit 1 operators completed Section 8.7 and determined that Procedure 1102.008 needed to be revised and initiated a procedure improvement form and Condition Report (CR) 1-2000-0035 to correct the discrepancy. The inspectors noted that the control room operators demonstrated good attention to detail.

c. Conclusions

The Unit 1 startup went well. Unit 1 operators demonstrated good attention to detail when they identified needed procedure improvements associated with the expected rod position for the doubling count rate specified in Procedure 1102.008, "Approach to Criticality".

O1.4 Unit 1 - TS Interpretation for Reactor Building (RB) Penetration Isolation Valves

a. Inspection Scope (71707)

On January 3, 2000, the Unit 1 Pressurizer Water Space Sample Inboard Isolation Valve CV-1816 failed to close during a routine sample and was declared inoperable. In accordance with the requirements of TS 3.6.6, control room operators tested the Outboard Isolation Valve SV-1818 to verify its operability and closed the valve. The licensee initiated CR 1-2000-0002 in response to this event. The inspectors reviewed the licensee's position that the Unit 1 TS allowed the operable valve to be re-opened if necessary as long as a TS time clock was entered. Valve SV-1818 had not been re-opened during the period of time that Valve CV-1816 was inoperable.

b. Observations and Findings

TS 3.6.1 requires operability of the RB. If the RB was inoperable, then TS 3.6.1 requires that the RB be restored to operable status within 1 hour or place the unit in hot standby within the following 6 hours.

TS 3.6.6 states that if, while the reactor is critical, an RB isolation valve is determined to be inoperable in a position other than the closed position, the other RB isolation valve (except for check valves) in the line shall be tested to ensure operability. If the inoperable valve is not restored within 48 hours, the reactor shall be brought to the cold shutdown condition within an additional 24 hours or the operable valve will be closed.

When the inspectors first learned of this condition, operations personnel informed the inspectors that Procedure 1203.005, "Loss of Reactor Building Integrity," Revision 10, provided guidance regarding this situation. Procedure 1203.005 required, that if RB integrity was lost due to an inoperable RB isolation valve, then, within 1 hour, test the other valve in line with the inoperable valve to ensure operability unless the inoperable valve was closed. Additionally, Procedure 1203.005 identified that, if it became necessary to open the inoperable valve for any reason, then the other in line valve must be proven operable and a 48-hour time clock entered per TS 3.6.6. Operations personnel inferred that, if it were acceptable to open the inoperable valve and enter a 48-hour time clock, then it was also acceptable to open the operable valve and enter a 48-hour time clock. Therefore, the licensee concluded that, with Valve CV-1816 open and inoperable, TS 3.6.6 allowed Valve SV-1818 to be opened (after its operability had been demonstrated) for up to 48 hours before entering a 24-hour shutdown action requirement.

After additional discussion, the licensee informed the inspectors that the above interpretation regarding a 48-hour time clock entry was incorrect. The licensee stated that a closed manual isolation valve was equivalent to a structural part of the RB and was integral to the integrity of the RB; therefore, the applicable specifications for the above example were TS 3.6.6 and 3.6.1. As a result, if Valve CV-1816 was open and inoperable, TS 3.6.6 required that Valve SV-1818 be demonstrated operable and then closed if operability of Valve CV-1816 was not re-established. Then, if it was necessary to re-open Valve SV-1818, this could be accomplished in accordance with TS 3.6.1 for up to 1 hour.

After further review and consultation with personnel from the NRC Office of Nuclear Reactor Regulation, the inspectors concluded that the licensee's position was not correct. The inspectors concluded that if Valve CV-1816 were open and inoperable, TS 3.6.6 required that Valve SV-1818 be verified operable. Then, Valve CV-1816 must be restored to an operable status within 48 hours. The required action to be taken if Valve CV-1816 was not restored to operable status was either place the reactor in cold shutdown within an additional 24 hours or close Valve SV-1818. The inspectors concluded that re-opening Valve SV-1818 was not allowed by the TS because TS 3.6.6 required that action be taken (closure of Valve SV-1818) until such time as operability of Valve CV-1816 was restored.

c. Conclusions

The inspectors concluded that the licensee's TS interpretation regarding RB penetration isolation valves was incorrect. The licensee's interpretation would cause intentional entry into a TS limiting condition for operation that was not allowed by the TS.

O2 Operational Status of Facilities and Equipment

O2.1 Unit 1 - RB Tour and Foreign Material Controls

a. Inspection Scope (71707)

The inspectors conducted a tour of the Unit 1 RB on January 8, 2000. During the tour, the inspectors identified foreign material that had not been evaluated for acceptability to remain in the RB when the emergency core cooling system (ECCS) sump was required to be operable.

b. Observations and Findings

During the tour of the Unit 1 RB, the ECCS sump was required to be operable to provide a source of coolant to ECCS equipment following a loss-of-coolant accident. The inspectors identified an unlocked medical stretcher storage locker that contained a woolen blanket and a large piece of plastic sheeting. The total surface area of the material identified (blanket and plastic) was approximately 110 square feet. Upon identification, a licensed operator promptly removed the foreign material.

Procedure 1015.036, "Containment Building Closeout," Revision 6, identified a list of material previously evaluated by engineering to permanently remain in the RB. The medical stretcher storage locker and its contents were not included in the list of material and had not been previously evaluated to remain in the RB. The licensee initiated CR 1-2000-0016 to document this finding and evaluate its impact on operability of the ECCS sump. The licensee's evaluation determined that the foreign material was not located in an area that was subject to impingement from a high energy line break or transport to the ECCS sump that could result in sump screen blockage and loss of ECCS pump suction. Based on the licensee's operability evaluation, the inspectors concluded that the failure to account for the identified material in Procedure 1015.036 constituted a violation of minor significance and is not subject to formal enforcement action.

c. Conclusions

A minor violation was identified for the presence of foreign material in the Unit 1 RB, during a period when the ECCS sump was required to be operable, and had not been previously evaluated for acceptability and included in the containment building closeout procedure. The licensee's evaluation concluded that the foreign material did not create a concern with the operability of any safety system.

O2.2 Unit 1 - RCP P-32D ARD Failure

a. Inspection Scope (71707)

During a tour of the Unit 1 RB on January 8, 2000, the inspectors locally observed, with a licensed operator, the coastdown of RCP P-32D in preparation for maintenance to repair a motor lube oil leak.

b. Observations and Findings

The inspectors observed the pump coast down in a normal fashion after control room operators secured the pump from the control room. After forward rotation stopped, the pump shaft rotated in the reverse direction for approximately 3 seconds and stopped following a loud actuation of the ARD. Licensee maintenance personnel subsequently determined that the ARD had catastrophically failed.

The RCP P-32D ARD was a Marland one-way clutch, and had been replaced following the September 11, 1999, failure during Refueling Outage 1R15. Postmaintenance testing of the ARD had been completed on October 8, 1999, in accordance with Maintenance Action Item 14949.

To facilitate the procurement of replacement parts and allow time for the development of an ARD failure root cause investigation plan, the licensee installed a restraining device on the RCP P-32D motor shaft to allow continued plant operation with three RCPs. The restraining device was installed in accordance with Temporary Alteration 00-1-001. The inspectors reviewed the approved temporary alteration package and other licensing basis documentation and did not identify any concerns that would prevent plant restart

and continued operation at reduced power level with only three RCPs. Plant restart occurred following installation of the restraining device on January 11, 2000.

Plant shutdown for ARD failure investigation and replacement had just begun at the conclusion of this inspection period.

O2.3 Unit 1 - Decay Heat Removal (DHR)/Low Pressure Injection (LPI) Pump P 34A/B Operability

During the planned Unit 1 shutdown/cooldown on February 5, 2000, to repair the failed ARD on RCP P-32D, operators started DHR/LPI Pump P-34A to place the DHR system in service. After the pump was started, operators received a high temperature alarm on the pump's inboard bearing, stopped the pump, and declared it inoperable. The redundant DHR/LPI Pump P-34B was started and pump inboard bearing temperature increased and exceeded its alarm setpoint. Operators secured the pump and declared it inoperable. Decay heat removal continued using secondary system heat removal via the condenser. This event is the subject of a special inspection that will be documented in NRC Inspection Report 50-313/00-04.

II. Maintenance

M2 Maintenance and Material Condition of Facilities and Equipment

M2.1 Unit 1 - RCP Lube Oil Leakage from Lube Oil Collection System

a. Inspection Scope (71707, 71750)

On January 8, 2000, following the Unit 1 shutdown to repair a lube oil leak on the RCP P-32D motor, the licensee found approximately 1 pint of oil on the RB basement floor under the RCP P-32D that had not been collected by the lube oil collection system. The licensee initiated CR 1-2000-0014 to document and evaluate the oil leakage. The inspectors reviewed the CR and Procedure 1504.001, "Visual Inspection of the Units 1 and 2 RCP's Oil Collection System," Revision 4.

b. Observations and Findings

The uncontained oil was not located on any fibrous insulation or hot surfaces and the licensee's evaluation concluded that the as-found oil condition had not presented a fire concern. The licensee identified that electrical insulating material around the circumference of the motor, between the motor and upper oil collection trough, was not coated with caulk in a similar fashion as the other Unit 1 RCP motors. The RCP P-32D motor had been replaced during the 1998 refueling outage and design documentation for the motor replacement did not identify installation of the caulk. The licensee concluded that leakage from an oil lift pump pressure instrumentation penetration allowed oil to pool on the motor insulating material. Since there was no caulk covering the insulating material, some oil soaked through and was uncollected. Procedure 1504.001, "Visual Inspection of the Units 1 & 2 RCP's Oil Collection System,"

Revision 4, did not provide instruction to inspect the caulk. The licensee repaired the deficient condition of the lube oil collection system and initiated corrective actions as part of the CR to address the requirements for the installation of caulk during future maintenance and inspection activities.

10 CFR Part 50, Appendix R, Section III.O, requires that the RCP shall be provided with a lube oil collection system that is capable of collecting lube oil from all potential pressurized and unpressurized leakage sites in the RCP lube oil system. The RCP lube oil collection system on the RCP P-32D motor did not meet the requirements of Appendix R. This Severity Level IV violation is being treated as a noncited violation (50-313/9920-01), consistent with Section VII.B.1.a of the NRC Enforcement Policy. This violation is in the licensee's corrective action program as CR 1-2000-0014.

c. Conclusions

A violation of 10 CFR Part 50, Appendix R, Section III.O, was identified for having an inadequate RCP lube oil collection system. This Severity Level IV violation is being treated as a noncited violation, consistent with Section VII.B.1.a of the NRC Enforcement Policy. This violation is in the licensee's corrective action program as CR 1-2000-0014.

M2.2 Unit 1 - RB Spray Pump P-35A Bearing Cooler Service Water Flush

a. Inspection Scope (62707)

The inspectors reviewed the scope and task instructions for Preventive Maintenance Task 014118, which required flushing the service water side of the RB Spray Pump P-35A lube oil cooler on a quarterly basis to ensure adequate service water flow was maintained through the cooler.

b. Observations and Findings

During review of Preventive Maintenance Task 14118, the inspectors discovered that the RB Spray Pump P-35A service water lube oil cooler was flushed with no as-found service water flow verification on a quarterly basis. Performance of Preventive Maintenance Task 14118, without performing an as-found service water flow verification, would allow a degraded condition of low service water flow to the cooler to go undetected. This condition could have ultimately caused the RB Spray Pump P-35A to become inoperable.

The inspectors questioned engineering personnel concerning this observation. Engineering personnel performed a review of all the preventive maintenance tasks associated with flushing the service water side of lube oil coolers for the RB Spray Pump P-35B and the LPI Pumps P34A and P34B and found that as-found service water flow verification was required. Engineering personnel immediately initiated a preventive maintenance change request for Task 14118 to require an as-found service water flow verification to RB Pump P-35A lube oil cooler to verify past operability of the pump and then flush and clean the cooler as a contingency.

c. Conclusions

Preventive Maintenance Task 14118 for the RB Spray Pump P-35A service water bearing cooler was inadequate, in that the instructions required this cooler be flushed on a quarterly basis with no as-found service water flow verification to ensure past operability of the pump. Engineering personnel immediately initiated a preventive maintenance change request to require an as-found flow verification prior to flushing this cooler.

M2.3 Unit 1 - Auxiliary Cooling Water (ACW) Piping Penetration Degradation

a. Inspection Scope (62707)

The inspectors toured the Unit 1 service water pump house to ascertain the material condition of the service water and ACW piping.

b. Observations and Findings

During a tour of the Unit 1 service water pump house, the inspectors identified severe corrosion on the ACW piping in the intake structure where it penetrated the floor into the service water bay. The inspectors noted that the degradation appeared to be due to the piping never being painted or coated on the outside surface area for protection. This degradation on the exterior of the piping was not previously documented by the licensee's staff, nor had nondestructive examination of this piping been previously performed to verify that the pipe wall thickness was acceptable with the exterior degradation. The inspectors questioned engineering personnel about the degradation and its effect on the operability of the pipe.

After conversations with the engineering personnel, the licensee's staff performed nondestructive testing for wall thickness of the ACW and service water piping. The licensee documented the pipe surface area corrosion in CR 1-2000-0043. Based on the results of the nondestructive examinations and engineering evaluation, the licensee concluded that the subject pipe remained operable. However, engineering personnel recommended and documented in CR 1-2000-0043 that this pipe be replaced and adequately coated for protection during the next refueling outage.

c. Conclusions

Severe corrosion was observed on the Unit 1 ACW piping in the intake structure where it penetrated the floor into the service water bay. The degradation was due to the pipe never being painted or coated on the outside surface area for protection. Nondestructive examination was subsequently performed, and engineering personnel determined that the pipe remained operable in the degraded condition, but recommended that the pipe be replaced in the next refueling outage.

M8 Miscellaneous Maintenance Issues (61726, 92700)

- M8.1 (Closed) Licensee Event Report (LER) 50-368/99-006: Inadequate Tracking of Work Progress Resulted in an Offsite Power Circuit Breaker Alignment Verification Not Being Performed as Required by a TS Action and Caused Entry into TS 3.0.3.

On December 8, 1999, the licensee removed the Unit 2 Emergency Diesel Generator A from service for minor maintenance that was expected to last less than 1 hour. Action b of TS 3.8.1.1 required that, with one emergency diesel generator inoperable, demonstration of operability of both offsite alternating current circuits was required by performing the surveillance to verify correct circuit breaker alignments within 1 hour. Due to inadequate work tracking and communications, the maintenance was not initiated promptly and the Emergency Diesel Generator A was not returned to an operable status for approximately 2 hours. The circuit breaker alignment surveillance was not performed within the required 1 hour period. This resulted in a violation of TS 3.8.1.1, Action Requirement b.

The licensee discovered this event and the next day immediately performed the circuit breaker alignment verification surveillance. No discrepancies existed. The licensee initiated CR 2-99-0774 to document the event, evaluate the root cause, and develop corrective actions. The inspectors reviewed the licensee's actions as part of the CR and LER and considered them appropriate. This constitutes a violation of minor significance and is not subject to formal enforcement action.

III. Engineering

E1 Conduct of Engineering

- E1.1 Unit 1 - Evaluation Deficiencies for Isolating Makeup Tank Relief Valve

- a. Inspection Scope (37551, 71707, 62707)

Unit 1 Vacuum Degassifier Seal Water Pump P-99 had failed and required replacement. The licensee's selected replacement method required isolating the Unit 1 makeup tank relief valve path during power operation. The inspectors reviewed Work Plan 1409.708 and Engineering Request (ER) 002296E101 to assess the adequacy of the evaluation and contingency plans during the period of time the makeup tank relief valve path was isolated.

- b. Observations and Findings

The SAR identified that the Unit 1 makeup tank was designed in accordance with Section III of the ASME Boiler and Pressure Vessel Code. However, the makeup tank is nonsafety-related and is isolated during an accident to prevent gas binding of the high pressure injection pumps. Pump P-99 was not provided with isolation valves to facilitate online pump repairs. Instead, the licensee planned an isolation boundary which required closure of Valve ABV-40, a normally locked open manual isolation valve

downstream of the Makeup Tank Relief Valve PSV-1249. Valve ABV-40 was identified as a locked open valve on SAR, Figure 11-1. Closure of Valve ABV-40 would remove overpressure protection provided by Valve PSV-1249. The licensee had developed compensatory actions, including adding a dedicated licensed operator in the control room to maintain constant makeup tank level and pressure during the time Valve ABV-40 was closed and to divert reactor coolant system letdown to the clean waste receiver tanks in the event of a makeup and purification system transient.

The inspectors were concerned about the acceptability of isolating the relief valve path of an inservice ASME Section III vessel. The inspectors reviewed ER 002296E101 and noted two concerns.

First, the ER identified that no 10 CFR 50.59 safety evaluation was required for the proposed activity. Although the activity would affect a drawing in the SAR, the ER stated that it was a temporary valve lineup change, which is an identified exception in the licensee's 10 CFR 50.59 procedure. The inspectors reviewed Procedure 1000.131, "10 CFR 50.59 Review Program," Revision 3, and confirmed that the procedure identified that valve lineups, which temporarily revise a SAR figure, do not require a 10 CFR 50.59 safety evaluation. The inspectors considered that isolation of the makeup tank relief valve path by closing Valve ABV-40 was a change to the facility, as described in the SAR. During its review of the Work Plan 1409.708, the plant safety committee concluded that a 10 CFR 50.59 safety evaluation was required for the proposed activity and directed that one be performed.

Second, the ER paraphrased Paragraph ND-7153 of the ASME Code, Section III, 1971 Edition. The ER stated ". . . paragraph ND-7153 of ASME B&PV Section III of the code states that no stop valve shall be placed relative to a pressure relief device so that it could reduce the overpressure protection below that required, unless positive controls exist so that the relieving capacity requirements are met under all conditions of operation of the system. Stationing a dedicated operator to control make-up flow into the tank and pressure of the tank is considered a positive control." Based on this discussion, the inspectors concluded that the activity was Code compliant.

The inspectors reviewed paragraph ND-7153 of the Code. Paragraph ND-7153 stated "No stop valve or other device shall be placed relative to a pressure-relief device so that it could reduce the overpressure protection below that required by these rules, unless such stop valves are constructed and installed with positive controls and interlocks so that the relieving capacity requirements of ND-7400 are met under all conditions of operation of the system and the stop valves. Means shall be provided such that the operability of controls and interlocks can be verified by test." Based on this reading of the actual ASME Code paragraph, the inspectors considered the proposed activity to not be Code compliant and that the discussion in the ER was misleading.

The inspectors discussed these concerns with licensee personnel, who agreed that the proposed activity was not literally ASME Code Section III compliant. However, the licensee informed the inspectors that ASME Code Section III requirements did not apply to nuclear power plants whose applications for construction permits were docketed prior to May 14, 1984, like Unit 1. Therefore, changes to the facility for components that were

designed to ASME Code Section III requirements were allowable via the 10 CFR 50.59 process. The inspectors reviewed the licensee's work plan and safety evaluation and agreed with the licensee's conclusion that the proposed activity did not result in an unreviewed safety question.

The inspectors observed the implementation of the licensee's work plan, including contingency actions, and found the licensee's implementation performance acceptable.

c. Conclusions

The licensee's evaluation of a plan to isolate the Unit 1 makeup tank relief valve path to facilitate maintenance was acceptable.

IV. Plant Support

R1 Radiological Protection and Chemistry Controls

R1.1 General Comments (71750)

During routine tours of the plant and observations of plant activities, the inspectors found that radiation protection personnel were properly performing their duties, access to high radiation areas was properly controlled, and areas were properly posted.

S1 Conduct of Security and Safeguards Activities

S1.1 General Comments (71750)

During routine tours of the plant and observations of personnel access into the protected area, the inspectors found that security personnel were properly performing their duties and that access to vital areas was properly controlled.

V. Management Meetings

X1 Exit Meeting Summary

The inspectors presented the inspection results to members of the licensee's staff on February 24, 2000. The licensee acknowledged the findings presented.

The inspectors asked the licensee whether any material examined during the inspection should be considered proprietary. No proprietary information was identified.

ATTACHMENT

PARTIAL LIST OF PERSONS CONTACTED

Licensee

G. Ashley, Licensing Supervisor
B. Bement, Unit 2 Plant Manager
M. Chisum, Manager, Unit 2 System Engineering
M. Cooper, Licensing Specialist
D. James, Manager, Licensing
R. Lane, Director, Design Engineering
D. Lomax, Unit 1 Outage Manager
R. Phillips, Unit 2 Mechanical Specialist
T. Van Schaik, Unit 1 Assistant Operations Managers
J. Smith, Jr., Radiation Protection Manager
C. Tyrone, Manager, Quality Assurance
J. Vandergrift, Director, Nuclear Safety
C. Zimmerman, Unit 1 Plant Manager

INSPECTION PROCEDURES USED

37551	Onsite Engineering
61726	Surveillance Observations
62707	Maintenance Observations
71707	Plant Operations
71750	Plant Support Activities
92700	Licensee Event Report Followup

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

50-313/9920-01	NCV	Inadequate Unit 1 RCP P-32D lube oil collection system (Section M2.1)
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Closed

50-313/9920-01	NCV	Inadequate Unit 1 RCP P-32D lube oil collection system (Section M2.1)
50-368/99-006	LER	Inadequate Tracking of Work Progress Resulted in an Offsite Power Circuit Breaker Alignment Verification Not Being Performed as Required by a TS Action and Caused Entry into TS 3.0.3 (Section M8.1)

LIST OF ACRONYMS USED

ACW	auxiliary cooling water
CR	condition report
RB	reactor building
TS	Technical Specification
ECCS	emergency core cooling system
RCP	reactor coolant pump
ARD	anitirotation device
DHR	decay heat removal
LPI	low pressure injection
RB	reactor building
LER	licensee event report
ER	engineering request
UFSAR	Updated Final Safety Analysis Report
Y2K	year 2000