UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-8064

October 26, 2001

Craig G. Anderson, Vice President,
Operations
Arkansas Nuclear One
Entergy Operations, Inc.
1448 S.R. 333
Russellville, Arkansas 72801-0967

SUBJECT: ARKANSAS NUCLEAR ONE, UNITS 1 AND 2 - NRC INTEGRATED INSPECTION REPORT 50-313/01-07, 50-368/01-07

Dear Mr. Anderson:

On July 1 through September 29, 2001, the NRC completed several baseline inspections at the Arkansas Nuclear One, Units 1 and 2, facility. The enclosed report presents the results of those inspections, which were discussed on July 13, September 20, September 28, October 2, and October 22, 2001, with you and other members of your staff.

This report documents a routine resident inspection; an examination of your licensed operator requalification program; an examination of your program to review changes, tests, or experiments; and, an examination of your radiation monitoring instrumentation program. Within these areas, the inspections consisted of a selected examination of procedures and representative records, observations of activities, and interviews with personnel.

Since September 11, 2001, Arkansas Nuclear One has assumed a heightened level of security based on a series of threat advisories issued by the NRC. Although the NRC is not aware of any specific threat against nuclear facilities, the heightened level of security was recommended for all nuclear power plants and is being maintained due to the uncertainty about the possibility of additional terrorist attacks. The steps recommended by the NRC include increased patrols, augmented security forces and capabilities, additional security posts, heightened coordination with local law enforcement and military authorities, and limited access of personnel and vehicles to the site.

The NRC continues to interact with the Intelligence Community and to communicate information to Entergy personnel. In addition, the NRC has monitored maintenance and other activities which could relate to the site's security posture.

This report documents one finding of very low safety significance (Green) that was determined to involve a violation of NRC requirements. However, because of its very low safety significance and because it has been entered into your corrective action program, the NRC is treating this finding as a noncited violation (NCV), consistent with Section VI.A of the NRC Enforcement Policy issued on May 1, 2000 (65FR25368). If you deny this noncited violation, you should provide a response with the basis for your denial, within 30 days of the date of this

inspection report, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region IV; the Director, Office Of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and, the NRC Resident Inspector at the Arkansas Nuclear One facility.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be made available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/NRC/ADAMS/index.html (The Public Electronic Reading Room).

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

Sincerely,

/RA/

Linda Joy Smith, Chief
Project Branch D
Division of Reactor Projects

Dockets: 05000313
05000368
Licenses: DPR-51
NPF-6

Enclosure:
NRC Inspection Report
50-313/01-07, 50-368/01-07

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KDWeaver	RLBywater	JFMelfi	GMGood	ATGody
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ENCLOSURE

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket Nos:	05000313, 05000368
License Nos:	DPR-51, NPF-6
Report Nos:	50-313/01-07, 50-368/01-07
Licensee:	Entergy Operations, Inc.
Facility:	Arkansas Nuclear One, Units 1 and 2
Location:	Junction of Hwy. 64W and Hwy. 333 South Russellville, Arkansas
Dates:	July 1 through September 29, 2001
Inspectors:	R. Bywater, P.E., Senior Resident Inspector C. Clark, Reactor Inspector, Engineering and Maintenance Branch P. Gage, Senior Operations Engineer, Operations Branch M. Murphy, Senior Operations Engineer, Operations Branch J. Nicholas, Ph.D., Senior Health Physicist, Plant Support Branch K. Weaver, Resident Inspector
Approved by:	Linda Joy Smith, Chief Project Branch D Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000313/2001-007, IR 05000368/2001-007; Entergy Operations, Inc.; Arkansas Nuclear One, Units 1 & 2; on 07/01-09/29/2001. Fire Protection. One Green NCV.

The report covered a 12-week period of resident inspection and announced inspections by two regional senior operator license examiners, a regional engineering inspector, and a regional senior health physics inspector. The significance of most findings is indicated by their color (Green, White, Yellow, or Red) using IMC 0609 "Significance Determination Process" (SDP). The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described at its Reactor Oversight Process website at http://www.nrc.gov/NRR/OVERSIGHT/index.html.

A. Inspection Findings

Cornerstone: Mitigating Systems

Green. A noncited violation of 10 CFR Part 50, Appendix R, Section III.G.2, was identified for failure to ensure that one of the redundant trains of a system necessary to achieve and maintain hot shutdown conditions in the event of a fire would be free of fire damage. Electrical cables for redundant borated water storage tank (BWST) Outlet Valves CV-1407 and CV-1408 were located in Fire Zone 53Y without spatial separation or fire barriers.

The finding had greater than minor significance because if the finding remained unidentified, a fire in Fire Zone 53Y could result in a loss of reactor coolant system makeup capability. Based on review of NRC Manual Chapter 0609, Appendix F (Determining Potential Risk Significance of Fire Protection and Post-Fire Safe Shutdown Inspection Findings), the inspectors determined that the finding was of very low significance. This was based on; (1) the fire loading was very low in Fire Zone 53Y and equated to an approximately one minute fire duration, (2) the fire ignition frequency from the licensee's individual plant examination of external events for this zone was low (i.e., 4.88 E-3/year), and, (3) based on review of the electrical cables and equipment located in this room, there were no components whose failure would result in an accident initiator (i.e., loss of offsite power, loss of main feedwater, etc.) so the finding only affects the mitigating systems cornerstone (Section 1R05).

B. Licensee Identified Violations

None.

Report Details

Summary of Plant Status

Unit 1 began the inspection period at 100 percent power. On July 24, 2001, Unit 1 experienced an automatic reactor trip due to a malfunction of the main turbine electro-hydraulic control system. On July 25, following subsequent troubleshooting and maintenance activities for the main turbine electro-hydraulic control system, Unit 1 operators made the reactor critical and commenced a power escalation. On July 26, the unit was placed back online and was returned to full power. Unit 1 remained at or near 100 percent power for the remainder of the inspection period.

Unit 2 began the inspection period at 100 percent power. On July 27, 2001, Unit 2 operators commenced a reactor power reduction due to an inadvertent drop of Control Element Assembly 43. Unit 2 operators stabilized reactor power at 77.8 percent on July 28. Following subsequent troubleshooting and recovery of Control Element Assembly 43, Unit 2 operators returned Unit 2 to 100 percent power the same day. Unit 2 remained at or near 100 percent power for the remainder of the inspection period.

1. REACTOR SAFETY
Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, Emergency Preparedness

1R02 Evaluations of Changes, Tests, or Experiments (71111.02)

a. Inspection Scope

The inspectors reviewed a sample of 15 completed safety evaluations to verify that the licensee's staff had appropriately considered the conditions under which the licensee may make changes to the facility or procedures or conduct tests or experiments without prior NRC approval. The inspectors also reviewed a sample of licensee safety evaluation subcommittee meeting minutes for the last year to ensure that management oversight of the 10 CFR 50.59 evaluation process had been implemented in accordance with the instructions contained in the Safety Review Committee Charter.

The inspectors reviewed a sample of 15 safety evaluation screenings, in which the licensee determined that safety evaluations were not required, to ensure that the licensee's exclusion of a full evaluation was consistent with the requirements of 10 CFR 50.59.

The inspectors reviewed 7 condition reports (CRs) initiated to address problems or deficiencies associated with the 10 CFR 50.59 process to ensure that appropriate corrective actions were being implemented.

Procedures and other documents reviewed are identified in the report attachment.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment (71111.04)

a. Inspection Scope

Between September 3-28, 2001, the inspectors walked down selected portions of each of the below listed plant systems while components of each system were out of service for maintenance or testing. Systems were reviewed to verify that the correct valve alignment and power was available. Positions of valves and electrical power breakers were compared to the below listed procedures and drawings to ensure that the valves and breakers were correctly aligned. Additionally, system piping, pipe hangers, pipe supports, oil reservoirs, and pump leak offs were evaluated to:

- Ensure that piping and pipe supports did not show evidence of water hammer
- Oil reservoir levels appeared normal
- Snubbers were not frozen
- Hangers were within the setpoints
- Component foundations were not degraded

The inspectors used the applicable chapters of the Updated Final Safety Analysis Report for each of the below systems as acceptance criteria.

- Procedure 2106.006, "Emergency Feedwater System Operations," Revision 53
- Procedure 2104.036, "Emergency Diesel Generator Operations," Revision 45
- Procedure 2104.039, "HPSI System Operation," Revision 40
- Procedure 1103.004, "Soluble Poison Concentration Control," Revision 16
- Procedure 1202.012, "Repetitive Tasks," RT-12, "Emergency Boration," Revision 4
- Drawing M2204, Sheet 4, "Emergency Feedwater," Revision 62
- Drawing M2232, Sheet 1, "Safety Injection System," Revision 108
- Drawing M233, Sheet 1, "Chemical Addition System," Revision 72

The walkdowns included the following systems:

- Unit 2 emergency feedwater system while the emergency feedwater flush valves were inoperable due to equipment qualification resolution
- Unit 2 Emergency Diesel Generator (EDG) B while the EDG A was inoperable for testing
- Unit 2 high pressure safety injection (HPSI) system Train A while the HPSI Pump C was out of service for maintenance

- Unit 1 boric acid addition flow paths when Valve PSV-1613, boric acid to batch controller relief valve, was found to be leaking

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05)

a. Inspection Scope

On July 17 and August 30, 2001, the inspectors reviewed the Fire Hazards Analysis Report, Revision 6, dated April 10, 2000, and ANO Prefire Plans, Unit 1, Volumes 1A and 1B, to determine the required fire protection design features, fire area boundaries, and combustible loading requirements of the following areas:

Fire Zone 53Y (Fire Area C) - Unit 1 lower north piping penetration room
Fire Zone 20Y (Fire Area C) - Unit 1 radwaste processing room
Fire Zone 67U (Fire Area B) - Unit 1 lab and demineralizer access room
Fire Zone 79U (Fire Area B) - Unit 1 upper north piping penetration room
Fire Area N - Unit 1 intake structure
Fire Zone 2084DD (Fire Area EE) - Unit 2 upper south piping penetration room
Fire Area OO - Unit 2 intake structure

The inspectors performed walkdowns on several occasions during this inspection and observed the accessible portions of these areas to assess the licensee's control of transient combustible material and ignition sources, fire detection and suppression capabilities, fire barriers, and any related compensatory measures.

b Findings

Introduction:

A noncited violation (Green) of 10 CFR Part 50, Appendix R, Section III.G.2, was identified for failure to ensure that one of the redundant trains of a system necessary to achieve and maintain hot shutdown conditions in the event of a fire was free of fire damage. Electrical cables for redundant BWST Outlet Valves CV-1407 and CV-1408 were located in Fire Zone 53Y without spatial separation or fire barriers.

Description:

The inspectors identified that redundant trains of electrical power cables for the BWST outlet valves (required to open to ensure reactor coolant system makeup capability following a fire) are located in unwrapped conduits in close proximity to each other in Fire Zone 53Y, Unit 1 lower north piping penetration room. In some places the cables are separated by only a few inches. This configuration did not meet the separation requirements of 10 CFR Part 50, Appendix R, Section III.G.2. Specifically, there is not

20 feet separation with no intervening combustibles between the redundant electrical cables and there is no automatic fire suppression system in the room. A fire detection system with alarm capability in the control room does exist for Fire Zone 53Y. The inspectors found electrical cables for redundant Valves CV-1407 and CV-1408 located in Fire Zone 53Y but the licensee's safe shutdown capability assessment and cable raceway tracking system only identified electrical cables for one of the two valves, Valve CV-1407. The licensee had not evaluated the condition of having both of the redundant BWST outlet valve electrical cables in the same fire zone until informed by the inspectors during this inspection.

During review of fire protection requirement exemptions previously approved by the NRC, the inspectors found that automatic fire suppression was not required in Fire Zone 53Y. On March 22, 1983, the NRC granted an exemption from the requirement to have automatic fire suppression for Fire Zone 53Y based on; (1) the low fire loading in this zone, (2) manual fire suppression equipment was available, (3) the only redundant safe shutdown equipment in Fire Zone 53Y was both trains of EDG oil transfer pump cables, and, (4) the licensee provided alternate shutdown capability to allow for cross connection to the Unit 2 fuel oil transfer pumps.

The licensee initiated CR 1-2001-0804 in response to this finding and established an hourly fire watch patrol of Fire Zone 53Y. The fire watch was required to be continuous if the fire detection system was inoperable. Additionally, the licensee performed an operability evaluation that documented the acceptability of using manual operator actions to open the BWST outlet valves locally in Fire Zone 20Y. Although both of these fire zones were located in Fire Area C, the licensee concluded that the BWST outlet valves would be accessible (not affected by the effects of smoke or fire from Fire Zone 53Y) and that if loss of remote operation capability of the valves from the control room occurred, sufficient time was available for an operator to locally open at least one of the valves. The licensee issued Operations Information Notice 56 to alert operators of this finding.

Analysis:

The inspectors determined that this finding had greater than minor significance because if the finding remained unidentified, a fire in Fire Zone 53Y could result in a loss of reactor coolant system makeup capability. Based on review of NRC Manual Chapter 0609, Appendix F, "Determining Potential Risk Significance of Fire Protection and Post-Fire Safe Shutdown Inspection Findings," the inspectors determined that the finding was of very low significance. This was based on: (1) the fire loading was very low in Fire Zone 53Y and equated to an approximately one minute fire duration; (2) the fire ignition frequency from the licensee's individual plant examination of external events for this zone was low (i.e., 4.88 E-3/year); and, (3) based on review of the electrical cables and equipment located in this room, there were no components whose failure would result in an accident initiator (i.e., loss of offsite power, loss of main feedwater, etc.) so the finding only affects the mitigating systems cornerstone. Based on these factors, the finding is characterized by the Significance Determination Process as having very low risk significance (Green).

Enforcement:

Title 10 of the Code of Federal Regulations (CFR), Part 50.48, “Fire Protection,” and 10 CFR Part 50, Appendix R, “Fire Protection Program for Nuclear Power Facilities Operating Prior to January 1, 1979," establish specific fire protection features required to satisfy 10 CFR Part 50, Appendix A, General Design Criterion 3, “Fire Protection.” Appendix R applies to licensed nuclear power electric generating stations that were operating prior to January 1, 1979, which includes ANO, Unit 1. Section III.G.2 of Appendix R to 10 CFR Part 50 requires that, “where cables or equipment, including associated non-safety circuits that could prevent operation or cause maloperation due to hot shorts, open circuits, or shorts to ground, of redundant trains of systems necessary to achieve and maintain hot shutdown conditions are located within the same fire area outside of primary containment, one of the following means of ensuring that one of the redundant trains is free of fire damage shall be provided:

(1) Separation of cables and equipment and associated non-safety circuits of redundant trains by a fire barrier having a 3-hour rating. Structural steel forming a part of or supporting such fire barriers shall be protected to provide fire resistance equivalent to that required of the barrier;

(2) Separation of cables and equipment and associated non-safety circuits of redundant trains by a horizontal distance of more than 20 feet with no intervening combustible or fire hazards. In addition, fire detectors and an automatic fire suppression system shall be installed in the fire area; or

(3) Enclosure of cable and equipment and associated non-safety circuits of one redundant train in a fire barrier having a 1-hour rating, In addition, fire detectors and an automatic fire suppression system shall be installed in the fire area;”

Contrary to the above, electrical cables for redundant BWST Valves CV-1407 and CV-1408 were located in the same fire zone (and same fire area) and an acceptable means to ensure that one of the redundant trains was free of fire damage was not provided. This violation is being treated as a noncited violation consistent with Section VI.A of the NRC Enforcement Policy, issued on May 1, 2000 (65FR25368). The licensee documented this finding in CR 1-2001-0804 (NCV 50-313/01-007-01). The acceptability of the licensee's corrective actions for this finding will be the subject of additional NRC evaluation, consistent with that discussed in NRC Inspection Report 50-313/2001-06; 50-368/2001-06.

1R07 Heat Sink Performance (71111.07A)

a. Inspection Scope

Between September 17-25, 2001, the inspectors reviewed applicable chapters of the Unit 2 Updated Final Safety Analysis Report and Unit 2 EDG heat exchanger performance testing performed in accordance with Procedure 2311.008, "EDG Heat Exchanger Performance Test," Revision 2. The purpose of this review was to determine if the test and its results demonstrated that an acceptable heat sink existed to ensure

operability of the Unit 2 EDGs. Test methodology and equipment, acceptance criteria, and results were reviewed to determine if the EDGs would successfully perform under design-basis accident conditions.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program (71111.11)

a. Inspection Scope

Examination security measures and procedures were evaluated for compliance with 10 CFR 55.49. The licensee's sample plan for the written examinations was evaluated for compliance with 10 CFR 55.59 and NUREG-1021 as referenced in the facility requalification program procedures. Maintenance of license conditions was evaluated for compliance with 10 CFR 55.53 by review of facility records, procedures, and tracking systems for licensed operator training, qualification, and watchstanding. Remedial training and examinations for examination failures were reviewed for compliance with facility procedures and responsiveness to address areas failed.

In addition, the inspectors: (1) interviewed nine personnel (three operators, five instructors/evaluators, and a training supervisor) regarding the policies and practices for administering examinations; (2) observed the administration of four dynamic simulator scenarios to two requalification crews by facility evaluators, including an operations department manager assistant, who participated in the crew and individual evaluations; and, (3) observed three facility evaluators administer five job performance measures, including two in the control room simulator in a dynamic mode and three in the plant under simulated conditions. Each job performance measure was observed being performed by an average of four requalification candidates. The inspectors also reviewed the remediation process for three individuals, one of which involved a written examination failure, one a simulator examination failure, and one periodic weekly quiz failure.

b. Findings

No findings of significance were identified.

1R12 Maintenance Rule Implementation (71111.12)

a. Inspection Scope

On August 13-17 and September 13-16, 2001, the inspectors reviewed the equipment status, Maintenance Rule performance criteria, and the equipment failures and Maintenance Rule functional failure evaluations and determinations associated with the Unit 2 EDG 2K4A and Unit 1 Decay Heat Vault Watertight Doors DR5 and DR6, which are documented in the following listed CRs. The inspectors performed this review to assess the effectiveness of maintenance activities and to verify that licensee personnel

properly implemented the requirements of 10 CFR 50.65, "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants."

- CR 2-2000-0491: During performance of the 2K4A Overspeed Trip test, the voltage regulator failed to control voltage level, September 23, 2000

- CR 2-2000-0810: During an engineered safety feature relay test, the EDG 1 was started and the varmeter read 1800 VARS "in" after connecting to the Bus 2A3. The fault was due to a broken wire in the auto voltage regulator circuit, October 31, 2000

- CR 2-2001-0158: Inability of the EDG 2K4A excitation system to control reactive power as required, February 28, 2001

- CR 2-2001-0177: Unit 2 EDGs has failed to meet its performance criteria established as part of ANO's compliance with 10 CFR 50.65. Performance criteria exceeded "Less than three function failures per cycle of operation is selected for each EDG train," March 8, 2001

- CR 2-2001-0737: During the original functional failure review of CR 2-2000-0810, the condition was classified as being "Not a Functional Failure." Upon further review, the condition described in CR 2-2000-0810 is a "Functional Failure," per the requirements of the Maintenance Rule program, August 21, 2001

- CR 1-2001-0810: The Decay Heat Removal Vault Doors A and B require excessive torque to rotate the handwheel to complete engaged position, August 1, 2001

- CR 1-2001-0834: Both decay heat vault doors were found only partially dogged closed, August 9, 2001

- CR 1-2001-0841: Both decay heat vault doors were found less than one turn closed, August 16, 2001

- CR 1-2001-0939: Three previous CRs were written to identify a problem with closure of the decay heat vault doors creating a potential system classification of A1 per the Maintenance Rule, September 11, 2001

- Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Evaluation (71111.13)

a. Inspection Scope

The inspectors compared risk assessments listed below against the requirements of

10 CFR 50.65(a)(4) to verify that risk assessments were performed when required and appropriate actions were taken. The associated work activities were reviewed with licensed operators and work coordination personnel to verify that threshold levels for risk management actions were correctly identified and that risk management actions were appropriately taken in accordance with Procedure 1000.166, "Configuration Risk Management Program (CRMP)," Revision 0, and the ANO Risk Management Guidelines. The inspectors reviewed the assessed risk configurations against actual plant conditions and any in-process evolutions or external events to verify that the assessments were accurate, complete, and appropriate for the condition. In addition, the inspectors walked down the control rooms and plant areas to verify that compensatory measures identified by the risk assessments were appropriately performed. The specific plant configurations included:

- July 25, 2001 Troubleshooting activities to locate and eliminate electrical ground associated with 500kV Breaker B5114
- September 13, 2001 Failure of the 500kV Fort Smith offsite power feed
- September 17, 2001 Replacement of Unit 1 Decay Heat Removal Room B Cooler VUC-1C
- September 27, 2001 Unit 1 Reactor Building Spray Pump P-35B maintenance outage
- September 27, 2001 Unit 2 Containment Building Spray Pump 2P-35B maintenance outage

b. Findings

No findings of significance were identified.

1R14 Nonroutine Events (71111.14, 71153)

a. Inspection Scope

For the nonroutine events described below, the inspectors reviewed operator logs, plant computer data, posttransient review reports, and interviewed licensed operators to determine what occurred and how the operators responded. Also, the inspectors determined if the response was in accordance with plant procedures and Technical Specifications.

- On July 24, 2001, the inspectors observed plant personnel response to a Unit 1 reactor trip due to a turbine electro-hydraulic control system failure.
- On July 30, 2001, the inspectors reviewed the licensee's response to dropped Control Element Assembly 43, that occurred on July 27, 2001.
- On September 24-25, 2001, the inspectors reviewed the licensee's response to

the failure to run of the Charging Pump 2P-36B. A brief entry was made into Technical Specification 3.0.3 when all charging pumps were secured to verify that there was not a common mode failure potential due to gas binding condition in the chemical and volume control system.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors reviewed operability determinations selected based on risk insights to assess the correctness of the evaluations, the use and control of compensatory measures if needed, and compliance with the Technical Specifications. The inspectors' review included a verification that the operability determinations were made as specified by the licensee's procedures LI-102, "Corrective Action Process," Revision 1, and Procedure 1000.104, "Condition Reporting Operability and Immediate Reportability Determinations," Revision 17. The technical adequacy of the determinations were reviewed and compared to the Technical Specifications, Technical Requirements Manual, Updated Final Safety Analysis Report, and associated design-basis documents. The operability determinations that were reviewed were documented in the following condition reports:

- CR C-2001-0327: During the performance of fire water flow test, Fire Water Hydrant H-9 broke off two feet under ground which resulted in a severe fire system water hammer throughout the plant site. The inspectors verified the licensee's corrective actions were adequate to determine operability of the fire water distribution system.

- CR 1-2001-0804 The raceway tracking system does not identify all zones in which Conduit EB2034 is routed. Consequently, the safe shutdown capability assessment did not identify that Conduit EB2034 is located in the same fire zone as Conduit EB1011. Therefore, electrical cables for the BWST Outlet Valves CV-1407 and CV-1408 did not meet the separation requirements of 10 CFR Part 50, Appendix R, Section III.G.2.

- CR 1-2001-0806 BWST Outlet Valve CV-1407 cable fire wrap found degraded. The as-found condition had minimal impact on the overall effectiveness of the fire barrier.

- CR 1-2001-0831 In process of reviewing safe shutdown components in Fire Zone 53Y, it was discovered that one train of the Diesel Fuel Transfer Pump Cables P-16B was not listed in the

Safe Shutdown Capability Assessment Calculation 85-E-0086-01. Fire Zone 53Y was already identified as an alternate shutdown zone for the redundant diesel fuel transfer pumps.

- CR 2-2001-0610 Control Element Assembly 37 withdrew on an insertion command during quarterly exercise test due to failed circuit card.
- CR 2-2001-0611 Control Element Assembly 43 dropped during quarterly exercise test due to degraded performance of upper gripper coil.
- CR 2-2001-0723 Unit 2 Technical Specification 4.7.1.4 reactor coolant system chemistry sample not performed as required by Technical Specification. Sample performed within requirement of Technical Specification 4.0.3 with satisfactory results.
- CR 1-2001-0817 Unit 1 high pressure injection flow transmitter flexible conduits found degraded. Condition had no impact on transmitter operability.
- CR 1-2001-0979 Unit 1 Valve PSV-1613, boric acid to batch controller relief valve leaking-by and tail pipe blocked with boric acid. Condition had no impact on ability to borate to reactor coolant system.
- CR 2-2001-0916 Unexpected process fluid flow paths identified during Unit 2 EDG 2K-4A thermal performance testing. Condition had no impact on EDG operability.

- Findings

No findings of significance were identified with the exception of CR 1-2001-0804 which is discussed in Section 1R05 of this report.

1R19 Postmaintenance Testing (71111.19)

a. Inspection Scope

For the maintenance identified below, the inspectors observed the postmaintenance testing in the control room and reviewed the test data obtained from the field. The inspectors observed whether the tests performed in accordance with the procedures and that the procedures' acceptance criteria were addressed in the Technical Specifications and that the results recorded met the test acceptance criteria. The maintenance items reviewed included were HPSI Pump 2P-89C testing in accordance with Procedure 2104.039, "HPSI System Operation," Revision 40, following oil sampling

and oil addition.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

On July 12 and August 15, 2001, the inspectors observed from both the control room and locally the performance of and/or reviewed documentation for the following surveillance tests to verify that the surveillance tests were performed in accordance with approved licensee procedures and meet Technical Specifications requirements. In addition, the applicable test data was also reviewed to verify whether they met Technical Specification, UFSAR, and licensee procedure requirements.

- Procedure 2104.036, "Emergency Diesel Generator Operations," Supplement 1A, "2DG1 Monthly Test," Revision 045-02-0, conducted on August 15, 2001

- Procedure 2104.040, "LPSI System Operations," Supplement 1, "2P-60A Quarterly Test," conducted on July 12, 2001

- Procedure 2104.040, "LPSI System Operations, Supplement 7A, "LPSI Train 1 Integrity Test and Leak Rate Determination," conducted on July 12, 2001

- Procedure 1409.730, "Control Room Pressure Sweep Test Plan," Revision 0. Various portions of testing reviewed between August 29 and September 10, 2001

• Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications (71111.23)

a. Inspection Scope

The inspectors reviewed the implementation of various modifications in response to the September 11, 2001, terrorist attacks to confirm modifications were installed as authorized per Procedure 1000.103, "Plant Modification Process," Revision 7. Details are not included in this report due to their sensitive nature.

b. Findings

No findings of significance were identified.

Emergency Preparedness (EP)

1EP6 Drill Evaluation (71114.06)

a. Inspection Scope

The inspectors observed portions of the announced emergency preparedness drill conducted on September 26, 2001, to evaluate emergency response organization performance and adequacy of the licensee's critique process. The drill was conducted using the Unit 2 simulator and all onsite emergency response facilities (emergency operations facility, technical support center, and the operations support center) were activated.

The inspectors also observed an off-hours announced emergency response organization staffing drill on September 26, 2001.

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY
Cornerstone: Occupational Radiation Safety

2OS3 Radiation Monitoring Instrumentation (71121.03)

a. Inspection Scope

The inspectors interviewed cognizant licensee personnel and reviewed the following items to ensure that licensee's activities met regulatory requirements concerning radiation monitoring instrument operability and accuracy and program adequacy to provide self-contained breathing apparatuses to personnel.

- Calibration, operability, and alarm setpoints, when applicable, of portable radiation detection instrumentation, whole-body counting instrumentation, temporary area radiation monitors, continuous air monitors, electronic alarming dosimeters, and personnel contamination monitors

- Calibration, operability, and alarm setpoints, when applicable, of area radiation monitors not covered by the Maintenance Rule

- Calibration expiration and source response performance test currency on radiation detection instruments staged for use

- Health physics technician instrument selection and self-verification of instrument operability prior to use

- The status and surveillance records of self-contained breathing apparatuses staged and ready for use in the plant

- The licensee's capability for refilling and transporting self-contained breathing apparatus air bottles to and from staged plant locations (i.e., the control room and operations support center) and the two bottled air refilling facilities on site during emergency conditions

- Control room operators, health physics emergency response personnel, and security personnel training and qualifications for use of self-contained breathing apparatus

- Exposure significant radiological incidents that involved radiation monitoring instruments or self-contained breathing apparatus deficiencies

- Four Quality Assurance Audit Reports QA-14-2001-ANO-1, "Radiation Protection"; QA-14-2001-2001-GGNS-1, "Radiation Protection"; QAP-13-2000, "Emergency Planning"; and QA-7-2001-ANO-1, "Emergency Plan"; and three Quality Assurance Surveillance Reports SR-018-2000, QS-2001-ANO-005, and QS-2001-ANO-101)

- Health physics procedures implementing the radiation instrumentation program and respiratory protection program

- A summary of radiological CRs written between July 1, 2000, and September 14, 2001. The following 15 CRs were reviewed in detail: CR C-2000-0113, CR C-2000-0186, CR C-2000-0206, CR C-2000-0207, CR 1-2000-0357, CR C-2000-0365, CR C-2001-0032, CR 1-2001-0046, CR C-2001-0182, CR C-2001-0236, CR C-2001-0337, CR C-2001-0346, CR C-2001-0285, CR 2-2001-0616, and CR 2-2001-0781.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES (OA)

4OA1 Performance Indicator Verification (71151)

a. Inspection Scope

On August 13-15 and September 8-10, 2001, the inspectors reviewed Units 1 and 2 operations station logs, monthly operating reports, and CRs for the first and second quarters of 2001 to verify the accuracy and completeness of data used to calculate and report the following performance indicators in accordance with Procedure LI-107, "NRC Performance Indicator Process," Revision 0

- Unit 1 safety system functional failures (first and second quarter 2001)

- Unit 2 safety system functional failures (first and second quarter 2001)
- Unit 2 safety system unavailability, emergency ac power (first and second quarter 2001)

b. Findings

No findings of significance were identified.

4OA6 Meetings, including Exit

The inspectors presented the inspection results of the licensed operator requalification inspection to Mr. B. Bement, General Manager, and other members of the licensee's management staff on July 13, 2001.

The inspectors presented the inspection results of the evaluations of changes, tests, or experiments inspection to Mr. C. Anderson, Vice President, and other members of the licensee's management staff on September 20, 2001.

The inspectors presented the inspection results of the radiation monitoring instrumentation inspection to Mr. N. Eggemeyer, Manager, Technical Support, and other members of the licensee's management staff on September 28, 2001.

The resident inspectors presented the inspection results to Mr. C. Anderson, Vice President, and other members of the licensee's management staff on October 2, 2001. The licensee acknowledged the findings presented.

On October 22, 2001, the inspectors provided the results of the NRC's deliberations on the fire protection noncited violation discussed in Section 1R05 to Mr. G. Ashley, Licensing Manager.

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

ATTACHMENT

PARTIAL LIST OF PERSONS CONTACTED

Licensee

C. Anderson, Vice President
G. Ashley, Manager, Licensing
B. Bement, General Manager, Plant Operations
M. Chisum, Manager, Unit 2 Systems Engineering
S. Cotton, Training Manager
N. Eggemeyer, Manager, Technical Support
R. Espolt, Acting Manager, Maintenance
R. Fuller, Manager, Emergency Planning
J. Giles, Unit 1 Supervisor, Operations Training
B. Gordon, Unit 2 Outage Manager
A. Hawkins, Licensing
J. Hoffpauir, Plant Manager, Unit 2
R. Howerton, Technical Assistance to General Manager
B. James, Manager, Maintenance
D. James, Manager, Engineering Programs and Components
J. Kowalewski, Director, Engineering
M. Little, Unit 1 Assistant Operations Manager
T. Mayfield, Unit 2 Supervisor, Operations Training
K. Nichols, Manager, Unit 1 Systems Engineering
T. Nickels, Manager, Radiation Protection
S. Pyle, Licensing Specialist
B. Robinson, System Engineering
D. Sealock, Supervisor, Simulator Training and Support
J. Smith, Work Week Manager
B. Starkey, Supervisor, Radiation Protection
C. Turk, Manager, Design Engineering
C. Tyrone, Manager, Quality Assurance
C. Zimmerman, Unit 1 Plant Manager

ITEMS OPENED AND CLOSED

50-313/01-007-01	NCV	Failure to ensure that one train of BWST outlet valves was free of fire damage (Section 1R05)

PARTIAL LIST OF DOCUMENTS REVIEWED

Procedures:

1000.015	Station Training Program	Revision 23
1063.008	Operations Training Sequence	Revision 29
Training Desk Guide 4.4	Operators Continuing Training Guide	Revision 7

Training Desk Guide 4.5	Conducting Licensed Operator Requalification Simulator Training	Revision 6
Training Desk Guide 4.10	Simulator Exam Security Guidelines	Revision 2
1105.009	CRD System Operating Procedure	Revision 16
1203.003	Control Rod Drive Malfunction Action	Revision 19
1202.006	Tube Rupture	Revision 7
1202.012	Repetitive Tasks	Revision 4
1203.002	Alternate Shutdown	Revision 15
1107.003	Inverter and 120Vital AC Distribution	Revision 11
1107.002	ES Electrical System Operation	Revision 17
1104.036	Emergency Diesel Generator Operation	Revision 39
1203.013	Natural Circulation Cooldown	Revision 16
1104.001	Core Flood System Operating Procedure	Revision 31

1000.104 Condition Reporting and Corrective Actions, Revision 15
1000.131 10CFR50.59 Review Program, Change No. 003-04-0 (old-Deleted 06/04/01)
1000.153 Engineering Request Process, Change No. 006-00-0
LI-101 10CFR50.59 Review Program, Revision 1 (New-effective 06/04/01)
LI-102 Corrective Action Process, Revision 0

Other Documents:

10CFR50.59 Review Program Guidelines, Revision 2
Safety Review Committee Charter, Revision 21
Weekly Training Cycle Schedule (July 9, 2001)
Unit 1 Operators Watchstanding Proficiency Report (April 1, 2001 to June 30, 2001)
Unit 2 Operators Watchstanding Proficiency Report (April 1, 2001 to June 30, 2001)
Unit 1 Operations Training Review Group Meeting Minutes (8/6/99)
Unit 1 Operations Training Review Group Meeting Minutes (10/28/99)
Unit 1 Operations Training Review Group Meeting Minutes (2/28/00)
Unit 1 Operations Training Review Group Meeting Minutes (4/17/00)
Unit 1 Operations Training Review Group Meeting Minutes (7/27/00)
Unit 1 Operations Training Review Group Meeting Minutes (11/28/00)
Unit 1 Operations Training Review Group Meeting Minutes (2/28/01)
Unit 1 Operations Training Review Group Meeting Minutes (4/25/01)
Unit 1 Biennial License Requalification Exam Sample Plan
ANO-1-EXM-LOR-STAT Senior Reactor Operator, Training Cycle 1-01-05
ANO-1-EXM-LOR-STAT Reactor Operator, Training Cycle 1-01-05

ANO-1-EXM-LOR-ANUAL Senior Reactor Operator, Training Cycle 1-01-05
ANO-1-EXM-LOR-ANUAL Reactor Operator, Training Cycle 1-01-05
ANO-2-EXM-LOR-STAT SS-002, Revision 14
ANO-2-EXM-LOR-STAT SS-003, Revision 14
ANO-2-EXM-LOR-STAT SS-004, Revision 14
ANO-2-EXM-LOR-STAT SS-005, Revision 14
ANO-2-EXM-LOR-STAT SS-010, Revision 14
ANO-2-EXM-LOR-STAT SS-017, Revision 14
ANO-2-EXM-LOR-ANUAL RO TEST 1, Revision 2
ANO-2-EXM-LOR-ANUAL RO TEST 2, Revision 0
ANO-2-EXM-LOR-ANUAL RO TEST 3, Revision 1
ANO-2-EXM-LOR-ANUAL SRO TEST 1, Revision 2
ANO-2-EXM-LOR-ANUAL SRO TEST 2, Revision 1
ANO-2-EXM-LOR-ANUAL, SRO TEST 3, Revision 2

Licensed Operator Requalification Dynamic Exam Scenarios:

ES-1-015, Revision 4	ES-2-005, Revision 14	ES-2-026, Revision 14
ES-1-028, Revision 3	ES-2-006, Revision 14	ES-2-028, Revision 14
ES-1-031, Revision 4	ES-2-008, Revision 14	ES-2-029, Revision 14
ES-1-033, Revision 4	ES-2-009, Revision 14	ES-2-033, Revision 14
ES-2-003, Revision 14	ES-2-008, Revision 14	ES-2-034, Revision 14

Job Performance Measures:

ANO-1-JPM-RO-CRD03	ANO-1-JPM-RO-EDG08	ANO-2-JPM-RO-CCW02
ANO-1-JPM-RO-EOP19	ANO-1-JPM-RO-EFIC3	ANO-2-JPM-RO-CEDM1
ANO-1-JPM-RO-RBC01	ANO-1-JPM-RO-EOP13	ANO-2-JPM-RO-2D21
ANO-1-JPM-RO-AOP08	ANO-1-JPM-RO-CF001	ANO-2-JPM-RO-2RS1A
ANO-1-JPM-RO-ED22	ANO-2-JPM-RO-AAC01	ANO-2-JPM-RO-2RS2A
ANO-1-JPM-RO-ED016		

Simulator Discrepancy Reports:

01-0121	01-0152	01-0161
01-0137	01-0153	01-0164
01-0140	01-0156	01-0169
01-0145	01-0158	01-0172
01-0146	01-0159	01-0175
01-0149	01-0160	

10 CFR 50.59 SAFETY EVALUATIONS (performed for engineering request (ER) or procedure/ revision or change no.):

ER 980542N201/1
ER 980655N201/0
ER 991457E205/0
ER 991603E101/0

ER 991638N201/0
ER 991642N101/0
ER 991642N201/0
ER 002334E101/0
ER 002334N102/0
ER 002409E201/0
ER 002612N101/0
Procedure 2104.029/048-05-0
Procedure OP-2311.002/012-00-0
Procedure OP-2409.635/00-0
Procedure OP-2409.689/00-00-0

10 CFR 50.59 DETERMINATIONS (screenings performed for engineering request (ER) or procedure/revision or change no):

ER 992079N101/0
ER 002397E101/1
ER 002514E101/0
ER 002804N203/0
ER 003292E301/0
ER 01011E101/0
ER 010230E101/0
DRN 01-610/0
LCP (ER) 973621L201/0
LDCR for SDID #1-97-0247/AM-15
LDCR for SDID #1-97-0368/AM-15
LDCR for SDID #1-97-0400/AM-15
LDCR for SDID #1-00-0002/AM-16
NC (ER) 003341N101/0
PC (ER) 973980P101

Safety Evaluation Subcommittee Meeting Minutes:

SCR-00-0245
SCR-00-0248
SCR-00-0255
SCR-00-0258
SCR-01-268
SCR-01-276

Condition Reports:

CR C-1999-0243
CR C-2000-0334
CR C-2001-0244
CR C-2001-0349
CR 2-2001-0374
CR 2-2001-0440

CR 1-2001-0545

Calculations:

94-E-0063-01	Verification of Ability to Cool to Cold Shutdown Within Times Stated in SAR, Revision 1
991457E205-01	Effects of 4000 gpm Service Water Flow to 2E35A and 2E35B on DBA Analysis, Revision 0