

## UNITED STATES NUCLEAR REGULATORY COMMISSION

#### **REGION IV**

#### 611 RYAN PLAZA DRIVE, SUITE 400 ARLINGTON, TEXAS 76011-8064

January 18, 2002

Paul D. Hinnenkamp, Vice President - Operations River Bend Station Entergy Operations, Inc. P.O. Box 220 St. Francisville, Louisiana 70775

SUBJECT: RIVER BEND STATION--INTEGRATED INSPECTION REPORT 50-458/01-04

Dear Mr. Hinnenkamp:

On December 29, 2001, the NRC completed an inspection at your River Bend Station facility. The enclosed integrated inspection report documents the inspection findings which were discussed on January 4, 2001, with you and other members of your staff.

This inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. Within these areas, the inspection consisted of selected examination of procedures and representative records, observations of activities, and interviews with personnel.

Immediately following the terrorist attacks on the World Trade Center and the Pentagon, the NRC issued an advisory recommending that nuclear power plant licensees go to the highest level of security, and all promptly did so. With continued uncertainty about the possibility of additional terrorist activities, the Nation's nuclear power plants remain at the highest level of security and the NRC continues to monitor the situation. This advisory was followed by additional advisories and, although the specific actions are not releasable to the public, they generally include increased patrols, augmented security forces and capabilities, additional security posts, heightened coordination with law enforcement and military authorities, and more limited access of personnel and vehicles to the sites. The NRC has conducted various audits of your responses to these advisories and your ability to respond to terrorist attacks with the capabilities of the current design basis threat. From these audits, the NRC has concluded that your security program is adequate at this time.

Based on the results of this inspection, the NRC has identified one finding that was evaluated under the risk significance determination process as having very low safety significance (Green). The NRC has also determined that a violation is associated with this issue. This violation is being treated as a noncited violation (NCV), consistent with Section VI.A of the Enforcement Policy. This NCV is described in the subject inspection report. If you contest the violation or significance of this 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 River Bend Station 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 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 <a href="http://www.nrc.gov/reading-rm/adams.html">http://www.nrc.gov/reading-rm/adams.html</a> (the Public Electronic Reading Room).

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

Sincerely,

/RA/

William D. Johnson, Chief Project Branch B Division of Reactor Projects

Docket: 50-458 License: NPF-47

Enclosure: NRC Inspection Report

50-458/01-04

cc w/enclosure:
Executive Vice President and
Chief Operating Officer
Entergy Operations, Inc.
P.O. Box 31995
Jackson, Mississippi 39286-1995

Vice President
Operations Support
Entergy Operations, Inc.
P.O. Box 31995
Jackson, Mississippi 39286-1995

General Manager
Plant Operations
River Bend Station
Entergy Operations, Inc.
P.O. Box 220
St. Francisville, Louisiana 70775

Director - Nuclear Safety River Bend Station Entergy Operations, Inc. P.O. Box 220 St. Francisville, Louisiana 70775

Wise, Carter, Child & Caraway P.O. Box 651 Jackson, Mississippi 39205

Mark J. Wetterhahn, Esq. Winston & Strawn 1401 L Street, N.W. Washington, DC 20005-3502

Manager - Licensing River Bend Station Entergy Operations, Inc. P.O. Box 220 St. Francisville, Louisiana 70775

The Honorable Richard P. Ieyoub Attorney General Department of Justice State of Louisiana P.O. Box 94005 Baton Rouge, Louisiana 70804-9005

H. Anne Plettinger 3456 Villa Rose Drive Baton Rouge, Louisiana 70806

President
West Feliciana Parish Police Jury
P.O. Box 1921
St. Francisville, Louisiana 70775

Michael E. Henry, Administrator and State Liaison Officer Department of Environmental Quality P.O. Box 82135 Baton Rouge, Louisiana 70884-2135 Training, Exercises, & Evaluation Branch Chief FEMA Region VI 800 North Loop 288 Federal Regional Center Denton, Texas 76201-3698 Electronic distribution from ADAMS by RIV:

Regional Administrator (EWM)

DRP Director (KEB)

DRS Director (ATH)

Senior Resident Inspector (PJA)

Branch Chief, DRP/B (WDJ)

Senior Project Engineer, DRP/B (RAK1)

Staff Chief, DRP/TSS (PHH)

RITS Coordinator (NBH)

Scott Morris (SAM1)

RBS Site Secretary (LGD)

Dale Thatcher (**DFT**)

W. A. Maier (WAM)

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RIV:SRI:DRP/B	RIV:RI:DRP/B	C:DRS/PSB	C:DRS/EMB	C:DRP/B
PJAlter	SMSchneider	GMGood	CSMarschall	WDJohnson
E-WDJohnson	E-WDJohnson	/RA/	/RA/	/RA/
1/17/02	1/17/02	1/18/02	1/17/02	1/18/02

## **ENCLOSURE**

## U.S. NUCLEAR REGULATORY COMMISSION REGION IV

Docket: 50-458

License: NPF-47

Report: 50-458/01-04

Licensee: Entergy Operations, Inc.

Facility: River Bend Station

Location: 5485 U.S. Highway 61

St. Francisville, Louisiana

Dates: September 30 through December 29, 2001

Inspectors: P. J. Alter, Senior Resident Inspector

S. M. Schneider, Resident Inspector

D. R. Carter, Health Physicist, Plant Support Branch

L. E. Ellershaw, Senior Reactor Inspector, Engineering and

Maintenance Branch

Approved By: W. D. Johnson, Chief, Project Branch B

ATTACHMENT: Supplemental Information

## SUMMARY OF FINDINGS

## River Bend Station NRC Inspection Report 50-458/01-04

IR 05000458-01-04; on 09/30/2001-12/29/2001; Entergy Operations, Inc; River Bend Station. Integrated Resident & Regional Report. Surveillance Testing

The inspections were conducted by the resident inspectors, a regional radiation protection programs inspector, and a regional engineering programs inspector. The inspections identified one Green finding which was a noncited violation (NCV). The significance of most findings is indicated by their color (Green, White, Yellow, or Red) using Inspection Manual Chapter 0609, "Significance Determination Process" (SDP). Findings for which the SDP does not apply are indicated by "No Color" or by the severity level of the applicable violation. 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. Inspector Identified Findings

## **Cornerstone: Mitigating Systems**

• Green. The licensee did not control measuring and test equipment (M&TE) when it was considered to be unreliable during a reactor core isolation cooling (RCIC) system surveillance test and did not evaluate the initial out-of-tolerance data to ensure the original test results were not valid. Specifically, M&TE originally indicated a suppression pool level instrument failed a Technical Specification surveillance test, so the M&TE was considered to be unreliable. Another piece of M&TE was then used and the suppression pool level instrument passed the surveillance test. The inspectors identified that maintenance personnel did not control the original M&TE for subsequent calibration checks and did not notify operations personnel to evaluate the original out-of-specification data to ensure the original test results were not valid, as required by plant procedures for suspect M&TE.

The inspectors determined that the safety significance of failing to control M&TE and then to evaluate the original test data was very low since it did not represent an actual loss of the RCIC system or suppression pool reliability. The failure to control unreliable M&TE and to evaluate test results provided by such equipment is an NCV of Technical Specification 5.4.1a. This human performance error is documented in the licensee's corrective action program as Condition Report (CR) CR-RBS-2001-1650 (Section 1R22).

## **Cornerstone: Emergency Preparedness**

• TBD. The inspectors determined that the emergency plan implementing procedures and security procedures might not adequately provide for the protection of members of the general public who routinely occupy facilities within the owner-controlled area (OCA) in the event that there is an OCA evacuation necessitated by radiological conditions on site. In addition, the inspectors determined that there was no information available to members of the general public at the on-site facilities, with respect to the actions that would be taken by the licensee in the event of an owner controlled area evacuation,

specifically: how the members of the general public will be notified; that an evacuation route would be specified; the location of the assembly areas for an OCA evacuation of the OCA; and that personnel decontamination may be necessary under some radiological conditions.

The inspectors determined that all needed information was not available at the time of the inspection, so this issue is an unresolved item pending further NRC review (Section 1EP04).

## B. <u>Licensee Identified Findings</u>

Four violations of very low significance which were identified by the licensee have been reviewed by the inspectors. Corrective actions taken or planned by the licensee appear to be reasonable. These violations are listed in Section 4OA7 of this report.

### Report Details

<u>Summary of Plant Status</u>: At the beginning of the inspection period, the plant was shut down for refueling. The reactor startup was begun on October 10, 2001. The plant startup was stopped on October 13, 2001, due to problems with reactor feed Pump A. One hundred percent power was achieved on October 19, 2001. On October 26, 2001, the reactor was shut down for repairs to both reactor recirculation pump seals. The reactor was restarted on October 29, 2001, and achieved 100 percent power on October 31, 2001. The reactor was operated at 100 percent power for the remainder of the inspection period.

#### 1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, Emergency Preparedness

1R01 Adverse Weather Protection (71111.01)

## a. <u>Inspection Scope</u>

During the week of November 26, 2001, the inspectors reviewed the licensee's implementation of plant procedures to protect the fire protection water system and standby cooling tower from cold weather conditions. Specifically the inspectors: (1) verified that selected systems and components will remain functional when challenged by cold weather conditions; (2) verified that cold weather features such as heat tracing and space heaters are monitored; (3) verified that plant features for operation of the ultimate heat sink during cold weather conditions are appropriate; and (4) evaluated implementation of the cold weather preparation procedures and compensatory measures for the fire protection water system before the onset of and during cold weather conditions. The inspectors reviewed the following documents and procedures as part of this assessment:

- SOP-0037, "Fire Protection Water System Operating Procedure." Revision 19
- OSP-0043, "Freeze Protection and Temperature Maintenance," Revision 3
- OSP-0043, Attachments 8 and 9, "Cold Weather Rounds," performed December 24, 25, 26, and 27, 2001
- RT-4301, "Clean, Inspect and Functional Test HTS-PNL1G [Fire Pump House Heat Trace Panel]"
- CR-RBS-2000-2178, local area temperatures monitored per OSP-0043, "Cold Weather Rounds," below limits specified in procedure
- CR-RBS-2001-1586, routine maintenance tasks for cold weather preparations not completed by "late date"

#### b. Findings

No findings of significance were identified.

## 1R04 Equipment Alignment (71111.04)

#### a. Inspection Scope

The inspectors performed safety-related system walkdowns to verify equipment alignment and discrepancies that impact the function of the system and potentially increase risk. The inspectors also verified that the licensee has properly identified and resolved equipment alignment problems that could impact mitigating system availability.

## .1 <u>Division I Emergency Diesel Generator System Walkdown</u>

On October 18, 2001, the inspectors performed a partial system walkdown of the Division I emergency diesel generator while the Division II emergency diesel generator was out of service for maintenance. The inspectors reviewed System Operating Procedure SOP-0053, "Standby Diesel Generator and Auxiliaries," Revision 33, to determine the correct system lineup. Then the inspectors walked down critical portions of the system to identify any discrepancies between the existing equipment lineup and the correct lineup.

## .2 Residual Heat Removal (RHR) System Walkdown

On October 29, 2001, the inspectors performed a partial system walkdown of RHR Train A after the system was shut down to return it to the low pressure coolant injection standby mode from the shutdown cooling mode of operation. The inspectors reviewed System Operating Procedure SOP-0031, "Residual Heat Removal System," Revision 37, to determine the correct system lineup. Then the inspectors walked down critical portions of the system to identify any discrepancies between the existing equipment lineup and the correct lineup.

## .3 Fire Protection Water System Walkdown

On November 27 and 28, 2001, the inspectors performed a partial system walkdown of diesel-driven fire water Pump 1B while diesel-driven fire water Pump 1A was out of service for planned maintenance. The inspectors reviewed System Operating Procedure SOP-0037, "Fire Protection Water System," Revision 19, to determine the correct system lineup. Then the inspectors walked down critical portions of the system to identify any discrepancies between the existing equipment lineup and the correct lineup.

#### b. Findings

No findings of significance were identified.

#### 1R05 Fire Protection (71111.05)

#### a. Inspection Scope

## .1 Fire Protection Area Walkdowns

During the period the inspectors toured the following plant areas important to reactor safety to observe conditions related to: (1) licensee control of transient combustibles and ignition sources; (2) the material condition, operational lineup, and operational effectiveness of fire protection systems, equipment, and features; and (3) the material condition and operational status of fire barriers used to prevent fire damage or fire propagation.

- Fire Zone FP-3, diesel-driven fire Pump 1B room
- Fire Zone FB-1/Z-1, fuel building 70 foot elevation
- Fire Zone FB-1/Z-1, fuel building 113 foot elevation
- Fire Zone FB-1/Z-1, fuel building 148 foot elevation
- Fire Zone AB-4/Z-1 & Z-2, RHR Pump C room

The inspectors reviewed the following documents during the fire protection inspections:

- Pre-Fire Strategy Books
- Updated Safety Analysis Report (USAR), Section 9A.2, "Fire Hazards Analysis"
- River Bend postfire safe shutdown analysis
- Fire Protection Strategies
- Surveillance Test Procedure (STP) STP-000-3602, "Fire Barrier Visual Inspection," Revision 11B

## .2 Fire Drills

On December 4, 2001, the inspectors observed a fire brigade drill for a simulated fire in a reactor protection system power supply cabinet to evaluate the readiness of the licensee's personnel to prevent and fight fires and to verify that the preplanned drill scenario was followed and that the drill objectives' acceptance criteria were met.

#### b. Findings

No findings of significance were identified.

## 1R06 Flood Protection Measures (71111.06)

#### a. Inspection Scope

The inspectors conducted a periodic flooding assessment to verify that the licensee's flooding mitigation plans and equipment were consistent with design requirements and risk analysis assumptions. The inspectors conducted a walkdown of the RHR Pump C room on December 27, 2001. Specifically, the inspectors examined: (1) sealing surfaces of watertight doors, (2) sealing of equipment below design flood level,

- (3) sealing of penetrations in floors and walls, (4) operable sump pumps and level alarm circuit, and (5) sources of potential internal flooding from plant systems. The inspectors reviewed the following documents during the inspection:
- USAR Section 3.4.1, "Flood Protection"
- G13.2.3 PN-317, "Max Flood Elevations for Moderate Energy Line Cracks in Cat I Structures"
- CR-RBS-1999-1967, 4-inch diameter instrument line penetration in wall between RCIC and RHR Pump C rooms found open
- Maintenance Action Item (MAI) 331007, seal Penetration 73K between RCIC and RHR Pump C rooms
- Specification 229.180, "Floor and Wall Sleeve Seals," Revision 2, Addendum 2, Detail ML-1 (Alternate)

#### b. <u>Findings</u>

No findings of significance were identified.

#### 1R08 <u>Inservice Inspection Activities (71111.08)</u>

#### a. Inspection Scope

#### .1 Performance of Nondestructive Examination (NDE) Activities

The River Bend Station inservice inspection program was committed to in the 1995 Edition with portions of the 1996 Addenda of Section XI in the ASME Code. The licensee was currently in the second period of the second interval of the program.

The inspector observed both the licensee's NDE personnel and contractor personnel (Washington Group International, Inc.) perform the ASME Code Section XI specified examinations listed below:

<u>System</u>	Component/Weld Identification	Examination Method
Reactor Core Isolation Cooling	Reactor Core Isolation Cooling Turbine Steam Supply Isolation Valve E51-MOVF045	Liquid Penetrant Examination
Reactor Water Cleanup	Pipe to tee weld 1 WCS*005A-SW002X1	Ultrasonic Examination

Reactor Water Cleanup	Pipe to tee weld 1 WCS*005A-SW003X1	Ultrasonic Examination
Reactor Water Cleanup	Pipe to tee weld 1 WCS*001A3-SW002X1	Ultrasonic Examination

During the performance of each examination, the inspector verified that the correct NDE procedure was used, procedural requirements or conditions were as specified in the procedure, and test instrumentation or equipment was properly calibrated and within the allowable calibration period. The inspector also verified that indications revealed by the examinations were compared against the ASME code-specified acceptance standards and appropriately dispositioned.

The inspector reviewed reports and radiographic film of the following NDE record packages performed during the current outage.

<u>System</u>	Component/Weld Identification	Examination Method
Reactor Water Cleanup	Pipe to pipe weld 1 WCS-005A-FW005A	Ultrasonic Examination and Magnetic Particle Examination
Reactor Water Cleanup	Pipe to elbow weld 1 WCS-005A-FW008	Ultrasonic Examination and Magnetic Particle Examination
Reactor Water Cleanup	Pipe to valve weld 1 WCS-005A-FW006	Ultrasonic Examination and Magnetic Particle Examination
Reactor Water Cleanup	Valve to pipe weld 1 WCS-005A-FW007	Ultrasonic Examination and Magnetic Particle Examination
Reactor Water Cleanup	Pipe to elbow weld 1 WCS-005A-SW031	Ultrasonic Examination and Magnetic Particle Examination
Residual Heat Removal	Pipe to fitting weld XI-FW001	Radiography

The inspector reviewed the NDE certification packages of the contractor personnel who performed the above examinations and verified that they had been properly certified in

accordance with ASME code requirements. The inspector also verified that the correct NDE procedure was used and had been properly qualified. The inspector verified that the appropriate penetrameter had been used, and that film density and geometric unsharpness of the radiographic film were acceptable.

## .2 ASME Code Section XI Repair and Replacement Activities

The inspector observed the performance of two ASME Code Section XI valve to pipe field welds (XI-FW008 and XI-FW011) on replacement Reactor Water Cleanup Valve G33-VF010A. Welding was performed using welding procedure specification WPS E-P1-T-A1, Revision 0, a manual gas tungsten arc welding procedure. The inspector, by review of welder qualification records and procedure qualification records, verified that the welder and welding procedure specification had been properly qualified. The inspector also verified that the specified welding material was properly certified and used.

### b. Findings

No findings of significance were identified.

## 1R11 <u>Licensed Operator Requalification Program (71111.11)</u>

## a. <u>Inspection Scope</u>

On October 23, 2001, the inspectors observed simulator training of an operating crew to assess licensed operator performance and the training evaluator's critique. The simulator training was being conducted in support of a planned reactor plant shutdown and to evaluate crew response to indications of a failed recirculation pump seal during the plant shutdown. In addition, the inspectors compared simulator control panel configurations with the actual control room panels for consistency, including recent modifications implemented in the plant.

## b. Findings

No findings of significance were identified.

#### 1R12 Maintenance Rule Implementation (71111.12)

#### a. Inspection Scope

The inspectors reviewed structure, system, or component (SSC) performance problems to assess the effectiveness of the licensee's maintenance efforts for SSCs scoped under the licensee's maintenance rule program. The inspectors verified the licensee's implementation of the maintenance rule (10 CFR 50.65) for the performance problems reviewed by answering the following questions: (1) was the SSC scoped for monitoring in accordance with 10 CFR 50.65; (2) was the SSC assigned the proper safety significance; (3) were the problems characterized properly; (4) as a result of the problems, was the SSC assigned the proper classification under 10 CFR 50.65; and (5) were the appropriate performance criteria established for the SSC or, when

necessary, were appropriate goals set and corrective actions taken to restore the SSC status under the maintenance rule. The following performance problems were evaluated:

- CR-RBS-2001-0539, 171 foot containment airlock outer door inoperable
- CR-RBS-2001-1045 and CR-RBS-2001-1433, 113 foot containment airlock outer door seal leakage exceeded administrative limit
- CR-RBS-2001-1095, CR-RBS-2001-1164, CR-RBS-2001-1312, and CR-RBS-2001-1488, 113 foot containment airlock interlock cable failures
- CR-RBS-2001-1354, Drywell airlock air system failed pressure drop test
- CR-RBS-2001-1470, Off-gas post treatment radiation monitor, D17-K601A, reading downscale

The following documents were referenced while performing this inspection:

- NUMARC 93-01, Revision 2, Nuclear Energy Institute Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants
- River Bend maintenance rule function list
- River Bend maintenance rule performance criteria list

#### b. Findings

No findings of significance were identified.

#### 1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13)

#### a. Inspection Scope

The inspectors reviewed maintenance activities to verify the performance of assessments of plant risk related to planned and emergent maintenance work activities. The inspectors verified: (1) the adequacy of the risk assessments and the accuracy and completeness of the information considered; (2) management of the resultant risk and implementation of work controls and risk management actions; and (3) effective control of emergent work, including prompt reassessment of resultant plant risk.

On a routine basis, the inspectors verified performance of risk assessments, in accordance with Administrative Procedure ADM-096, "Risk Management Program Implementation and On-Line Maintenance Risk Assessment," Revision 01, for planned maintenance activities and emergent work involving SSCs within the scope of the maintenance rule. Specific work activities evaluated included planned and emergent work for the weeks of October 14, October 28, November 19, and November 26, 2001.

### b. Findings

No findings of significance were identified.

## 1R14 Personnel Performance During Nonroutine Plant Evolutions and Events (71111.14)

#### a. Inspection Scope

# 1. <u>Unexpected Loss of Off-Site Power to Division II Engineered Safety Features Switchgear</u>

The inspectors reviewed and observed personnel performance following unexpected loss of power to the Division II 4160 VAC engineered safety features switchgear on November 17, 2001. The inspectors reviewed operator logs and plant computer data to determine what occurred and that operators responded in accordance with plant procedures and training. In addition, the inspectors evaluated the initiating causes of the event as documented in CR-RBS-2001-1435 and Licensee Event Report (LER) 2001-004-00.

## 2. Initial Startup of Hydrogen Water Chemistry

The inspectors observed personnel performance during the initial startup of hydrogen water chemistry on December 13, 2001. The inspectors attended the pre-evolution brief and reviewed System Operating Procedure, SOP-0123, "Hydrogen Water Chemistry H2 and O2 System," Revision 4. In addition, the inspectors reviewed operator logs and other records used to monitor initial system performance.

## b. <u>Findings</u>

No findings of significance were identified.

#### 1R15 Operability Evaluations (71111.15)

#### a. Inspection Scope

The inspectors reviewed operability evaluations performed by the licensee for risk significant systems to determine that the operability was justified such that availability was assured and that no unrecognized increase in risk had occurred. Specific areas evaluated included: (1) the technical adequacy of the evaluation; (2) whether other existing degraded conditions were considered; and (3) if operability was based on compensatory measures, were these measures in place and would they work. The inspectors also reviewed Nuclear Procedure, RBNP-078, "Operability Determinations," Revision 6.

- CR-RBS-2001-1169, Division I EDG air dryer breakdown
- CR-RBS-2001-1257, service water piping indentation
- CR-RBS-2001-1260, RHR Weld-O-Let installed versus Sock-O-Let
- CR-RBS-2001-1345, loss of service water cooling (SWC) while shutdown
- CR-RBS-2001-1410, SWC basin overflowing

- CR-RBS-2001-1520, SWC multiplexer trouble
- CR-RBS-2001-1636, blown fuse in service water piping supervisory circuit

## b. <u>Findings</u>

No findings of significance were identified.

#### 1R16 Operator Workarounds (71111.16)

#### a. <u>Inspection Scope</u>

An operator workaround is defined as a degraded or nonconforming condition that complicates the operation of plant equipment and is compensated for by operator action. The inspectors reviewed the additional operator monitoring of the Division I emergency diesel generator, necessitated by the unexpected drift of the mechanical speed setting of the engine governor, to determine if the functional capability of the diesel generator or operator reliability in responding to an initiating event such as a loss of off-site power is affected. Specifically, the inspectors evaluated the effect of the operator workaround on the operators' ability to implement abnormal or emergency operating procedures.

As part of the inspection, the inspectors reviewed the following documents:

- Plant Engineering Procedure, PEP-0026, "Diesel Generator Operating Logs," Revision 7, Change Notices A and B
- CR-RBS-2001-1613, [initial] report of mechanical governor speed setting lowering during performance of surveillance testing
- CR-RBS-2001-1618, [second] report of mechanical governor speed setting lowering during performance of surveillance testing

#### b. Findings

No findings of significance were identified.

#### 1R19 Postmaintenance Testing (71111.19)

## a. <u>Inspection Scope</u>

The inspectors reviewed the postmaintenance testing requirements specified for the MAIs listed below to ensure that testing activities were adequate to verify system operability and functional capability:

- MAIs 352138 and 352778, fire Pump 1A biennial engine maintenance and inspection
- MAI 331402, replace Battery ENB-BAT01A

- MAI 345252, repair feed Pump 1A
- MAI 345618, replace inboard head gasket on feed Pump 1A

### b. Findings

No findings of significance were identified.

## 1R20 Refueling and Outage Activities (71111.20)

#### a. <u>Inspection Scope</u>

The inspectors observed licensee outage planning and execution activities for the refueling outage, RFO-10, concluded on October 10, 2001, and the recirculation pumps seal replacement outage from October 26-31, 2001. The inspectors' review included scheduling, training, outage configuration management, decay heat removal operation and management, reactivity controls, inventory controls, tag-out and clearance activities, foreign material exclusion management, and fuel movement and storage. Specific documents reviewed and activities monitored included:

- OSP-0037, "Shutdown Operations Protection Plan," Revision 12
- OSP-0033, "Operations with a Potential to Drain the Reactor Vessel/Cavity," Revision 5
- SOP-0031, "Residual Heat Removal System," Revision 37
- GMP-0102, "Reactor Vessel Disassembly," Revision 11
- GOP-0001, "Plant Startup," Revision 36
- GOP-0002, "Power Decrease/Plant Shutdown," Revision 24
- RHR decay heat removal lineups
- Shutdown risk assessments
- Drywell closeouts
- Shutdown, startup, and outage maintenance schedules for the refueling outage
- Alternate shutdown cooling thermocouple monitoring locations
- Core reload, fuel shuffle, and other refueling activities
- Operations Standing Order #183, "Reactor Recirculation Pump Contingency and Monitoring Plan," Revision 1

- Shutdown and startup activities for the recirculation pumps seal replacement outage
- Simulator training for shutdown and recirculation pump seal failure

## b. <u>Findings</u>

No findings of significance were identified.

## 1R22 Surveillance Testing (71111.22)

#### a. Inspection Scope

The inspectors verified, by witnessing and reviewing test data, that selected risk significant systems and component surveillance tests met Technical Specification, USAR, and procedure requirements. The inspectors ensured that surveillance tests demonstrated that the systems were capable of performing their intended safety functions and provided operational readiness. The inspectors specifically evaluated surveillance tests for preconditioning, clear acceptance criteria, range, accuracy, and current calibration of test equipment and verified that equipment was properly restored at the completion of the testing. The inspectors reviewed or observed the following surveillance tests and documents:

- STP-302-1603, "ENS-SWG1B Degraded Voltage Channel Calibration and Logic System Functional Test," Revision 15, performed on October 6, 2001
- OSP-0501, "Turbine Testing," Revision 6, performed on October 10, 2001
- STP-050-3601, "Shutdown Margin Demonstration," Revision 21, performed on October 10, 2001
- STP-256-6302, "Division II Standby Service Water Quarterly Valve Operability Test," IST on Various Valves, Revision 11, performed on October 19, 2001
- STP-256-6306, "Division II Standby Service Water Quarterly Valve Operability Test," Accumulator Tank Valves, Revision 3, performed on October 20, 2001
- STP-209-4207, "RCIC System Instrumentation Suppression Pool Level High Channel Calibration, Logic System Functional Test (E51-N636E, E51-N036E)," Revision 7, performed on November 23, 2001
- STP-207-4540, "RCIC System Isolation RCIC EQUIP ROOM TEMP HIGH Channel Functional Test (E31-N602A)," Revision 2, performed on November 24, 2001
- STP-251-7606, "FPW-P1A Fire Pump Engine Maintenance and Inspection,"
   Revision 0, performed on November 28, 2001

In addition, the inspectors reviewed the following documents:

- ADM-0029, "Control of Measuring and Test Equipment (M&TE)," Revision 15
- Calculation G13.18.3.1\*001, "Sustained and Degraded Voltage Relay Setpoints for ENS-SWG01A and ENS-SWG01B," Revision 2

## b. <u>Findings</u>

The inspectors identified an NCV of Technical Specification 5.4.1 for the failure to control M&TE when it was considered to be unreliable during the performance of a Technical Specification STP and for the failure to evaluate the operability of the affected system. The issue was determined to be of very low safety significance.

On November 23, 2001, instrumentation and control (I&C) technicians performed surveillance Procedure STP-209-4207, "RCIC System Instrumentation-Suppression Pool-High Channel Calibration, Logic System Functional Test." The STP tested instrumentation associated with the RCIC suction transfer to the suppression pool from the condensate storage tank on a high suppression pool level condition and demonstrated the operability of associated initiation logic. The STP demonstrated compliance with several Technical Specification surveillance requirements related to the RCIC system.

During the performance of the channel calibration check of Transmitter E51-LTN036E, the I&C technicians identified that "As Found" values were out of tolerance, that the M&TE readings did not track with prior readings, and that the M&TE did not re-zero at the completion of the calibration check. These indications led the technicians to believe that the M&TE was suspect. The technicians obtained a different type of M&TE and reperformed the channel calibration check with acceptable results. They lined out the original data and added the new results to the data table. The technicians completed the STP with no additional problems identified.

Administrative Procedure, ADM-0029, "Control of Measuring and Test Equipment," required users to identify and control suspect M&TE. Specifically, paragraph 8.5.6 required users of M&TE to ensure that M&TE "whose indications are suspect shall NOT be used, AND an Out of Service form shall be initiated, then submitted to the M&TE Issue Facility." The M&TE equipment should then be evaluated by M&TE personnel and, if the equipment is found out of tolerance, an Out-of-Tolerance Notification is issued. The Out-of-Tolerance Notification process then evaluates prior uses of the M&TE to determine if there is any impact on plant equipment. The I&C technicians failed to follow the process for suspect M&TE as outlined in ADM-0029.

Plant Procedure RBNP-0078, "Operability Determinations," provided explicit guidance to operations personnel for evaluating failed, missed, or undocumented surveillance tests required by Technical Specifications. RBNP-0078, Attachment 1, "General Operability Policy," paragraph A.2, stated, "IF during a test it is obvious that a test instrument is malfunctioning, THEN the test may be halted and the instrument promptly re-calibrated or replaced. Anomalous data with no clear indication of the cause shall be attributed to the SSC under test AND the SSC will be declared INOPERABLE if the data obtained

was outside acceptance criteria. An evaluation should be performed <u>IF</u> an instrument is found out of calibration following completion of testing." The I&C technicians failed to notify operations personnel of the initial failed surveillance on November 23, 2001, and, as a result, the above operability evaluation was not performed.

On November 27, 2001, an I&C supervisor reviewed the results of the STP. The supervisor questioned the technicians about the original out-of-tolerance results and was told they had M&TE problems. The supervisor did not pursue this concern or determine if ADM-0029 or RBNP-0078 requirements had been followed. The following entries were made on the "Close-Out Summary Page" for the STP work package: "STP SAT" under "AS FOUND CONDITIONS"; "NONE" under "PROBLEMS ENCOUNTERED OR REMARKS"; and the suspect M&TE is not listed under "M&TE USED."

On December 7, 2001, the inspectors reviewed the completed STP-209-4207 work package. The inspectors noted the original out-of-tolerance data "lined out" and requested information from I&C supervision on the circumstances surrounding this data. On December 10, 2001, I&C supervision investigated the inspectors' concerns and determined that ADM-0029 and RBNP-0078 requirements were not met. I&C supervision had the M&TE calibrated and both the original (suspect) and final M&TE passed. Operations personnel determined the suppression pool level instrumentation was operable based on RBNP-0078 guidance; however, they did not consider that both M&TE had passed subsequent calibration checks. On December 12, 2001, operations personnel completed a revised operability determination, concluding that the original M&TE results were suspect and that the suppression pool level instrumentation remained operable.

This revised operability determination was based on the original M&TE having a history of poor performance due to residual water in sensing lines, the second M&TE providing consistent readings and re-zeroing after the STP calibration check, prior channel checks on the suppression pool level instrumentation not exhibiting out-of-tolerance values, and satisfactory routine channel checks performed since November 23, 2001. This human performance error and the subsequent RBNP-0078 operability evaluation are documented in CR-RBS-2001-1650.

The inspectors determined that the failure to control suspect M&TE and, as a result, the failure to evaluate initial out-of-tolerance data in a Technical Specification surveillance test had a credible impact on safety. The issue could have affected the operability of a mitigating system, RCIC, specifically the transfer of its suction source to the suppression pool from the condensate storage tank on high suppression pool water level. Technical Specifications Basis 3.3.5.2, "RCIC System Instrumentation," identified the failure to transfer RCIC suction on high suppression pool water level could result in excessive suppression pool water level could result in suppression pool structural loads exceeding design values during a subsequent safety/relief valve blowdown of the reactor. The issue affects the Mitigating Systems Cornerstone for it could credibly affect the operability and function of RCIC and the reliability of the suppression pool. It screens out as Green (having very low safety significance) during the Level One Reactor-at-Power SDP in that it does not represent an actual loss of the RCIC system or suppression pool reliability.

Technical Specification 5.4.1.a requires that written procedures shall be established, implemented, and maintained covering the areas recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Regulatory Guide 1.33
Appendix A, Section 8, requires the licensee to have procedures for the control of measuring and test equipment and for surveillance tests, procedures, and calibrations. ADM-0029 required that M&TE whose indications are suspect shall not be used and that an out-of-service form shall be initiated. The inspectors determined that this human performance error and failure to identify and control the suspect M&TE, and thereby put into process an ADM-0029 M&TE evaluation and the RBNP-0078 operability evaluation, was a violation of Technical Specification 5.4.1.a (NCV 50-458/2001-04-01). This violation is associated with an inspection finding that is characterized by the SDP as having very low safety significance (Green) and is being treated as an NCV consistent with Section VI.A.1 of the NRC Enforcement Policy. This violation is in the licensee's corrective action program as CR-RBS-2001-1650.

## 1R23 Temporary Plant Modifications (71111.23)

## a. <u>Inspection Scope</u>

On December 19, 2001, the inspectors reviewed the temporary modification made to bypass the off-gas posttreatment radiation Monitors D17-K601A and -B automatic isolation of the off-gas system. This action was taken to allow troubleshooting Monitor D17-K601B. Specifically, the inspectors reviewed the procedure used to perform the temporary modification and its associated 10 CFR 50.59 screening against the system's design basis and Technical Specifications. Documents reviewed included:

- MAI 353888, troubleshoot off-gas radiation Monitor D17-K601B
- STP-606-4202, "Condenser Off-Gas Post-Treatment Noble Gas Activity Monitor Channel Calibration (D17-K601B)," Revision 9
- CR-RBS-2001-1466, nonrepresentative samples taken of off-gas posttreatment flow to meet TRM Action Statement 3.3.7.8.2 C. while radiation Monitors D17-K601A and B were out of service

#### b. <u>Findings</u>

No findings of significance were identified.

#### **Emergency Preparedness**

#### 1EP4 Emergency Action Level and Emergency Plan Changes

#### a. Inspection Scope

The inspectors reviewed the emergency plan implementing procedures and security procedures to assess the licensee's capability to provide protective measures for

members of the general public who routinely occupy facilities within the OCA during an OCA evacuation. Specifically, the inspectors reviewed:

- EIP-2-002, "Classification Actions," Revision 21, Attachment 3, "Site Area Emergency," and Attachment 6, "Owner Controlled Area Evacuation"
- EIP-2-018, "Technical Support Center," Revision 23, Attachment 1, "Emergency Director," and Attachment 12, "Security Coordinator"
- SPI-30, "Motor Patrol," Revision 18, Section 5.4, "Emergency Notification of Plant Employees"
- Security Department Bulletin 519, dated April 30, 2001

In addition, the inspectors interviewed licensee personnel and members of the general public who routinely occupy facilities within the OCA. The areas and facilities within the OCA that are routinely occupied by members of the general public without escort by the licensee include:

- West Feliciana Community Development Foundation Office
- River Bend Sportsman's Club
- Security Firing Range
- Site Activity Center

#### b. Findings

The inspectors determined that the emergency plan implementing procedures and security procedures might not adequately provide for the protection of members of the general public who routinely use and occupy facilities within the OCA in the event of an OCA evacuation.

On December 20, 2001, the inspectors interviewed emergency response and security personnel to determine the effectiveness of the process for performing an evacuation of the OCA. The inspectors visited the West Feliciana Community Development Foundation, the security firing range, and the River Bend Sportsman's Club to determine whether information about methods for the evacuation of the OCA were posted or available at those locations. The inspectors also interviewed the Chief Executive Officer, West Feliciana Community Development Foundation, to determine the amount of emergency preparedness information which had been provided to employees of the foundation.

The inspectors determined that the licensee could not ensure that members of the public in these locations would be notified of an OCA evacuation within a reasonable period of time from the evacuation decision because:

- One security officer would be assigned to locate and notify all persons located within the OCA and outside of the protected area
- The security officer was not provided a prioritized list of locations to be searched

 During a radiological release, the security officer would be routed away from areas affected by a plume

The inspectors also determined that information was not provided to members of the general public at the facilities listed above regarding the actions that would be taken by the licensee in the event of an OCA evacuation, specifically: (1) how the members of the general public would be notified; (2) that an evacuation route would be specified; (3) the location of the assembly areas for an OCA evacuation, and (4) that personnel decontamination may be necessary under some radiological conditions.

The inspectors determined that this condition is a potential violation of 10 CFR 50.54(q), which states, in part, that the licensee "shall follow and maintain in effect emergency plans which meet the standards in [10 CFR] 50.47(b) and the requirements in Appendix E of this part." 10 CFR 50.47(b)(7) states, in part, that "Information is made available to the public on a periodic basis on how they will be notified and what their initial actions should be in an emergency . . ." 10 CFR 50.47(b)(10) states, in part, that "A range of protective actions have been developed for the plume exposure pathway EPZ for emergency workers and the public." The inspectors determined that all needed information was not available at the time of the inspection, so this issue is an unresolved item (URI 50-458/2001-04-02) pending further NRC review.

#### 1EP6 Drill Evaluation (71114.06)

#### a. <u>Inspection Scope</u>

The inspectors observed the emergency preparedness training drill conducted on November 6, 2001, to identify any weaknesses and deficiencies in classification, notification, and protective action recommendation development activities in both the control room simulator and the emergency operations facility. The inspectors also evaluated the licensee assessment of classification, notification, and protective action recommendation development during the drill in accordance with plant procedures and NRC guidelines. The following procedures and documents were reviewed during the assessment:

- EIP-2-001, "Classification of Emergencies," Revision 11
- EIP-2-006, "Notifications," Revision 27
- EIP-2-007, "Protective Action Guidelines Recommendations," Revision 18

## b. Findings

No findings of significance were identified.

#### 2. RADIATION SAFETY

**Cornerstone: Occupational Radiation Safety** 

2OS1 Access Control to Radiologically Significant Areas (71121.01)

## a. <u>Inspection Scope</u>

The inspector interviewed radiation workers and radiation protection personnel involved in high dose rate and high exposure jobs during routine operations. The inspector also conducted plant walkdowns within the controlled access area and conducted independent radiation surveys of selected work areas. The following items were reviewed and compared with regulatory requirements:

- Area posting and other controls for airborne radioactivity areas, radiation areas, high radiation areas, and very high radiation areas
- Radiation exposure permits and radiological surveys involving airborne radioactivity areas and high radiation areas and electronic dosimeter alarm setpoints
- Access controls, surveys, and radiation work permits (RWPs) for the following three significant high dose work areas from Refueling Outage 10: Shroud Head Assembly Modification (RWP 2001-1805), Remove/Replace LPRM's (RWP 2001-1915), and valve maintenance to include repacks (RWP 2001-1935)
- Radiation protection program procedures
- Dosimetry placement when work involved a significant dose gradient
- High radiation area key control program
- Controls involved when handling highly radioactive items
- A summary of corrective action documents written since August 1, 2000, that involved high radiation area and work practice incidents. Eighteen CRs were reviewed in detail: CR-RBS-2000-2106, -2001-0027, -2001-0242, -2001-0310, -2001-381, -2001-0510, -2001-0585, -2001-0737, -2001-0801, -2001-0842, -2001-0860, -2001-0909, -2001-0974, -2001-1004, -2001-1147, -2001-1199, -2001-1206, -2001-1264.
- Radiation Protection self-assessments: CR-RLO-2001-0129, "Access to Radiologically Significant Areas," and CR-RLO-2000-0015, "RF-10 Outage Readiness"
- Radiation Protection Audits QS-2001-RBS-019 and QA-14-2001-RBS-1

### b. <u>Findings</u>

No findings of significance were identified.

## 2OS3 Radiation Monitoring Instrumentation (71121.03)

#### a. Inspection Scope

The inspector interviewed cognizant licensee personnel and compared the following items to regulatory requirements:

- Calibration, operability, and alarm setpoint, when applicable, of selected portable radiation detection instrumentation, continuous air monitors, whole-body counting equipment (Acuscan and Fastscan), electronic alarming dosimeters, personnel contamination monitors, and area radiation monitors
- Calibration, operability, and alarm setpoints, when applicable, of the following selected installed radiation detection instrumentation: auxiliary building ventilation (RMS-RE110), standby gas treatment (RMS-RE103), main control room intake (RMS-RE13B), and RHR heat exchanger service water (RMS-RE15B)
- Calibration expiration and source response check currency on radiation detection instruments staged for use
- Radiological incidents that involved personnel contamination monitor alarms due to personnel internal exposures
- The status and surveillance records of self-contained breathing apparatuses (SCBAs) staged and ready for use in the plant
- The licensee's capability for refilling and transporting SCBA air bottles to and from the control room and operations support center during emergency conditions
- Control room operator and emergency response personnel training and qualifications for use of SCBA
- Radiation Protection Self-Assessment ("Respiratory Protection Program," dated November 5-9, 2001)
- Selected corrective action documents (CR-RBS-2000-1467, 2001-1476, 2001-0773, and 2001-0906) that involved radiation monitoring instrument deficiencies or SCBA since the last inspection in this area

## b. <u>Findings</u>

No findings of significance were identified.

#### 4. OTHER ACTIVITIES

## 4OA1 Performance Indicator Verification (71151)

#### a. Inspection Scope

### .1 Reactor Safety Performance Indicators

The inspectors verified the accuracy and completeness of the data used to calculate and report performance indicator (PI) data for the first, second, and third quarters of 2001. The inspectors reviewed NRC inspection reports for the time period under review, the licensee corrective action program, licensee performance indicator technique sheets, RHR and RCIC system performance indicators, and the licensee's "PI Data Summary Reports." The inspectors used Nuclear Energy Institute 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 1, as guidance. The following performance indicators were reviewed:

- Safety System Unavailability Heat Removal System (RCIC)
- Safety System Unavailability Residual Heat Removal System
- Reactor Coolant System Activity
- Reactor Coolant System Leakage

#### .2 Occupational Exposure Control Effectiveness

The inspector reviewed corrective action program records for Technical Specification required locked high radiation areas, very high radiation areas, and unplanned exposure occurrences since August 2000 to confirm that these occurrences were properly recorded as performance indicators. Controlled access area entries with exposures greater than 100 millirem were reviewed, and selected examples were examined to determine whether they were within the dose projections of the governing radiation work permits. Internal dose estimates were reviewed if the radiation worker received a committed effective dose equivalent of more than 100 millirem.

## .3 Radiological Effluent Technical Specification/Offsite Dose Calculation Manual Radiological Effluent Occurrences

The inspector reviewed radiological effluent release program corrective action records, licensee event reports, and annual effluent release reports documented since August 2000 to determine if any events exceeded the performance indicator thresholds.

## b. <u>Findings</u>

No findings of significance were identified.

### 4OA3 Event Followup

- .1 (Closed) LER 50-459/2001-03-00 unplanned automatic start of standby service water system during surveillance testing due to inadequate control of test configuration. The inspectors determined that the issue is minor and warrants no additional inspection.
- .2 (Closed) LER 50-459/2001-04-00 automatic start of Division II diesel generator due to loss of Division II 4169 volt normal feeder breaker. The inspectors determined that the issue is minor and warrants no additional inspection. (See Section 1R14.1.)

## 4OA6 Management Meetings

## Exit Meetings

The inspectors presented the inspection results to D. Mims, General Manager - Plant Operations and other members of licensee management at the conclusion of various parts of the inspection on October 4 and December 20, 2001, and on January 4, 2002.

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

#### 4OA7 Licensee Identified Violations

The following findings of very low safety significance were identified by the licensee and are violations of NRC requirements which meet the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600, for being dispositioned as NCVs.

NCV Tracking Number	Requirement Licensee Failed to Meet
NCV Tracking Number 50-458/2001-04-03	10 CFR 20.1201(f) requires licensees to reduce the dose that an individual may be allowed to receive in the current year by the amount of dose received while employed by any other person. On July 25, 2001, the licensee identified that an employee, who supported Grand Gulf Station during their refueling outage and received approximately 1,100 millirem, returned to the site and entered the controlled access area to perform work without having his exposure margin reduced. This event is described in CR-RBS-2001-0860. This violation is being treated as an NCV.
	The safety significance of this finding was determined to be very low by the Occupational Radiation Safety SDP because there was no overexposure or substantial

potential for an overexposure, and the ability to assess dose was not compromised

Tochnical Specification 5.4.1 requires written precedure

50-458/2001-04-04

Technical Specification 5.4.1 requires written procedures to perform radiological surveys. Station Procedure RPP-

006, "Radiological Surveys," requires that a survey including dose rates and contamination levels be conducted prior to allowing workers to access radiologically restricted areas that are not surveyed on a routine basis. On October 1, 2001, the licensee identified that workers entered the reactor water cleanup pump room, a locked high radiation area that is not routinely surveyed, without performing a current survey. This event is described in CR-RBS-2001-1264. This violation is being treated as an NCV.

The safety significance of this finding was determined to be very low by the Occupational Radiation Safety SDP because there was no overexposure or substantial potential for an overexposure, and the ability to assess dose was not compromised.

50-458/2001-04-05

Technical Specification 5.4.1 requires the implementation of procedures listed in Regulatory Guide 1.33, Appendix A. Section 4.8 of Procedure RPP-022, "Respiratory Protection Equipment Cleaning, Inspection, and Repair," requires SCBA regulators to be flow tested in accordance with the manufacture's recommendations every 2 years. On April 30, 2001, the licensee identified 48 SCBA regulators that were past due for their 2-year flow test. This event is described in CR-RBS-2001-0551. This violation is being treated as an NCV.

The safety significance of this violation was determined to be very low by the Emergency Preparedness Safety SDP because there was no failure to meet an emergency planning standard or risk significant planning standard.

50-458/2001-04-06

Technical Specification 5.4.1 requires the implementation of procedures listed in Regulatory Guide 1.33, Appendix A. Section 4.11 of Procedure RPP-022, "Respiratory Protection Equipment Cleaning, Inspection, and Repair," requires SCBA cylinders be inspected and undergo hydrostatic testing every 3 years by a Department of Transportation approved test vendor. On December 12, 2001, the licensee identified 48 SCBA cylinders that were in use and had not been hydrostatically tested within the last 3 years. This event is described in CR-RBS-2001-1666. This violation is being treated as an NCV.

The safety significance of this violation was determined to be very low by the Emergency Preparedness Safety SDP because there was no failure to meet an emergency planning standard or risk significant planning standard.

## **ATTACHMENT**

## **SUPPLEMENTARY INFORMATION**

## PARTIAL LIST OF PERSONS CONTACTED

#### Licensee

- M. Bakarich, Manager, Emergency Preparedness
- D. Beauchamp, Supervisor, Quality Control and Nondestructive Examination
- W. Brian, Director, Engineering
- C. Bush, Superintendent, Operations
- J. Fowler, Manager, Quality Assurance
- T. Gates, Manager, Design Engineering
- T. Hildebrandt, Manager, Maintenance
- P. Hinnenkamp, Vice President Operations
- J. Holmes, Manager, Technical Support
- R. King, Director, Nuclear Safety Assurance
- J. Leavines, Manager, Nuclear Safety and Regulatory Affairs
- W. Mashburn, Manager, Engineering Programs
- J. McGhee, Manager Operations
- D. Mims, General Manager Plant Operations
- A. Shahkarami, Manager, System Engineering
- P. Sicard, Manager Safety and Engineering Analysis
- W. Trudell, Manager, Corrective Action and Assessment
- D. Wells, Manager, Radiation Protection
- M. Wyatt, Manager, Planning and Scheduling/Outage

## ITEMS OPENED AND CLOSED

<u>Opened</u>		
50-458/2001-04-02	URI	adequacy of procedures to notify members of the general public who routinely occupy facilities within the OCA of an OCA evacuation (Section 1EP04)
Closed		
50-458/2001-003	LER	unplanned automatic start of standby service water system during surveillance testing due to inadequate control of test configuration (Section 4OA3.1)
50-458/2001-004	LER	automatic start of Division II diesel generator due to loss of Division II 4169 volt normal feeder breaker (Section 4OA3.2)

#### Opened and Closed

50-458/2001-04-01	NCV	failure to control M&TE when it was considered to be unreliable during the performance of a Technical Specification surveillance test procedure and failure to evaluate initial out-of-tolerance test data (Section 1R22)
50-458/2001-04-03	NCV	failure to reduce dose margin (Section 40A7)
50-458/2001-04-04	NCV	Technical Specification 5.4.1 violation for failure to follow procedure (Section 40A7)
50-458/2001-04-05	NCV	failure to flow test SCBA regulators (Section 40A7)
50-458/2001-04-06	NCV	failure to hydrostatically test SCBA cylinders (Section 40A7)

#### **DOCUMENTS REVIEWED**

The following documents were selected and reviewed by the inspectors to accomplish the objectives and scope of the inspection and to support any findings:

## **Program Description:**

CEP-ISI-003, Program Section for ASME Section XI, Division 1, Inservice Inspection Program, Revision 1

## **Plant Procedures**:

QCI-3.6, Training, Qualification, and Certification of Contract Quality Support Personnel, Revision 9

NDE2.09, Contract Inspection/NDE Personnel Screening, Revision, 1

NDE2.10, Certification of NDE Personnel, Revision 3

NDE2.11, Certification of Ultrasonic Examination Personnel, Revision 0

NDE9.04, Ultrasonic Examination of Ferritic Piping Welds (ASME Section XI), Revision 2

NDE9.19, Ultrasonic Instrument Linearity Verification, Revision 3

NDE9.23, Ultrasonic Examination of Austenitic Piping Welds (ASME Section XI), Revision 2

NDE9.31, Magnetic Particle Examination (MT) For ASME Section XI, Revision 1

NDE9.41, Liquid Penetrant Examination (PT) For ASME Section XI, Revision 1

NDE9.55, Radiographic Examination of ASME, AWS, API, AWWA Welds and Components, Revision 1

ENG-3-039, Repair/Replacement Program, Revision 3

WPS E-P1-T-A1, Manual Gas Tungsten Arc Welding, Revision 0

#### Other Documents:

PQR 005, Procedure Qualification Record for WPS E-P1-T-A1, Revision 0 PQR 029, Procedure Qualification Record for WPS E-P1-T-A1, Revision 0 PQR 330, Procedure Qualification Record for WPS E-P1-T-A1, Revision 0 PQR 331, Procedure Qualification Record for WPS E-P1-T-A1, Revision 0

#### LIST OF ACRONYMS AND INITIALISMS USED

ASME American Society of Mechanical Engineers

CFR Code of Federal Regulations

CR condition report

I&C instrumentation and control

LER licensee event report

M&TE measuring and test equipment

MAI maintenance action item

NCV noncited violation

NDE nondestructive examination

NRC U.S. Nuclear Regulatory Commission

NUMARC Nuclear Management and Resource Council

OCA owner-controlled area PI performance indicator

RCIC reactor core isolation cooling

RHR residual heat removal

RT repetitive maintenance task

RWP radiation work permit

SCBA self-contained breathing apparatus
SDP significance determination process
SSC structure, system, or component
STP surveillance test procedure

SWC service water cooling

URI unresolved item

USAR Updated Safety Analysis Report