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

July 26, 2001

S. K. Gambhir, Division Manager
Nuclear Operations
Omaha Public Power District
Fort Calhoun Station FC-2-4 Adm.
P.O. Box 399
Hwy. 75 - North of Fort Calhoun
Fort Calhoun, Nebraska 68023-0399

SUBJECT: NRC INSPECTION REPORT 50-285/01-02

Dear Mr. Gambhir:

On April 1 through June 30, 2001, the NRC completed an inspection at your Fort Calhoun Station. The enclosed report documents the inspection findings which were discussed on July 2, 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.

Based on the results of this inspection, the NRC has identified issues that were evaluated under the risk significance determination process as having very low safety significance (Green). The NRC has also determined that violations are associated with these issues. These violations are being treated as noncited violations (NCVs), consistent with Section VI.A of the Enforcement Policy. These NCVs are described in the subject inspection report. If you contest the violation or significance of these NCVs, 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 Fort Calhoun 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 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/

David P. Loveless, Chief
Project Branch C
Division of Reactor Projects

Docket: 50-285
License: DPR-40

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NRC Inspection Report
50-285/01-02

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ENCLOSURE

Docket: 50-285

License: DPR-40

Report: 50-285/01-02

Licensee: Omaha Public Power District

Facility: Fort Calhoun Station

Location: Fort Calhoun Station
FC-2-4 Adm., P.O. Box 399,
Hwy. 75 - North of Fort Calhoun
Fort Calhoun, Nebraska

Dates: April 1 through June 30, 2001

Inspectors: W. Walker, Senior Resident Inspector
C. Osterholtz, Resident Inspector
L. Willoughby, Resident Inspector
L. Ellershaw, Senior Reactor Inspector, Engineering and Maintenance Branch
D. Schaefer, Physical Security Inspector, Plant Support Branch
J. Dodson, Health Physicist, Plant Support Branch
P. Elkmann, Emergency Preparedness Inspector, Plant Support Branch
D. Carter, Health Physicist, Plant Support Branch

Approved By: David P. Loveless, Chief, Project Branch C

SUMMARY OF FINDINGS
Fort Calhoun Station
NRC Inspection Report 50-285/01-02

IR 05000285/2001-002; on 04/01/2001 through 06/30/2001, Omaha Public Power District, Fort Calhoun Station. Integrated Resident & Regional Report; Surveillance Testing, Inservice Inspection Activities and Access Control to Radiologically Significant Areas.

The inspection was conducted by resident inspectors, a region-based engineering inspector, two region-based health physicists, a region-based security inspector, and a region-based emergency preparedness specialist. The inspection identified four findings. The significance of issues is indicated by their color (green, white, yellow, red) and was determined by the Significance Determination Process in Inspection Manual Chapter 0609. Findings for which the significance determination process does not apply are indicated by No Color or by 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.

Cornerstone: Mitigating Systems

- Green. A noncited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion V, occurred when the licensee failed to ensure a surveillance procedure was properly updated following valve configuration changes to the containment spray system. Failing to incorporate these changes into the surveillance procedure resulted in a valve alignment that inadvertently gravity drained 6 inches of water from the refueling cavity into the safety injection refueling water tank on April 13, 2001. Core reload was in progress at the time of discovery. Approximately 8000 gallons of water were transferred out of the refueling cavity.

  The finding was more than minor because it had an actual impact on safety in that the refueling cavity was being drained while core reload was in progress. The event was of very low safety significance because, although the refueling cavity was being drained, personnel were on the refueling bridge routinely observing pool level, and the loss of water from the cavity was stopped prior to exceeding the water level control band. Because the finding is of very low safety significance, and the finding was entered into the licensee's corrective action program as Condition Report 2001011421, this finding is being treated as an NCV, consistent with Section VI.A of the NRC Enforcement Policy (Section 1R22).

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

Green. The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V. The licensee's program for the control of welding and welding material control used during ASME Code Section XI repair and replacement activities was not being implemented in accordance with procedure.

This finding was determined to have a credible impact on safety because of the potential use of incorrect welding material in safety-related applications. The finding was of very low safety significance because no instance of actual use of incorrect welding material was identified (Section 1R08).

Report Details

The inspection period began with Fort Calhoun Station in a maintenance and refueling outage. The maintenance and refueling activities were completed on April 27, 2001, when the reactor was made critical. Main generator breakers were closed on April 29, 2001, to officially end the 2001 refueling outage. The ascension to full power began on May 2, 2001, and the plant obtained 100 percent power on May 6, 2001. The plant remained at full power until June 16, 2001. On the morning of June 16, 2001, power was reduced to 70 percent when a flow anomaly in the reactor coolant system hot legs affecting delta-temperature power indications on the reactor protection system was observed. The delta-temperature power anomaly was investigated and the plant returned to full power on June 23, 2001. The plant remained at full power throughout the rest of the inspection period.

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

1R01 Adverse Weather Protection (71111.01)

a. Inspection Scope

On May 8, 2001, the inspectors reviewed the licensee's procedure for responding to severe thunderstorms, high winds, and tornadoes. The inspectors verified that design features and implementation of the procedure were adequate to protect mitigating systems from the effects of adverse weather. This included a discussion with the operations manager on expectations for preparations and response to a tornado warning.

During the report period a tornado warning was issued for the site and the inspectors verified that the actions taken by the plant were adequate to protect the plant. These actions were detailed in Abnormal Operating Procedure AOP-01, "Acts of Nature," Revision 9.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment (71111.04)

.1 Performance of Containment Inspection Following Refueling

a. Inspection Scope

The inspectors performed an inspection of containment following refueling but prior to entry into Mode 1. The inspectors verified that accessible equipment was aligned in accordance with Procedure OI-CO-1, Attachment 2, "Containment Closeout Prior to Power Operations," Revision 21.

b. Findings

No findings of significance were identified.

.2 Performance of Emergency Diesel Generator 1 Air Start System Alignment

a. Inspection Scope

The inspectors performed a partial walkdown of the Emergency Diesel Generator 1 Air Start System on June 13, 2001. System Schematic B120F07001, Revision 31, was used to verify the correct alignment of the system.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05)

a. Inspection Scope

The inspectors reviewed the following areas to determine if the licensee had implemented a fire protection program that adequately controlled combustibles and ignition sources within the plant, effectively maintained fire detection and suppression capabilities, and maintained passive fire protection features in good material condition.

The following areas were reviewed:

- Containment closeout, general areas of containment on April 27, 2001
- East and west safety injection pump rooms on May 30, 2001
- Charging pump room on May 30, 2001
- Air compressor room on May 30, 2001
- Radioactive waste building on May 30, 2001
- Auxiliary feedwater motor-driven and turbine-driven pump area on June 22, 2001
- Battery rooms May 8, 2001

The inspectors assessed these areas and verified that combustibles that were noted were being controlled in accordance with the following:

- Standing Order, SO-G-58, “Control of Fire Protection System Impairments,” Revision 28

- Standing Order, SO-G-91, “Control and Transportation of Combustible Materials,” Revision 15

- Standing Order, SO-G-103, “Fire Protection Operability Criteria and Surveillance Requirements,” Revision 9

b. Findings

No findings of significance were identified.

1R08 Inservice Inspection Activities (71111.08)

.1 ASME Code Repair and Replacement Activities

a. Inspection Scope

The inspector reviewed Welding Procedures SPP-9, “Control of Welding,” Revision R10, and SPP-10, “Filler Metal Control”, Revision R8, to determine the program requirements for the control of welding and welding materials. The inspector also observed the welding material storage facilities and welding material issue slips and had discussions with cognizant personnel.

b. Findings

An NCV of 10 CFR Part 50, Appendix B, Criterion V, occurred when the licensee’s control of welding material used during ASME Code Section XI repair and replacement activities was not being implemented in accordance with Procedure SPP-10. This finding is of very low significance (Green).

Section 5.2 of the procedure required, upon placing coated electrodes in storage ovens, the placement of a Quality Assurance Material Conformance Tag on the holding oven door. Further, a storage oven shall not contain more than one type of coated electrode, and electrodes of the same type and size having different purchase order, heat, or lot numbers shall not be kept in the same oven. In addition, each storage oven must display a diagram of its compartments identifying the size, type/classification, and heat, lot, or purchase order number for all material contained in the oven.

Section 5.5 of the procedure required the welder to present a Welding Material Issue Form to maintenance personnel, who in turn issued the requested welding material. Maintenance personnel are responsible for recording the heat number, purchase order number, time issued, and the time due back on the issue form. Further, electrodes of the same type and size, but having a different purchase order, heat, or lot number, shall not be mixed or issued to a welder in a single issuance evolution.

The inspector identified that four of the seven storage ovens did not have the required Quality Assurance Material Conformance Tag attached, and none of the ovens had a diagram identifying the material within. The inspector also observed an informal document maintained in the weld rod storage area that was used by the weld material issue personnel to identify the types of weld rod issued to the welders. This informal list included the type, size, heat number, and purchase order number. The inspector’s review of purchase orders and certified material test reports revealed that the informal list contained at least three entries in which the purchase order number and heat/lot numbers were incorrect. In one other case, the informal list was correct, but the tag on the oven was incorrect. As a result of the incorrect data on the informal list, the inspector identified three instances of weld material being issued in which the incorrect purchase order and heat/lot numbers were recorded on the Weld Material Issue Form.

The inspector requested copies of all condition reports (identified in Section 1R08.3 below) issued since the approximate beginning of the current refueling outage pertaining to welding and welding material control. Since March 7, 2001, at least 12 condition reports have been initiated describing conditions dealing with welding procedure specification errors, welding material being issued without receipt inspection, incorrect welding material being issued, weld data forms being inconsistent with referenced drawing requirements, three instances of commingling of welding materials in holding ovens located in the weld rod storage area, welding material not being identified, and incorrect identification of the contents of the weld rod storage ovens.

This finding was determined to have a credible impact on safety because of the potential use of incorrect welding material in safety-related applications created by the ineffective control of welding materials. The inspector also found a large number of recent condition reports written on the implementation of the welding program and a lack of comprehensive corrective action. Since no instance of actual use of incorrect welding material was identified, the issue was evaluated under the risk significance determination process as having very low safety significance. This violation has been entered into the licensee's corrective action program in Condition Report 200101262. Taken together, these failures to implement the specified procedure were considered a violation of Criteria V of Appendix B to 10 CFR Part 50, and this violation is being treated as an NCV consistent with Section VI.A of the NRC Enforcement Policy (50-285/0102-01).

.2 Performance of Nondestructive Examination (NDE) Activities

a. Inspection Scope

The inspector observed the licensee's NDE contractor personnel (Washington Group International, Inc.) perform the inservice inspection program specified examinations listed below:

System	Component/Weld Identification	Examination Method
Reactor Coolant System	Pressurizer Head to Upper Shell Girth Weld	Ultrasonic Examination
Component Cooling Water	Pipe to 90 degree elbow welds-both ends	Ultrasonic Examination
Reactor Coolant System	RC-122 Drain Valve on Reactor Coolant System Loop A	Liquid Penetrant Examination
Safety Injection System	Safety Injection System Check Valve SI-216, Welds F2B, F2BR, and F3	Radiographic 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 reviewed the NDE certification packages of the contractor personnel and verified that they had been properly certified in accordance with ASME Code requirements. The inspector also verified that indications revealed by the examinations were compared against the ASME Code-specified acceptance standards and appropriately dispositioned.

b. Findings

No findings of significance were identified.

.3 Problem Identification and Resolution

a. Inspection Scope

The inspector performed a detailed review of the following condition reports. The corrective action documents reviewed were all initiated since the beginning of the current refueling outage to identify and correct problems related to ASME Code Section XI repair and replacement program type issues (e.g., welding and welding material control).

200100492	200101098	200101239
200100712	200101100	200101215
200100719	200101107	200101258
200101061	200101238	200101262

b. Findings

Refer to paragraph 1R08.2.b above.

1R12 Maintenance Rule Implementation (71111.11)

a. Inspection Scope

During the inspection period, the inspectors reviewed licensee implementation of the maintenance rule. The inspectors verified structure and component scoping, characterization, safety significance, performance criteria, and the appropriateness of goals and corrective actions. The inspectors compared the licensee's implementation of the maintenance rule to the requirements outlined in 10 CFR 50.65, Maintenance Rule Implementing Instruction MRII-6, "Placement of SSCs Into Category (a)(1) or (a)(2)," Revision 6, Regulatory Guide 1.160, "Monitoring the Effectiveness of Maintenance at

Nuclear Power Plants," Revision 2, and meeting minutes from various expert technical panel meetings. The inspectors reviewed the following components:

- Spent Fuel Pool Circulating Pump AC-5B
- Control element drive mechanisms
- Condensor tube degradation
- Charging system piping
- Letdown Strainer CH-24

b. Findings

No findings of significance were identified.

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

a. Inspection Scope

The inspectors reviewed the licensee's risk assessment for equipment outages as a result of planned and emergent maintenance to evaluate the licensee's effectiveness in assessing risk for planned and emergent activities. The inspectors compared the licensee's risk assessment and risk management activities against requirements of 10 CFR 50.65 (a)(4), the recommendations of NUMARC 93-01, "Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," Revision 2. The inspectors also discussed the planned and emergent work activities with planning and maintenance personnel. They reviewed and observed emergent work on the following systems/components/activities:

- April 24, 2001 Activities performed in response to an overcurrent trip of Reactor Coolant Pump RC-3C
- May 8, 2001 Raw Water Traveling Screen CW-2D repair
- May 9, 2001 Master trip solenoid trouble shooting for main turbine
- June 14, 2001 Repair of steam leak on a Steam Generator Feed Flow Transmitter FT-1102

b. Findings

No findings of significance were identified.

1R14 Personnel Performance During Nonroutine Plant Evolutions (71111.14)

a. Inspection Scope

On June 14, 2001, the inspectors observed control room personnel respond to a Delta-T power anomaly. This anomaly caused the Reactor Protection System Channels A and B to decrease approximately 4 percent in power and Channels C and D to increase approximately 4 percent in power. Reactor Protection System Channels A and B were declared inoperable and a power reduction was initiated in accordance with Technical Specification 2.15. Licensed operators reduced reactor power to below 70 percent. The licensee performed an investigation into the power anomaly and determined that the anomaly was a result of streaming of high temperature water from the vessel upper head to the reactor coolant hot legs, which suddenly shifts orientation within the hot leg pipe, causing a change in the temperatures read by the hot leg resistance temperature devices.

The inspectors reviewed Abnormal Operating Procedure AOP-5, "Emergency Shutdown," Revision 7, Alarm Response Procedure A20/C7, "Variable Overpower Reset Demand," Alarm Response Procedure A20/E6, "Delta-T and Nuclear Instrumentation Deviation," Alarm Response Procedure A20/B1, "High Power Level Channel Pre-Trip," Operations Memorandum 2001-01, "Operation with RCS Hot-leg Stratification," and Technical Data Book, "Core Operating Limit Report," Revision 24, to verify operator actions. The inspectors observed the operations crew follow the appropriate procedures during the transient.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors reviewed the technical adequacy of the following operability evaluations to verify that they were sufficient to justify continued operation of a system or component. The inspectors verified that, although the equipment was degraded, the operability evaluation provided adequate justification that the equipment could still meet its Technical Specification, Updated Safety Analysis Report, and design bases requirements and that any potential risk increase contributed by the degraded equipment was throughly evaluated. The following evaluations were reviewed:

- Operability of letdown heat exchanger Backpressure Control Valve PCV-210 (Condition Report 200101102)

- Operability of bypass valve to Auxiliary Spray Line Inlet Valve HCV-240 (Condition Report 200100708)

- Operability of containment air cooling system damper fusible links (Condition Report 200101430)

- Operability of postloss of coolant accident Hot Leg Injection Valve HCV-249 (Condition Report 200100708)
- Operability of low pressure Safety Injection Loop Isolation Valve HCV-331 (Condition Report 200101160)
- Operability of alternate shutdown panel (Condition Report 200101646)
- Operability of diesel generator room fire suppression system (Condition Report 200102155)
- Operability of the reactor protection system (Condition Report 200102192)

b. Findings

No findings of significance were identified.

1R19 Postmaintenance Testing (71111.19)

a. Inspection Scope

The inspectors verified that postmaintenance tests were adequate to verify system operability and functional capabilities. The inspectors verified that testing met design and licensing bases requirements, Technical Specifications, the Updated Safety Analysis Report, Inservice Testing, and licensee administrative procedures. The inspectors verified testing results for the following components:

- May 2, 2001 - Installation of diesel generator secondary air start motors
- June 6, 2001 - Condensor Off-gas Radiation Monitor RM-057
- June 14, 2001 - Steam Generator Feed Flow Transmitter FT-1102

b. Findings

No findings of significance were identified.

1R20 Refueling and Outage Activities (71111.20)

a. Inspection Scope

Throughout the outage the inspectors observed and reviewed numerous refueling activities to ensure that the licensee adequately adhered to administrative risk reduction processes and developed risk reduction strategies to mitigate any potential losses of key safety functions. The inspectors verified that licensee actions met Standing Order SO-O-21, “Shutdown Operations Protection Plan,” Revision 10.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

.1 Dynamic Testing of Safety Injection Loop Isolation Valves

a. Inspection Scope

The inspectors reviewed the licensee's actions when approximately 8,000 gallons of water was inadvertently transferred from the refueling cavity to the safety injection refueling water tank.

b. Findings

On April 13, 2001, an NCV of 10 CFR Part 50 Appendix B, Criterion V, occurred when the licensee failed to ensure a surveillance procedure was properly updated following valve configuration changes to the containment spray system. The finding was of very low significance (Green).

While the plant was in Mode 5, operations personnel performed Equipment Test Procedure SS-EQT-SI-0010, "Prepartation for Testing Safety Injection Loop Isolation Valves," Revision 9. This test was designed to check the function of safety injection loop isolation valves dynamically, cycling the valves under conditions in which high system pressure exists. This test has been conducted during previous refueling outages without adverse effects; however, prior to this refueling outage a recalculation was performed which allowed the containment recirculating valves to remain open during this test procedure. This configuration created a drain path from the refueling cavity to the safety injection refueling water tank. Failing to incorporate these changes into the surveillance procedure resulted in a valve alignment that inadvertently gravity drained 6-inches of water from the refueling cavity into the safety injection refueling water tank. Core reload was in progress at the time of discovery. Approximately 8000 gallons of water were transferred out of the refueling cavity.

The finding was more than minor because it had an actual impact on safety in that the refueling cavity was being drained while core reload was in progress. The finding was of very low safety significance because, although the refueling cavity was being drained by a surveillance procedure that was not properly updated to ensure a proper valve alignment, the loss of water from the cavity was stopped prior to exceeding the water level control band. Because the finding is of very low safety significance, and the finding was entered into the licensee's corrective action program as Condition Report 2001011421, this finding is being treated as an NCV, consistent with Section VI.A of the NRC Enforcement Policy (50-285/0102-02).

.2 Routine Surveillance Tests

a. Inspection Scope

The inspectors observed or reviewed the following surveillance tests to ensure the systems tested were capable of performing their safety function and to assess their operational readiness. Specifically, the inspectors verified that the following surveillance test met Technical Specifications, ASME Section XI test requirements, the Updated Safety Analysis Report, and licensee procedural requirements.

May 15, 2001 - Surveillance Test, OP-ST-DG-0001, "Diesel Generator 1 Check," Revision 33

April 7, 2001 - Surveillance Test, OP-ST-ESF-0015, "Channel A and B Automatic and Manual Engineered Safeguard Actuation Signal Retest," Revision 13

June 6, 2001 - Surveillance Test, IC-ST-IA-3003, "Raw Water Instrument Air Accumulator Check Valve Operability Test," Revision 8

June 6, 2001 - Surveillance Test, IC-ST-RC-0001, "Functional Test of Acoustic Flow Monitors," Revision 4

June 21, 2001 - Surveillance Test, SE-ST-AFW-3006, "Auxiliary Feedwater Pump FW-10, Steam Isolation Valve, and Check Valve Tests," Revision 26

b. Findings

No findings of significance were identified.

Cornerstones: Emergency Preparedness

1EP4 Emergency Action Level and Emergency Plan Changes (71114.04)

a. Inspection Scope

The inspectors reviewed Revision 12 to Appendix C of the Fort Calhoun Station Radiological Emergency Response Plan against 10 CFR 50.54(q) to determine if the revision decreased the effectiveness of the plan.

b. Findings

No findings of significance were identified.

1EP6 Drill Evaluation (71114.06)

a. Inspection Scope

On May 31, 2001, the inspectors observed a licensee prepared emergency plan drill scenario from the simulator and the technical support center. The inspectors reviewed the licensee's drill critique for the identification and resolution of performance weaknesses.

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY
Cornerstone: Occupational Radiation Safety

Occupational Radiation Safety

2OS1 Access Controls to Radiologically Significant Areas (71121.01)

a. Inspection Scope

Radiation workers and radiation protection personnel were interviewed concerning their radiation protection work requirements. A number of tours in the radiologically controlled area were conducted. The following items were reviewed and compared with regulatory requirements:

- Access controls and surveys for high dose work areas in the radiologically controlled area, charging piping repair in the auxiliary building, steam generator eddy current testing, steam generator sludge lancing, and Valve SI 216 replacement.

- Job-in-progress reviews for the following work in high radiation and restricted high radiation areas, charging piping repair in the auxiliary building, steam generator eddy current testing, steam generator sludge lancing, and Valve SI 216 replacement.

- Radiation work permits and specified electronic pocket dosimeter setpoints.

- Placement of personnel dosimetry.

- Radiation postings and barricades used at entrances to high dose rate areas, restricted high radiation areas, and very high radiation areas.

- Job coverage by radiation protection personnel.

- Radiation protection prejob briefings for entries into high radiation areas in the auxiliary building and containment.

b. Findings

No findings of significance were identified.

2OS2 As Low As Reasonably Achievable (ALARA) Planning and Controls

.1 ALARA Planning and Controls (71121.02)

a. Inspection Scope

The inspector interviewed radiation workers and radiation protection personnel throughout the radiologically controlled area and conducted independent radiation surveys of selected work areas. The following items were reviewed and compared with regulatory requirements to assess the licensee's program to maintain occupational exposure ALARA:

- ALARA program procedures
- Processes used to estimate and track exposures
- Plant collective exposure history for the past 3 years, current exposure trends, and 3-year rolling average dose information
- Exposures of selected work groups (quality assurance/quality control, electrical maintenance, and steamfitter maintenance)
- Five ALARA job and radiation work permit packages (2001-0010, -1508, -2512, -2522, and -3509) for refueling outage work activities which resulted in the highest personnel collective exposures during the inspection period
- Hot spot tracking and reduction program
- Use of engineering controls to achieve dose reductions
- Plant related source term data, including source term control strategy
- Radiological work planning
- Declared pregnant worker dose monitoring controls
- Quality assurance Surveillance Report H-00-2
- Selected corrective action documents involving ALARA program and radiation worker practice deficiencies written since November 1, 2000. The following condition reports were reviewed in detail (CRs 2000-2097, 2001-357, -805, -825, -885, -1049, -1110, -1186, -1214, -1327, -1355, -1553, -1776, -1777, and -2088)

- ALARA Committee meeting minutes (00-143, 014-01, 030-01, 042-01, 091-01)

No work was performed in high exposure or high radiation areas during this inspection. Therefore, this aspect of the above procedure could not be evaluated.

b. Findings

No findings of significance were identified.

3. SAFEGUARDS
Cornerstone: Physical Protection

3PP1 Access Authorization (71130.01)

a. Inspection Scope

The inspector performed the following inspection activities:

- Reviewed licensee event reports and safeguards event logs to identify problems in the access authorization program
- Reviewed procedures, audits, and self-assessments of the following programs/areas: behavior observation, access authorization, fitness-for-duty, supervisor and escort training, and requalification training
- Interviewed six supervisors/managers and six individuals who had escorted visitors into the protected and/or vital areas to determine their knowledge and understanding of their responsibilities in the behavior observation program
- Reviewed condition reports, licensee event reports, safeguards event logs, audits, selected security event reports, and self-assessments for the licensee's access authorization program to determine the licensee's ability to identify and resolve problems

b. Findings

No findings of significance were identified.

3PP2 Access Control (71130.02)

a. Inspection Scope

The inspector performed the following inspection activities:

- Reviewed licensee event reports and safeguards event logs to identify problems with access control equipment

- Reviewed procedures and audits for testing and maintenance of access control equipment and for granting and revoking unescorted access to protected and vital areas

- Interviewed security personnel concerning the proper operation of the explosive and metal detectors, X-ray devices, and key card readers

- Observed licensee testing of access control equipment and the ability of security personnel to control personnel, packages, and vehicles entering the protected area

- Reviewed procedures to verify that a program was in place for controlling and accounting for hard keys to vital areas

- Reviewed the licensee's process for granting access to vital equipment and vital areas to authorized personnel having an identified need for that access

- Reviewed condition reports, licensee event reports, safeguards event logs, audits, selected security event reports, and self-assessments for the licensee's access control program in order to assess the licensee's ability to identify and resolve problems with the access control program

- Interviewed key security department and plant support personnel to determine their knowledge and use of the corrective action reports and resolution of problems regarding repair of security equipment

b. Findings

No findings of significance were identified.

3PP4 Security Plan Changes (71130.04)

a. Inspection Scope

The inspectors completed the following actions:

- Reviewed the Physical Security Plan, Revision 16D, dated April 24, 2000, to determine if requirements of 10 CFR 50.54 (p) had been met

- Reviewed the previous year's safeguards event logs and interviewed security personnel to determine their knowledge and use of the corrective action program and resolution of problems as it relates to making changes to the licensing documents

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

.1 Initiating Events Cornerstone

a. Inspection Scope

The inspectors reviewed the licensee's second quarter 2001 performance indicator data submittal to verify its accuracy and completeness. The inspectors reviewed control room logs and condition reports to verify that the data was properly submitted. The inspectors verified the following indicators:

- unplanned scrams per 7000-hours critical
- scrams with loss of normal heat removal
- unplanned power changes per 7000 critical hours

b. Findings

No findings of significance were identified.

.2 Physical Protection Cornerstone

a. Inspection Scope

The inspector reviewed the program for collection and submittal of performance indicator data. Specifically a random sampling of security event logs and corrective action reports were reviewed for the following program performance areas:

- Protected area security equipment
- Personnel screening program performance
- Fitness-for-duty/personnel reliability program performance

b. Findings

No findings of significance were identified.

.3 Occupational Exposure Control Effectiveness

a. Inspection Scope

The inspector reviewed corrective action program records for restricted high radiation areas, very high radiation areas, and unplanned exposure occurrences for the past 12 months to confirm that these occurrences were properly recorded as performance

indicators. Radiologically controlled area exit transactions with exposures greater than 100 millirem for the past 12 months were reviewed, and selected examples were investigated to determine whether they remained within the dose projections of the governing radiation work permits.

b. Findings

No findings of significance were identified.

.4 Radiological Effluent Technical Specification/Offsite Dose Calculation Manual Radiological Effluent Occurrences

a. Inspection Scope

The inspector reviewed radiological effluent release program corrective action records, licensee event reports, and annual effluent release reports documented during the past 4 quarters to determine if any events exceeded the performance indicator thresholds.

b. Findings

No findings of significance were identified.

4OA5 Other

.1 (Closed) URI 285/00-07-02: Incomplete documentation to allow verification of the drill and exercise performance indicator data

NRC inspectors had been unable to verify the licensee's evaluation of the accuracy of offsite notifications which were included in the Drill and Exercise Performance performance indicator. The licensee had not proceduralized the definition of notification accuracy.

Frequently Asked Question 242, posted January 10, 2001, provided guidance for the evaluation of offsite notification accuracy as applied to performance indicator measurements. This information has also been incorporated into Revision 1 to NEI (Nuclear Energy Institute) 99-02, "Regulatory Assessment Performance Indicator Guidelines." During an in-office inspection, inspectors verified that the licensee revised Attachment 1, "EP Cornerstone Performance Indicator Maintenance," to Procedure EPDM-144, "Emergency Preparedness Performance Indicator Program," to incorporate the guidance provided in Frequently Asked Question 242 and NEI 99-02, Revision 1.

4OA6 Exit Meeting Summary

.1 The inservice inspection inspector presented the inspection results to Mr. W. G. Gates, Vice President, and other members of the licensee's staff at the conclusion of the inspection on April 6, 2001.

.2 The radiation protection inspector presented the inspection results to Mr. Sudesh Gambhir, Division Manager, Nuclear Operations Division, and other members of licensee management at the conclusion of the inspection on April 6, 2001.

.3 The physical protection inspector presented the inspection results to Mr. Sudesh Gambhir, Manager, Nuclear Operations Division, and other members of licensee management at the conclusion of the inspection on May 4, 2001.

.4 The emergency preparedness inspectors presented the inspection results to Mr. G. Cavanaugh, Supervisor, Nuclear Licensing, and other members of licensee management in a telephone conversation on May 30, 2001.

.5 The radiation protection inspector presented the inspection results to Mr. W. Gates, Vice President, Nuclear, and other members of licensee management at the conclusion of the inspection on June 29, 2001.

.6 The resident inspectors presented the inspection results to Mr. Sudesh Gambhir, Division Manager, Nuclear Operations Division, and other members of licensee management at the conclusion of the inspection on July 2, 2001.

During each meeting, the licensee management present acknowledged the findings presented. Additionally, 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 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
50-285/0102-03	10 CFR 20.1501(a) states, in part, that each licensee shall make or cause to be made surveys that are reasonable under the circumstances to evaluate the magnitude and extent of radiation levels. On March 18, 2001, two workers in containment on the 1013 foot elevation received electronic dosimeter high dose rate alarms. A radiation protection followup survey of the area found that general area dose rates were greater than 100 mr/hr, as described in the licensee's corrective action program (Condition Report 2001-00669).
50-285/0102-04	Technical Specification 5.11.1.c states, in part, that any individual or group of individuals permitted to enter such

areas (restricted high radiation areas) shall be provided with an individual qualified in radiation protection procedures, and this individual shall be responsible for providing positive control over the activities within the area. On March 26, 2001, an individual conducting an inspection of the secondary side of Steam Generator B received an unintended exposure of 274 mrem above the electronic dosimeter dose alarm setpoint, as described in the licensee's corrective action program (Condition Report 2001-00933)

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

C. Burke, Specialist, Fitness for Duty
C. Bloyd, Supervisor, Component Testing Department
M. Burggraf, Acting Manager, Corrective Action Group
G. Cavanaugh, Supervisor, Station Licensing
J. Chase, Manager, Nuclear Assessment Division
A. Clark, Acting Supervisor, Security Operations
R. Clemens, Plant Manager, Fort Calhoun Station
M. Core, Manger, System Engineering
M. Frans, Manager, Nuclear Licensing
H. Fox, Manager, Labor Relations
S. Gambhir, Manager, Nuclear Operations Division
W. Gates, Vice President
S. Gerbers, Corporate Health Physicist
P. Hamer, Inservice Inspection Administrator
R. Haug, Manager, Chemistry
B. Kindred, Supervisor, Security Operations
E. Matzke, Engineer, Station Licensing
J. McManis, Manager, Design Engineering
D. Montgomery, Supervisor, Quality Control
H. Peterson, Technician, Security Access Authorization
M. Puckett, Manager, Radiation Protection
R. Phelps, Manager, Nuclear Engineering Division
R. Reno, ALARA Supervisor, Radiation Protection
L. Schneider, Lead Auditor, Quality Assurance
H. Sefick, Manager, Security and Emergency Preparedness
C. Simmons, Supervisor, Emergency Preparedness
J. Spiker, Manager, Corrective Action Group
K. Steele, Supervisor, Radiation Protection Operations
M. Tesar, Manager, Nuclear Support Services Division
J. Tills, Manager, Maintenance
D. Trausch, Manager, Quality

Opened and Closed During this Inspection

50-285/0102-01	NCV	Welding and welding materials were not properly controlled (Section 1R08)
50-285/0102-02	NCV	Failure to updated a surveillance procedure following valve configuration changes (Section 1R22)
50-285/0102-03	NCV	Failure to survey and evaluate the magnitude and extent of radiation levels (Section 4OA7)

50-285/0102-04	NCV	Failure to provide positive control over activities within a restricted high radiation area (Section 4OA7)

Closed

50-285/00-07-02	URI	Incomplete documentation to allow verification of the drill and exercise performance indicator data (Section 4OA5)

Discussed

None

LIST OF 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:

Inservice Inspection Program Plan, Third Ten-Year Interval, Revision 3A

Welding Procedure SPP-9, “Control of Welding,” Revision R10

Welding Procedure SPP-10, “Filler Metal Control,” Revision R8

NDE Procedure OPPD-PT-89-1, “Liquid Penetrant Examination,” Revision 2

NDE Procedure OPPD-UT-89-8, “Manual Ultrasonic Examination of Ferritic Piping Welds,” Revision 0

NDE Procedure OPPD-UT-89-5, “Vessel Welds Greater Than Two Inches,” Revision 2

NDE Personnel Certification Files for the observed Washington Group International, Inc. examiners

Condition Reports

200100492	200101098	200101239
200100712	200101100	200101215
200100719	200101107	200101258
200101061	200101238	200101262
200100408		

LIST OF ACRONYMS AND INITIALISMS USED

ALARA	as low as is reasonably achievable
CFR	Code of Federal Regulations
NCV	noncited violation
NDE	nondestructive examination
URI	unresolved item