UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W., SUITE 2900
ATLANTA, GEORGIA 30323-0199

Report Nos.: 50-280/95-14 and 50-281/95-14

Licensee: Virginia Electric and Power Company
Innsbrook Technical Center
5000 Dominion Boulevard
Glen Allen, VA 23060

Docket Nos.: 50-280 and 50-281

License Nos.: DPR-32 and DPR-37

Facility Name: Surry 1 and 2

Inspection Conducted: July 2 through August 5, 1995

Lead Inspector: LW Garner for 8/25/95
M. W. Branch, Senior Resident Inspector Date Signed

Other Inspectors:

D. M. Kern, Resident Inspector
W. K. Poertner, Resident Inspector
S. G. Tingen, Resident Inspector

Approved by: G.A. Belisle 8/28/95
G. A. Belisle, Section Chief Date Signed
Reactor Projects Section 2A
Division of Reactor Projects

SUMMARY

Scope:

This routine resident inspection was conducted on site in the areas of plant status, operational safety verification, maintenance inspections, surveillance inspections, and Licensee Event Report followup, and action on previous inspection items. Inspections of backshift and weekend activities were conducted.

Results:

Plant Operations

Sufficient self contained breathing apparatus (SCBA) equipment was available and operations and control room personnel were properly trained to respond to

a toxic gas event. The recent decision to SCBA certify all Shift Technical Advisors (STA) was a positive initiative to improve STA availability to the control room staff during certain events (paragraph 3.1).

With the Unit 1 control room annunciators degraded, operators implemented appropriate compensatory actions. Management involvement and compensatory measures taken during corrective maintenance were good (paragraph 3.2).

Maintenance

On July 20, Unit 1 annunciators became degraded when an electrician inadvertently shorted the annunciator power supply during troubleshooting activities (paragraph 3.2).

Engineering

Fire brigade composition and responsibilities, methods used to alert the fire brigade, and fire fighting methods established for electrical fires were consistent with NRC fire protection program guidance (paragraph 5.1).

Engineering calculations for a cask drop within the fuel building, were technically accurate and sufficiently bounded current dry fuel storage cask handling practices. The inspectors noted that fuel handling procedures did not specify a maximum height at which dry storage casks could be moved above the fuel building operating floor or the spent fuel pool. Appropriate actions were taken to strengthen procedures in this area (paragraph 5.2).

Plant Support

Highly radioactive Na-24 sources were used during moisture carryover tests performed on July 12 and July 14. Controls for the unusual radiological conditions were good. Information gained from other utilities was effectively integrated into the radiological work plan. Radiological protection technicians provided close oversight and incorporated lessons learned from the Unit 1 test into the Unit 2 test. Minor radiological control and communication discrepancies were properly addressed. Liquid radioactive releases were effectively managed (paragraph 6.2).

REPORT DETAILS

1. Persons Contacted

Licensee Employees

*W. Benthall, Supervisor, Licensing
*H. Blake, Jr., Superintendent of Nuclear Site Services
*R. Blount, Superintendent of Maintenance
D. Christian, Station Manager
J. Costello, Station Coordinator, Emergency Preparedness
*D. Erickson, Superintendent of Radiation Protection
*B. Garber, Licensing
*R. Garner, Outage and Planning
B. Hayes, Supervisor, Quality Assurance
*D. Hayes, Supervisor of Administrative Services
C. Luffman, Superintendent, Security
J. McCarthy, Assistant Station Manager
*S. Sarver, Superintendent of Operations
R. Saunders, Vice President, Nuclear Operations
*B. Shriver, Assistant Station Manager
K. Sloane, Superintendent of Outage and Planning
*E. Smith, Site Quality Assurance Manager
*T. Sowers, Superintendent of Engineering
*B. Stanley, Supervisor, Procedures
*J. Swientoniewski, Supervisor, Station Nuclear Safety
*N. Urquhart, Supervisor, Training

Other licensee employees contacted included plant managers and supervisors, operators, engineers, technicians, mechanics, security force members, and office personnel.

NRC Personnel

*M. Branch, Senior Resident Inspector
D. Kern, Resident Inspector
*K. Poertner, Resident Inspector
S. Tingen, Resident Inspector

*Attended Exit Interview

Acronyms used throughout this report are listed in the last paragraph.

2. Plant Status

During this report period Mr. Brice Shriver replaced Mr. Alan Price as Assistant Station Manager, Safety and Licensing. Mr. Price is currently on temporary assignment to INPO for two years.

On July 8, Unit 1 reactor power was reduced to 85% to allow turbine valve freedom testing. Power was returned to 100% after the test and the unit remained at full power until August 3 when refueling coast down commenced. The unit was at 97% power at the end of the report period.

Unit 2 operated at full power for most of the report period. On July 14, power was reduced to 98% and returned back to 100% for SG moisture carryover testing.

3. Operational Safety Verification (71707)

The inspectors conducted frequent tours of the control room to verify proper staffing, operator attentiveness and adherence to approved procedures. The inspectors attended plant status meetings and reviewed operator logs on a daily basis to verify operational safety and compliance with TSs and to maintain overall facility operational awareness. Instrumentation and ECCS lineups were periodically reviewed from control room indications to assess operability. Frequent plant tours were conducted to observe equipment status, fire protection programs, radiological work practices, plant security programs and housekeeping. Deviation reports were reviewed to assure that potential safety concerns were properly addressed and reported.

3.1 Self Contained Breathing Apparatus

A toxic gas release near another nuclear power facility recently necessitated control room personnel to don SCBAs to permit them to continue performing their duties in the control room. The inspectors reviewed the Surry UFSAR, station procedures, and interviewed personnel to determine the degree to which Surry Station control room operators rely upon SCBAs to cope with a non-radioactive toxic gas release.

The inspectors reviewed UFSAR section 2.1, and confirmed that no serious on-site or off-site hazardous material threats to Surry Station were identified. The last potential on-site source of poisonous gas which could effect control room habitability, bottled chlorine gas, was removed in 1988. The TS were subsequently amended to eliminate the requirement for control room chlorine gas monitors. In addition, the control and relay room ventilation system is equipped with tight redundant seismic category I isolation dampers and weatherstripped doors which permit control room pressurization with bottled air following an accident. The inspectors concluded that the introduction of toxic gas to the control room was highly improbable.

Abnormal operating procedures 0-AP-20.00, Main Control Room Inaccessibility, revision 3 and 0-AP-20.01, Main Control Room Oxygen Monitor - Alarm or Malfunction, revision 1, discuss use of SCBA in the control room. Procedure 0-AP-20.00 conservatively lists poisonous gas as a possible cause for degraded control room air. Fire and fire extinguishing system (carbon dioxide or Halon)

actuation are listed as the most probable events for which control room operators would don SCBA. The inspectors noted that these procedures provided clear instruction regarding when to don SCBAs in the control room.

Five SCBAs are maintained in the control room for use by control room personnel. The inspectors observed that this number was sufficient for the TS 6.1 required compliment of on-shift ROs(3) and SROs(2) and that all RO/SRO personnel were SCBA qualified. The inspectors questioned whether a SCBA was needed in the control room for the STA, a TS required member of the shift. The STA performs most of his duties from the STA office, but may be requested to augment the control room staff during event response. The fire protection coordinator informed the inspectors that there are numerous SCBAs readily available to the STA along the main turbine hallway. The inspectors visually verified that a sufficient number of SCBAs were available for the STA in close proximity to the control room. The inspectors observed that some STAs are not currently SCBA qualified. This could limit their availability to the shift during certain events. The SNS Supervisor noted that while not required to perform duties from the control room, SCBA qualification could improve STA ability to respond to certain events. He further stated that a schedule would be developed by which all STAs would be SCBA certified within the next couple of months. The inspectors noted that this was a positive initiative to improve STA availability to the control room staff. The inspectors concluded that personnel were adequately trained and SCBA equipment was available for control room personnel to respond to a toxic gas event.

3.2 Degraded Unit 1 Control Room Annunciators

On July 20, electricians were checking voltage readings to verify the condition of a suspected failed Unit 1 control room alarm annunciator power supply. The electricians inadvertently shorted across a fuse holder and propagated a fault to the remaining eight parallel power supplies. All annunciators on the A through E annunciator panels actuated. All, with the exception of two, cleared when acknowledged. Operators promptly adjusted selected monitored parameters (i.e. containment partial pressure) and verified that the A-E alarm circuits would still light to indicate when an alarm condition was present. However, the audible annunciator horn and the alarm lock in feature were not working properly. The licensee determined that the A-E annunciator panels were degraded, but remained operable. The shift implemented abnormal operating procedure O-AP-10.13, Loss of Main Control Room Annunciators, revision 0, and directed the third RO to continuously monitor the A-E annunciator panels. The inspectors concluded that operator response was appropriate.

The inspectors observed control room operators between July 20 and 23 and determined that augmented monitoring was effective. The

inspectors discussed emergency plan entry conditions with the shift supervisor. The A-E annunciator panels represented 50 percent of the Unit 1 control room alarm annunciators. The emergency plan specified Unusual Event entry upon loss of >75 percent of control room alarms. The operations shift properly reviewed the emergency plan for implementation in the event the annunciators further degraded.

Initial troubleshooting failed to identify the specific components which caused the annunciator degradation. Vendor assistance was requested and troubleshooting activities were halted pending arrival of the vendor. SNSOC reviewed and approved further annunciator corrective maintenance activities prior to implementation. Certain maintenance activities required the A-E annunciator panels to be fully inoperable. Further compensatory measures were established during this period. Critical parameters were continuously monitored on the ERF computer and the sequence of events recorder was frequently reviewed. Additionally, a fourth RO was assigned to the shift to directly monitor related plant parameters. Electricians determined that three of the nine parallel power supplies had failed. Two power supplies were replaced and the A-E annunciator panels were returned to service on July 23. DR S-95-1694, including a human performance evaluation, was initiated to determine the root cause of the event and verify follow-up corrective actions. The inspectors determined that management involvement and compensatory measures taken were good.

Within the areas inspected, no violations or deviations were identified.

4. Maintenance and Surveillance Inspections (62703, 61726)

During the reporting period, the inspectors reviewed the following maintenance and surveillance activities to assure compliance with the appropriate procedures and TS requirements.

4.1 Component Cooling Water Heat Exchanger Cleaning

On August 3, the inspectors witnessed work activities associated with cleaning the A CC heat exchanger. The work activity was accomplished in accordance with WO 32139901 and procedure O-MCM-0812-01, BC and CC Heat Exchanger Cleaning, revision 1. The inspectors reviewed the work package and verified that procedures were followed. The inspectors also verified that the isolation boundary was adequate.

4.2 Control Room Chiller Flow Data

On August 3, the inspectors witnessed the performance of temporary operating procedure O-TOP-4062, Obtaining Flow Data for 1-VS-P-1B, revision 1. This temporary procedure obtained service water flow data associated with control room chiller 1-VS-E-4B. The

inspectors noted that service water flow dropped when control room chiller 1-VS-E-4C came on. This observation was discussed with the system engineer who indicated that 1-VS-E-4C would not normally be operated in parallel with 1-VS-E-4B. Thus, the flow data without 1-VS-E-4C in operation was the desired flow data. The evolution was performed in accordance with approved procedures.

Within the areas inspected, no violations or deviations were identified.

5. On-Site Engineering Review (37551, 64704)

5.1 Fire Protection

The inspectors reviewed station fire brigade response activities. The fire protection program is described in procedure VPAP-2401, Fire Protection Program, revision 2.

The fire brigade is composed of three personnel from the operations department (one of which is the scene leader), and two security officers. None of the fire brigade members share TS licensed duties. VPAP-2401 requires that the fire brigade be activated upon notification in the control room of a fire, suspected conditions that could result in a fire, or at the discretion of the SS. The licensee's policy is not restricted to fire or smoke. VPAP-2401 states that if a fire is suspected, notify the control room. Neither VPAP-2401 or AP-48, Fire Protection, Operations Response, revision 3, describe any delays associated with activating the fire brigade. Discussion with SS and security personnel indicate that fire brigade responsibility takes precedence over other duties. However, security personnel on the fire brigade would be relieved prior to abandoning their security post.

The inspectors also reviewed the fire alarms available in the control room and other areas of the station. The station fire alarm which alerts fire brigade personnel is audible in the plant during other alarms. Additionally, in high noise areas a red alarm light is installed to alert personnel of off-normal conditions. The station alarm system and Gai-Tronics used to announce the fire emergency are powered from the semi-vital bus. The control room alarm which sounds when plant detectors sense smoke or heat is faint but audible in the control room and it has a distinct sound. Based on conversation with operators, they believe that they could hear the alarms during other events. Additionally, there is a control room vertical panel annunciator that also lights and sounds when a fire system alarm is received.

The inspectors questioned whether the licensee would combat an electrical switchgear fire with water fog and under what conditions. The stated licensee's policy leaves this decision up to the scene leader. The fire strategy plans indicate that

electrical systems should be deenergized if possible or practical. Backup fire suppression is a water hose and procedures contain a caution note about electrical shock hazard if water is used on electrical fires. Fire brigade training addressed water usage on electrical fires in the event that the power source can not be deenergized.

The inspectors determined that fire brigade manning is the same for all shifts. At least once per year each operating crew has a back shift drill. The criteria used to request off site assistance is left to at the discretion of the scene leader and the control room SS.

Additionally, the inspectors reviewed the licensee EPIPs in the area of fire related events. Per EPIP-1.01 Tab I, Emergency Managers Controlling Procedures, revision 34, a fire in the PA or switchyard which is not under control within 10 minutes after the fire brigade is dispatched is designated as an NOUE. An Alert is declared when a fire has the potential for causing a safety system to become inoperable when the plant is above cold shutdown conditions. A Site Area Emergency exist when a fire causes major degradation of a safety system function required for protection of the public and affected systems are rendered inoperable.

Based on the inspectors review, fire brigade composition and responsibilities, methods used to alert the fire brigade, and fire fighting methods established for electrical fires were consistent with NRC fire protection program guidance.

5.2 Dry Fuel Storage Cask Drop Analysis

The inspectors reviewed various engineering calculations to determine whether current spent fuel storage cask loading practices were bounded by existing cask drop accident analysis. Engineering calculation 194, Fuel Cask Drop Crash Pad Design and Analysis, dated September 23, 1982, postulated a cask drop into the SFP from 1 foot above the refueling building operating floor. The calculation was later updated to analyze a cask drop from 5 feet 8 inches above the operating floor. In each case, the postulated cask drop caused a tear in the SFP stainless steel liner, but no significant structural damage to the surrounding six foot concrete SFP wall or floor. The resulting SFP leakage was minor and well within the capacity of makeup sources. A postulated radioactive material release due to damaged fuel assemblies within the SFP was within regulatory limits. The inspectors concluded that the calculations were technically accurate and sufficiently bounded current dry fuel storage cask handling practices.

The inspectors observed that procedure OP-4.22, Castor V/21 Cask Loading and Handling, revision 6, did not specify a maximum height at which dry storage casks could be moved above the fuel building

operating floor or the SFP. The original license submittal stated that casks should not be carried at a height >6 inches above the operating floor to minimize the chance of a cask roll accident. Although operators typically minimized cask height above the SFP, the inspectors questioned whether procedure OP-4.22 provided sufficient instructions to ensure cask handling was conducted within the height limitations which had been analyzed. The inspectors discussed this observation with nuclear fuel performance analysis engineers and the fuel handling supervisor. The fuel handling supervisor revised procedure OP-4.22 to incorporate the height restrictions prior to the next dry cask load. The inspectors reviewed the procedure revision and determined that the handling height considerations were properly addressed.

Within the areas inspected, no violations or deviations were identified.

6. Plant Support (71707, 71750)

6.1 Plant Tour Observations

The inspectors observed radiological control practices and radiological conditions throughout the plant. Radiological posting and control of contaminated areas was good. Workers complied with radiation work permits and appropriately used required personnel monitoring devices. The protected area security perimeter was well maintained with no equipment or debris obstructing the isolation zones. Installation of new diesel fuel oil supply lines for the station EDGs involved substantial civil engineering activities within the RCA. Actions to maintain the integrity of RCA boundaries and the security perimeter during construction activities were effective.

6.2 Moisture Carryover Test

The licensee intends to implement a four percent core power uprate during the second half of 1995. MCO tests were performed on July 12 (Unit 1) and July 14 (Unit 2) to measure the quality of the steam currently produced by the SGs at rated power. Station engineers plan to use the test results to project the effect of the core uprate on water impingement to the main turbine. The MCO tests involved injection of a highly radioactive Na-24 source into the feedwater header and monitoring the amount of sodium entrained in moisture leaving the SGs. The source vial contained over 1 curie of Na-24 and had a dose rate of over 1600 Rem per hour on contact. The fifteen hour Na-24 decay half-life resulted in elevated radiation levels at several locations within the turbine building for several days following the MCO tests. The inspectors closely observed the MCO tests to determine whether appropriate RP practices were implemented to minimize personnel radiation exposure and liquid effluent release.

Preparations for the MCO test were good. Secondary leaks were identified and repaired to the maximum extent practical. The surveillance schedule was reviewed to ensure surveillances, such as periodic TDAFW pump run which could release steam to the environment, were completed prior to Na-24 injection. SNSOC test plan approval and pretest crew briefings were generally good. The inspectors toured the turbine building and verified that appropriate radiological postings were inplace prior to the start of the test.

The inspectors reviewed RWP-1090, MCO Project - Perform Unit 1 and 2 MCO Test Utilizing Na-24 Source, with the RP supervisor prior to the test. The licensee had discussed RP precautions with other utilities who recently performed similar MCO tests. Activities which had a potential for high personnel exposure, e.g., Na-24 vial handling and injection valve manipulation, were rehearsed prior to actual Na-24 injection. The inspectors concluded that the information gained from the other utilities was effectively integrated into RWP-1090.

During performance of the Unit 1 MCO test, the inspectors noted that the prerequisites for plant restoration following test completion were not commonly understood by operations and RP personnel. Minor miscommunications resulted in slightly elevated dose rate levels in the condensate polishing building before RP personnel were positioned to survey the area. The test coordinator revised procedure 2-ST-0314, Steam Generator Moisture Carryover Measurement, revision 0, to clarify prerequisites for plant restoration and clearly communicated these prerequisites during the prebrief for the Unit 2 MCO. The inspectors discussed other observations, including concerns for personnel heat stress with the test coordinator. Radiological controls and protective clothing requirements were appropriately modified for the Unit 2 MCO test.

Continuous RP coverage was provided during transport of the Na-24 sources from a local airport to the site. Security expedited on-site acceptance of the Na-24 source which further minimized the personnel radiation exposure received by the transportation crew. RP personnel closely monitored all handling of the Na-24 source including injection and sampling activities which had the potential to spread contamination. Background radiation levels were too high, at the established turbine building exit point, for the RM-14 portable friskers to be accurate. The inspectors observed that some test personnel were using the frisker to exit the RCA without noting the excessive background radiation level. The inspectors informed the RP supervisor, who took appropriate action to reestablish the RCA exit in a lower background radiation area. All test personnel properly used whole body monitors prior to exiting the protected area. The inspectors reviewed postings, surveys, and personnel exposure monitoring and determined that radiological controls were appropriate and well planned.

The inspectors observed that the injection connections to the Unit 1 feedwater header were not visually checked for signs of leakage during the first 15 minutes of injection. The inspectors expressed concern that the vibration present at these test connections could cause the connections to become loose and leak highly radioactive Na-24 solution. Test engineers subsequently began visual inspections of the connections at periodic intervals.

Chemists had difficulty obtaining representative SG samples during the Unit 1 MCO test, due to the small sample line purge rate. The Unit 2 MCO test procedure was revised to incorporate five to fifteen minute SG blowdowns directly to the station discharge canal prior to each of four samples. The inspectors questioned whether the resultant liquid releases of radioactive Na-24 were within regulatory requirements. Chemistry personnel informed the inspectors that effluent release calculations based on the SG activity measured during the Unit 1 MCO would be below the regulatory requirements. The licensee's calculations were conservative, in that, they assumed no credit for radioactivity removal in the SG blowdown ion exchanger. The inspectors independently performed an effluent release calculation and confirmed that the release would be below that allowed by TS 6.8, 10 CFR 20.1302, 10 CFR 20 Appendix B, and 10 CFR 50 Appendix I. Discharge samples were taken and discharge records were appropriately completed which confirmed that the liquid radioactive effluent releases were within specifications.

Within the areas inspected, no violations or deviations were identified.

7. Licensee Event Report Followup (92700, 92901)

The inspectors reviewed the LERs listed below and evaluated the adequacy of the corrective action. The inspectors' review also included followup of the licensee's corrective action implementation.

7.1 (Closed) LER 50-281/93-005, Reactor Trip Due to Partial Actuation of Safety Injection Master Relay During Logic Testing.

On August 27, 1993, technicians were in the final stages of completing SI Train B logic testing when Unit 2 tripped. Subsequent troubleshooting indicated that the Train B SI master relay was defective and caused the trip. The reactor trip and Train B SI master relay replacement were discussed in IR 50-280, 281/93-22.

Following the trip, RCS temperature decreased to 530 °F, i.e., less than 547 °F, no load T_{AVG}. As a result of this overcooling and other overcooling events the licensee investigated probable causes. The inspectors reviewed engineering report NP-3005, Surry Power Station Post-Trip Over Cooling, dated April 17, 1995. The report concluded that long term overcooling could be eliminated by

more carefully controlling AFW flow rates to the SGs, minimizing any secondary steam leakage and prompt removal of auxiliary steam and TDAFW driven AFW pump steam loads. The inspectors reviewed emergency response procedures and verified that they were revised to control AFW flow rates. The inspectors also noted that excessive RCS cooldowns have not occurred following recent Unit trips.

7.2 (Closed) LER 50-281/93-006, Unit 2 Automatic Reactor Trip Due to Low SG Level in Coincidence With Feed Flow Mismatch Following Closure of All Three MFRV.

On November 15, 1993, a single circuit breaker failed which caused all three MFRVs to shut. When the circuit breaker failed, the SOV to each MFRV deenergized and the respective MFRV shut as designed. Unit 2 subsequently tripped due to the loss of flow to SGs. The trip and immediate corrective actions were discussed in IR 50-280, 281/93-26.

When the Unit 2 reactor tripped, the AFW pumps started on low-low SG level. The packing smoked excessively on the AFW pump 2-FW-P-3A and the pump was secured and declared inoperable. The cause and corrective action associated with the pump packing were also discussed in IR 50-280, 281/93-26.

Following the trip, RCS temperature decreased to 525 °F, an overcooled condition. RCS overcooling corrective actions are discussed in paragraph 7.1. The inspectors verified that the failed breaker was replaced and a PM program was implemented to periodically replace the breaker and similar type breakers.

7.3 (Closed) LER 50-280, 281/93-004, Condition Prohibited by TS during Reactor Protection System Logic Testing.

During a procedure review on March 16, 1993, the licensee noted that monthly procedure 1/2-PT-8.1, Reactor Protection System Logic, revision 1, blocked both trains of SGBD trip valves from automatic closure associated with an AFW start signal. Prior to February 21, 1993, TS 3.8 listed SGBD trip valves as phase I containment isolation valves. These valve were required to be operable to satisfy containment integrity requirements when RCS temperature exceeded 200 °F. The licensee determined that performance of 1/2-PT-8.1 violated TS 3.8 as written prior to February 21, 1993. The cause was personnel error involving failure to adequately assess 1/2-PT-8.1 for TS compliance.

Engineers reevaluated the containment isolation function and determined that the SGBD trip valves were not required for containment integrity. TS Amendments 172 and 171 removed the SGBD valves from TS on Units 1 and 2 respectively, effective February 21, 1993. Engineers further determined that automatic closure of these valves was not required to assure adequate AFW flow. The

inspectors reviewed the bases for the license amendments and found them to be technically adequate. Additional corrective actions included UFSAR updates and a TS surveillance program review to ensure full TS compliance. The inspectors verified that corrective actions were complete. The LER described the event, causal factors, and corrective actions in detail and met the reporting requirements of 10 CFR 50.72.

7.4 (Closed) LER 50-280/94-010, Missed Emergency Diesel Generator Battery Surveillance Due to Personnel Error.

On September 29, 1994, engineers identified that procedure 0-EPT-0109-03, Weekly Emergency Diesel Generator Battery Pilot Cell and Bus Voltage Checks, revision 1, due by September 27, had not been performed. The licensee immediately entered a 24-hour LCO action condition in accordance with TS 4.0.3. Technicians successfully completed 0-EPT-0109-03, which confirmed that the EDG batteries were operable, and the LCO was exited. Based on satisfactory battery surveillance results and the brief missed surveillance interval, the inspectors concluded that this event had marginal safety impact.

The licensee determined that the cause of this event was inadequate post maintenance document review at the supervisor level. The electrical supervisors involved with this review were personally counselled regarding their performance and management expectations. Additional corrective actions included event discussion during electrical department crew meetings to reinforce the importance of self checking and personal accountability for surveillance scheduling. The inspectors determined that these corrective actions were adequate and completed. The LER accurately described the event and addressed all reporting requirements.

Within the areas inspected, no violations or deviations were identified.

8. Previous Apparent Violation Item Identification Number Revisions

To facilitate data trending and retrieval, items identified after 1992 that were considered as either apparent violations or potential escalated enforcement items were assigned new Inspection Followup System identification numbers. For traceability, these changes and the associated status of each of the items are provided below.

- Apparent Violation (EEI) 50-280, 281/94-24-01 is being administratively closed in this report. The violation will now be tracked as VIO 94-173 01014 and is considered open.

- Apparent Violation (EEI) 50-281/95-06-01 was closed when the Notice Of Violation, dated May 18, 1995, was issued with two severity level IV violations. The violation, identified in the NOV as violation A, was previously tracked as 50-281/95-06-03, and

is now being tracked as VIO 95-053 01014. The violation, identified in the NOV as violation B, was previously tracked as 50-281/95-06-04, and is now being tracked as VIO 95-053 02014. Both 50-281/95-06-03 and 50-281/95-06-04 are considered administratively closed per this report. Both VIOs 95-053 01014 and 95-053 02014 are considered open.

9. Exit Interview

The inspection scope and findings were summarized on August 8, with those persons indicated in paragraph 1. The inspectors described the areas inspected and discussed in detail the inspection results addressed in the Summary section and those listed below.

Item Number	Status	Description/(Paragraph No.)
LER 50-281/93-005	Closed	Reactor Trip Due to Partial Actuation of Safety Injection Master Relay During Logic Testing (paragraph 7.1)
LER 50-281/93-006	Closed	Unit 2 Automatic Reactor Trip Due to Low SG Level in Coincidence With Feed Flow Mismatch Following Closure of All Three MFRV (paragraph 7.2)
LER 50-280, 281/93-004	Closed	Condition Prohibited by TS during Reactor Protection System Logic Testing (paragraph 7.3)
LER 50-280/94-010	Closed	Missed Emergency Diesel Generator Battery Surveillance Due to Personnel Error (paragraph 7.4)
EEI 50-280, 281/94-24-01	Closed	Failure to Identify and Promptly Correct Conditions Adverse to Quality (paragraph 8)
VIO 94-173 01014	Open	Failure to Identify and Promptly Correct Conditions Adverse to Quality (paragraph 8)
VIO 50-281/95-06-03	Closed	Minimum Number of PZR Pressure Instruments Not Operable During Power Operation (paragraph 8)

Item Number	Status	Description/(Paragraph No.)
VIO 95-053 01014	Open	Minimum Number of PZR Pressure Instruments Not Operable During Power Operation (paragraph 8)
VIO 50-281/95-06-04	Closed	Failure to Adequately Establish Measures to Identify And Correct PZR Transmitter Calibration Problem (paragraph 8)
VIO 95-053 02014	Open	Failure to Adequately Establish Measures to Identify And Correct PZR Transmitter Calibration Problem (paragraph 8)

Proprietary information is not contained in this report. Dissenting comments were not received from the licensee.

10. Index of Acronyms

AFW	AUXILIARY FEEDWATER
BC	BEARING COOLING
CC	COMPONENT COOLING WATER
CFR	CODE OF FEDERAL REGULATIONS
CO2	CARBON DIOXIDE
DR	DEVIATION REPORT
ECCS	EMERGENCY CORE COOLING SYSTEM
EDG	EMERGENCY DIESEL GENERATOR
EPIP	EMERGENCY PLAN IMPLEMENTING PROCEDURE
ERF	EMERGENCY RESPONSE FACILITY
INPO	INSTITUTE OF NUCLEAR POWER OPERATIONS
IR	INSPECTION REPORT
LER	LICENSEE EVENT REPORT
LCO	LIMITING CONDITIONS OF OPERATION
MCO	MOISTURE CARRYOVER
MFRV	MAIN FEEDWATER REGULATING VALVE
NOUE	NOTIFICATION OF UNUSUAL EVENT
Na	SODIUM
NRC	NUCLEAR REGULATORY COMMISSION
PA	PROTECTED AREA
PM	PREVENTIVE MAINTENANCE
REM	RADIOLOGICAL EQUIVALENT MAN
RCA	RADIOLOGICAL CONTROL AREA
RCS	REACTOR COOLANT SYSTEM
RO	REACTOR OPERATOR
RWP	RADIATION WORK PERMIT
RP	RADIATION PROTECTION

SCBA	SELF CONTAINED BREATHING APPARATUS
SFP	SPENT FUEL POOL
SG	STEAM GENERATOR
SGBD	STEAM GENERATOR BLOWDOWN
SI	SAFETY INJECTION
SNSOC	STATION NUCLEAR SAFETY AND OPERATING COMMITTEE
SNS	STATION NUCLEAR SAFETY
SOV	SOLENOID OPERATED VALVE
SRO	SENIOR REACTOR OPERATOR
STA	SHIFT TECHNICAL ADVISOR
SS	SHIFT SUPERVISOR
T_{AVG}	TEMPERATURE - AVERAGE
TDAFW	TURBINE DRIVEN AUXILIARY FEEDWATER
TS	TECHNICAL SPECIFICATION
UFSAR	UPDATED FINAL SAFETY ANALYSIS REPORT
VPAP	VIRGINIA POWER ADMINISTRATIVE PROCEDURE
WO	WORK ORDER
°F	DEGREES FAHRENHEIT