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

Report Nos.: 50-338/96-03 and 50-339/96-03

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

Docket Nos.: 50-338 and 50-339

License Nos.: NPF-4 and NPF-7

Facility Name: North Anna 1 and 2

Inspection Conducted: February 25 through April 6, 1996

Lead Inspector: R. McWhorter, Senior Resident Inspector — Date Signed 5/1/96

Inspectors: L. W. Garner, Project Engineer (paragraphs 3.3.2, 3.3.3, 3.3.4, 3.5.1, and portions of paragraph 7)
D. R. Taylor, Resident Inspector
W. M. Sartor, Senior Radiation Specialist (paragraph 5.1)

Approved by: G. A. Belisle, Chief — Date Signed 5/3/96
Reactor Projects Branch 5
Division of Reactor Projects

SUMMARY

Scope:

Inspections were conducted by the resident and regional inspectors in the areas of plant operations which included plant status, core onload activities, radiation monitor inoperability, reactor startup and physics testing, plant shutdown for secondary repair, safety system walkdown, effectiveness of licensee controls in identifying, resolving and preventing problems, NRC notifications, and close out issues; maintenance which included maintenance observations, surveillance observations, containment material conditions, inoperable heat tracing circuit, and close out issues; engineering which included outage commitment review, rod cluster control assembly insertion

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problem, charcoal filter testing, and close out issues; plant support activities which included operational status of the emergency preparedness program and containment closeout; and a review of Updated Final Safety Analysis Report commitments.

Results:

Plant Operations

Core onload activities met regulatory requirements. Operators displayed good self-check practices and communications (paragraph 2.2).

A non-cited violation was identified by the NRC for a failure to meet Technical Specification 3.3.3.1 and 3.9.9 requirements for containment radiation monitor and purge and exhaust isolation system operability (paragraph 2.3).

Reactor startup preparations and execution by operators were good. Excellent communications were observed between reactor engineers and operators during physics testing (paragraph 2.4).

A Unit 1 shutdown was required to repair a main steam trip valve's linkage which had been improperly aligned during the 1996 refueling outage (paragraph 2.5).

Technical Specification requirements for the quench spray chemical addition system were met. Minor deficiencies with pipe and conduit supports were identified by the NRC (paragraph 2.6).

Licensee activities to identify, resolve and prevent problems were reviewed with no discrepancies identified (paragraph 2.7).

One NRC notification was properly made (paragraph 2.8).

One Licensee Event Report was closed (paragraph 2.9).

Maintenance

During one maintenance activity, contractors were not familiar with procedure requirements and did not clearly understand the scope of their work. The initial phases of a service water refurbishment project were well managed by the licensee (paragraph 3.1).

Two surveillance activities were properly performed (paragraph 3.2).

A violation was identified for failure to disassemble and reassemble in accordance with appropriate procedures or work instructions a Unit 1 seismic tubing support frame for the A loop Reactor Coolant System flow transmitters. The expedited design change process to correct the deficiencies worked well. An inspection of seismic tubing supports inside Unit 1 confirmed that the problems with the flow transmitter tubing supports were not indicative of a general problem with tubing supports inside containment. The repair

evaluation for a safety injection check valve adequately demonstrated that the valve was acceptable in the as-repaired condition (paragraph 3.3).

A violation was identified for a failure to meet Technical Specification 3.0.4 requirements for operability of systems during mode changes. One of two redundant heat trace circuits was inoperable during mode changes into MODES 1, 2 and 3 (paragraph 3.4).

A non-cited violation was identified for failure to properly use measuring and test equipment as required by procedures. One Unresolved Item and two Licensee Event Reports were closed (paragraph 3.5).

Engineering

Commitments related to the recent refueling outage were met (paragraph 4.1).

A rod cluster control assembly insertion problem was appropriately reviewed. Further reviews will take place during reviews of the licensee's response to NRC Bulletin 96-01 (paragraph 4.2).

Reviews were conducted concerning compliance with Technical Specification requirements for charcoal filter media testing. Further reviews will take place during reviews of a Technical Specification change submitted by the licensee (paragraph 4.3).

One Inspection Follow-up Item was closed (paragraph 4.4).

An Unresolved Item was identified for deficiencies between current operating practices and those described in the Updated Final Safety Analysis Report (paragraph 7).

Plant Support

The licensee's emergency response capability was being maintained at a fully proficient level of operational readiness. Program strengths included the consistency of the emergency response organization and those responsible for administering it (paragraph 5.1).

Containment conditions were acceptable during closeout following a refueling outage (paragraph 5.2).

REPORT DETAILS

Acronyms used in this report are defined in paragraph 9.

1.0 PERSONS CONTACTED

Licensee Employees

Collins, J., Director, Nuclear Emergency Preparedness
Edmonds, L., Superintendent, Nuclear Training
Funderburk, C., Superintendent, Outage and Planning
*Hayes, J., Superintendent, Operations
*Heacock, D., Assistant Station Manager, Nuclear Safety and Licensing
Kemp, P., Supervisor, Licensing
Maddy, T., Superintendent, Security
Matthews, W., Assistant Station Manager, Operations and Maintenance
McBride, B., Emergency Planning Coordinator
Roberts, D., Supervisor, Station Nuclear Safety
Royal, H., Director, Nuclear Oversight
*Saunders, R., Vice President, Nuclear Operations
Schappell, D., Superintendent, Site Services
Shears, R., Superintendent, Maintenance
*Smith, J., Superintendent, Station Engineering
Stafford, A., Superintendent, Radiological Protection
*Stall, J., Station Manager

Other licensee employees contacted included office, operations, engineering, maintenance, chemistry/radiation protection, and corporate personnel.

2.0 PLANT OPERATIONS (71707, 40500, 92700)

The inspectors conducted frequent control room tours to verify proper staffing, operator attentiveness, and adherence to approved procedures. The inspectors attended daily plant status meetings to maintain awareness of overall facility operations and reviewed operator logs to verify operational safety and compliance with TS. Instrumentation and safety system lineups were periodically reviewed from control room indications to assess operability. Frequent plant tours were conducted to observe equipment status and housekeeping. DRs were reviewed to assure that potential safety concerns were properly reported and resolved.

2.1 Plant Status

Unit 1 began the inspection period in a scheduled refueling outage with fuel removed from the reactor. On February 29, fuel onload began, and the plant entered cold shutdown on March 3. Unit heatup began on March 8, but was interrupted by a failed RCP power cable and the unit was returned to cold shutdown the same day. On March 9, unit heatup was

re-commenced. On March 10, the unit entered hot standby, and the reactor was started. The unit returned to commercial service on March 11, and full power was reached on March 16. On March 24, the unit was shutdown to repair a problem associated with the B MSTV. The unit was restarted and returned to full power operation on March 25. Unit 1 operated the remainder of the inspection period at or near full power.

Unit 2 operated the entire inspection period at or near full power.

2.2 Core Onload Activities

On February 29 and March 2, the inspectors observed fuel onload from the containment manipulator crane area. The inspectors observed good self-check practices, proper communications, and appropriate control of personnel entering the refueling area. No problems were identified.

The inspectors also verified that the prerequisites for fuel onload were met by verifying that the following TS requirements were satisfied:

- TS 3.9.5 regarding communications between the control room and refueling personnel.

- TS 3.9.4 regarding containment penetration status for refueling. The inspectors verified that 1-PT-91, Containment Penetrations, revision 17, had been completed.

- TS 3.9.9 regarding the containment purge and exhaust isolation system. The inspectors reviewed 1-PT-91.1, Containment Purge Valves, revision 2, which verified that containment purge and exhaust automatically isolated on high radiation signals.

- TS 3.1.1.3.2, requiring that boron dilution valves be locked during MODEs 3 through 6, except for planned dilutions. The inspectors verified by direct observation that 1-CH-217 was locked.

In addition to the above, the licensee had recently implemented Unit 1 TS Amendment 198 which allowed both doors to the containment personnel airlock to be open during refueling. The inspectors verified that the TS-required compensatory measures were established. The inspectors concluded that core onload operations met regulatory requirements.

2.3 Radiation Monitor Inoperability

On March 3, during backshift control board walkdowns, the inspectors identified that Unit 1 containment purge and exhaust was in service without the purge and exhaust isolation system being operable. This was contrary to TS 3.9.9 which required that the containment purge and exhaust isolation system be operable while in MODE 6. The inspectors immediately brought this problem to the attention of the unit SRO who, after reviewing the TS, implemented the required action statement by

closing each of the purge and exhaust penetrations that provided direct access from the containment atmosphere to the outside atmosphere.

The containment purge and exhaust isolation system consisted of radiation monitors and purge and exhaust penetration isolation valves. The valves received an isolation signal from containment area radiation monitor 1-RM-162, and two process monitors, 1-RM-159 (containment particulate activity) and 1-RM-160 (containment gaseous activity). 1-RM-159 and 1-RM-160 were considered inoperable with no containment air recirculation fans running (LER 50-338/93-04, NRC Inspection Reports Nos. 50-338/93-08 and 50-339/93-08, and 50-338/93-10 and 50-339/93-10). This was based on the monitors taking suction from inside the containment air recirculation duct work. An isokinetic nozzle was furnished in the recirculation duct to obtain a uniform sample of the containment air for the measurement of radioactive gases and particulate activity. Without the containment air recirculation fans running, the radiation monitors could not obtain a representative sample from the containment atmosphere and, as a result, the containment purge and exhaust isolation system was inoperable.

The inspectors reviewed the events leading to the problem. On March 3, at 3:35 a.m., the last recirculation fan was secured, and operators entered the action statement on the radiation monitors being inoperable in accordance with TS 3.3.3.1. At 3:39 a.m., the containment purge and exhaust system was placed in service, but no containment recirculation fans were operating at the time. Operators thought that this was allowed based on a misunderstanding that the only applicable TS was TS 3.9.4 which was applicable only during core alterations. (Core alterations had been completed, and SI flow testing to the headless reactor vessel was in progress.) At approximately 11:15 a.m., the inspectors brought to the SRO's attention that TS 3.9.9 was applicable during MODE 6, and was not limited to core alterations. The containment purge supply and exhaust isolation valves were shut at 11:22 p.m., to comply with the TS 3.9.9 action statement.

TS 3.3.3.1, Table 3.3-6, required that the containment gaseous and particulate radiation monitors be operable during MODE 6, and required that the action of TS 3.9.9 be complied with if any one of the detectors was inoperable. TS 3.9.9 required that the containment purge and exhaust isolation system be operable in MODE 6. If the isolation system was not operable, the action statement required that the purge and exhaust penetrations be closed. Contrary to these requirements, from 3:39 a.m. to 11:22 a.m. on March 3, the containment gaseous and particulate radiation monitors along with the containment purge and exhaust isolation system were inoperable, and the containment purge and exhaust penetrations were not closed. This failure constitutes a violation of minor significance and is being treated as a non-cited violation, consistent with section IV of the NRC Enforcement Policy. This is identified as Non-cited Violation 50-338/96-03-01: Failure to Comply with TS 3.3.3.1 and TS 3.9.9 for Inoperable Purge and Exhaust Isolation System.

2.4 Reactor Startup and Physics Testing

On March 10, the inspectors observed preparations and operations associated with the reactor startup for Unit 1 following refueling activities. Prior to reactor startup, repairs to a leaking MS vent valve, 1-MS-75, were performed. The valve was leaking at a weld joint which had been welded during the outage. The inspectors observed operators manipulating controls to isolate the MS header downstream of the MS non-return valves long enough to allow the injection of leak sealant into the valve. Briefs for the evolution were appropriate, and operators were cautious and methodical during plant manipulations. MS was isolated, the leak was successfully stopped, and MS was restored without problems or significant effects upon the rest of the plant. Overall, the evolution was well-controlled by operators.

The inspectors reviewed reactor startup prerequisites and verified that they were properly completed. The inspectors noted that prior to reactor startup, only a few hours remained in the TS 4.10.3.2 requirement that NI calibrations be completed within 12 hours of the start of physics testing. Rather than rush reactor startup or make interpretations concerning the start of physics testing, operators chose to allow technicians time to re-perform the NI calibrations. The inspectors considered this an appropriately conservative decision made by operators and shift supervision.

During the reactor startup, the inspectors observed that supervision was present, operator manipulations were conservative and well-controlled, procedures were adhered to, and communications were formal. Reactor and equipment performance during startup was as expected. The inspectors concluded that the reactor startup preparations and execution were good.

During the observations, the inspectors noted that several operator aid placards were posted on the Unit 1 control panel. These placards (red triangles) indicated equipment which have abnormal status log entries. An abnormal status log review indicated that for at least two placards, the abnormal status log entries had been removed since maintenance had corrected the associated equipment problems. However, the placards had not been removed from the control board. The inspectors informed the Superintendent, Operations, concerning this finding, and a complete review of control board placards was performed to correct the problem. The inspectors concluded that the placards incorrectly left in place reflected a lack of attention to detail by operators in maintaining equipment status aids.

On March 11, the inspectors observed various portions of reactor physics testing activities. The inspectors verified that testing performed was not in conflict with any UFSAR descriptions and followed the pre-approved test plans. The inspectors noted that communications between operators and reactor engineers were excellent throughout the testing. The inspectors concluded that physics testing was appropriately performed.

2.5 Plant Shutdown for Secondary Repair

On March 24, the inspectors were informed that Unit 1 would be shutdown from 100 percent to repair the B MSTV. On March 22, the MSTV was identified as vibrating excessively, and the licensee was concerned that the valve disc might vibrate enough to drop into the steam flow path and possibly cause a reactor trip and safety injection. The valve had been worked during the outage and had been reassembled with an improperly adjusted linkage connecting the valve shaft to its air cylinders. The inspectors observed portions of the power reduction with no problems noted. The unit was taken offline at 7:28 p.m. on March 24, and the unit was placed back on line at 5:15 a.m. on March 25. To identify further corrective actions, the licensee initiated a Category 1 RCE.

2.6 Safety System Walkdown

On April 4, the inspectors performed a walkdown of both units' quench spray chemical addition systems. The inspectors verified that the systems were correctly lined up for MODE 1 operations and verified that TSs and UFSAR commitments were met. During the walkdown, several material deficiencies were identified and reported to system engineers who initiated DR N-96-737. Specifically, several unistrut support clips for two conduits servicing 2-QS-MOV-202A were loose or missing, dirt and gravel was found in the recess of sliding pipe support 2-QS-R-2 for pipe 6"-QS-433-153A-Q3, and a gap existed between a non-safety related dead weight pipe support and its concrete foundation. The licensee concluded that the deficiencies did not render the system inoperable and initiated WRs for corrective action. The inspectors agreed that operability was not an issue, but concluded that the deficiencies represented inattention to detail during previous maintenance and/or operations activities.

2.7 Effectiveness of Licensee Controls in Identifying, Resolving, and Preventing Problems

On March 4, the inspectors attended a SNSOC meeting which was called to review testing procedures for the 1J EDG. During testing, the EDG had twice experienced problems with the output breaker being opened by an over-excitation trip signal when the EDG was paralleled with offsite power. The SNSOC met to discuss modifying the 24-hour run test procedure to reduce EDG reactive loading in an attempt to reduce the likelihood of the problem's recurrence. The inspectors observed that SNSOC members displayed good questioning attitudes, were appropriately concerned with equipment operability, and were formal in making a decision concerning the proposed changes. No deficiencies were identified.

On March 5, the inspectors attended the licensee's startup assessment review meeting. The meeting was held for senior management to review plant issues requiring resolution prior to Unit 1 startup following refueling. The inspectors independently reviewed outage work status, commitment status (paragraph 4.1), and equipment and personnel problems

reported during the outage. The inspectors then compared known issues to the topics discussed in the startup assessment. The inspectors found that licensee personnel had well prepared similar lists of issues and problems requiring resolution. Appropriate items were then directed by management to be resolved prior to the applicable mode change. Following startup, the licensee identified that the pre-startup reviews of outstanding safety-related WRs failed to identify an inoperable BIT heat tracing circuit required by TS (paragraph 3.4).

On March 5, the inspectors met with licensee Oversight personnel. Oversight activities and findings since previous meetings were discussed, and copies of recent audits were provided for review by the inspectors. On March 6, the inspectors met with Oversight management. The inspectors discussed various aspects of Oversight reorganization implementation occurring during the past nine months. The inspectors summarized concerns that the reorganization had not been well implemented during the later half of 1995. Oversight managers acknowledged some of the inspectors' concerns, but pointed out that minimum regulatory requirements were met throughout the transition. The inspectors expressed concern that lessons learned from the Oversight transition be recognized and reviewed to avoid similar problems during future reorganizations in other areas. The inspectors also expressed this concern to licensee managers in a brief meeting on March 4. Management acknowledged the inspectors' concerns and the need for future action.

2.8 NRC Notifications

The inspectors reviewed the following licensee notification to the NRC to ascertain if the required report was adequate, timely and proper for the event.

On March 5, the NRC was notified as required by 10 CFR 50.72 concerning the notification of off-site authorities. Specifically, the licensee notified the Virginia State Department of Water Quality concerning a potential oil spill at the plant intake structure. The inspectors monitored the licensee's actions and found them to be appropriate.

2.9 Close Out Issues

(Closed) LER 50-338/96-02: Containment Particulate and Gaseous Radiation Monitors Inoperable Due to Containment Air Recirculating Fans Not Operating

This LER concerned the event discussed in paragraph 2.3 in which the Unit 1 containment purge and exhaust system was placed in service in MODE 6 without an operable isolation system. This was contrary to TS 3.3.3.1 and 3.9.9 requirements. The inspectors verified that the reporting requirements were met by the LER.

One non-cited violation was identified.

3.0 MAINTENANCE (62703, 61726, 92700, 92902)

3.1 Maintenance Observations

Maintenance activities were observed and reviewed to verify that activities were conducted in accordance with TS and procedures, and licensee commitments to regulatory guides and industry codes or standards.

3.1.1 Feedwater Check Valve Maintenance

During the inspection period, the inspectors followed and observed portions of the maintenance associated with 1-FW-111, the C SG MFW containment isolation check valve. The valve was being worked because it failed an inservice test required to verify that the valve would properly seat. The valve was a containment isolation valve, but was not required to meet type C testing requirements. During testing, operators were unable to depressurize downstream piping with approximately 100 psig upstream pressure on the valve disc. When the valve flange was initially broken, the valve disc was found in the closed position, but a blue check of the valve seating surface indicated the disc might have been bottoming out on the valve seat. This was evidenced by scratches on both the disc and seat. After consultation with the valve's vendor, the licensee chose not to work the seat and disc, but rather to replace the valve's hinge pins.

The inspectors observed the valve's as-found condition when the flange was broken and observed portions of the valve's reassembly. On February 26, the inspectors observed contractors placing the disc into the valve body and installing pivot pins which held the valve's disc in place. The inspectors inquired of the contractors the status of the work and procedural requirements. The inspectors were informed that the valve was ready for reconnection, that riggers were needed, and maintenance engineering wanted to inspect the valve disc prior to closure. The inspectors also questioned the contractors about FME close out inspection requirements. The contractors informed the inspectors that the procedure did not have close out signoffs, but that one contractor would clean the valve and another contractor would verify cleanliness. Upon the inspectors' review of the procedure, the inspectors noted that the pivot pins required gaskets, which were not installed, and the procedure called for QC FME inspections for valve closure. When this was brought to the contractors' attention, the initial response was that the gaskets were for the pivot pin cover. The contractors also indicated that they would verify with their supervisor as to whether gaskets were required for the pivot pins. The inspectors noted that the procedure clearly required gaskets for both the pivot pins and the pivot pin covers. These observations were brought to the Maintenance Superintendent's and maintenance engineer's attention.

On February 27, the inspectors were informed by the Maintenance Superintendent that the disc installation observed by the inspectors on February 26, was a trial fit without the gasket material and was not

intended to be performed using the maintenance procedure. The Superintendent further indicated that it was intended that procedure be re-entered and fully performed after a proper fitup was obtained. On March 1, at the inspectors' request, a meeting was held with the contractors, the contractors' supervision, and licensee personnel to further review this issue. After discussions with all people involved, the inspectors agreed that controls were in place to preclude a procedural violation. However, based on the contractors' statements made during the work activities, the inspectors concluded that they were not familiar with procedure requirements and did not clearly understand the scope of their work.

3.1.2 Service Water Restoration Project

During the inspection period, the licensee began a major project to refurbish the A header SW lines to and from both units' CC heat exchangers. The inspectors met with engineers, on March 20, to review the licensee's plans. On March 26, the licensee began the project by removing the A SW header from service under the seven-day action statement of TS 3.7.4.1. Portions of the A SW header were blanked off, and the header was returned to service on March 29. Also on March 26, the license entered a special 49-day action statement of TS 3.7.4.1 for the refurbishment project. At the inspection period's end, the licensee was continuing the refurbishment work under the 49-day action statement.

The inspectors verified that SW system manipulations were made according to the project's planned sequences. Additionally, the inspectors verified that the TS requirements were met throughout the unusual system alignments. The inspectors frequently toured the project work area in the Auxiliary Building basement and found that the area was exceptionally clean, material was well-organized, and work was progressing according to plans. The inspectors concluded that the initial phases of the refurbishment project had been well managed by the licensee.

3.2 Surveillance Observations

Surveillance testing activities were observed and reviewed to verify that testing was performed in accordance with procedures, test instrumentation was calibrated, LCOs were met, and any deficiencies identified were properly reviewed and resolved.

3.2.1 Safety Injection Check Valve Testing

On March 3, the inspectors observed SI accumulator check valve testing using 1-PT-210.19, Inservice Inspection SI Accumulator Discharge Check Valves Full Open Test, revision 1-P2. Test initial conditions required that the accumulators be filled and pressurized to 200 psig. The MOVs associated with each accumulator were then opened and the accumulators were discharged to the headless reactor vessel. Test equipment in

containment was used to detect check valve opening. The inspectors walked down the containment equipment prior to the test and observed testing of the A and B accumulator check valves. No problems were observed.

3.2.2 Charging Pump Testing

On March 14, the inspectors observed operators performing 1-PT-14.1, Charging Pump 1-CH-P-1A, revision 30-OTO2. The test was being performed as a post-maintenance test and to satisfy TS surveillance requirements 4.0.5, 4.1.2.4.1, and 4.5.2.f.1.

Prior to the test, the inspectors attended the pre-job brief. The brief appropriately covered the overall test sequence and assignment of personnel responsibilities. During the brief, a procedure problem was identified by inquisitive operators. An OTO change had been initiated against the PT to revise the acceptance criteria because the test would establish new baseline acceptance criteria. Operators recognized that the OTO change was not in the procedure copies given them for the test. Investigations revealed that the OTO revision was present in the control room with other related paperwork. Correct procedure copies were obtained, and the brief was re-performed. At the end of the brief, the inspectors pointed out that an important caution in the procedure was not covered. The caution required operators to open recirculation valves if an SI were to occur during the PT. Operators agreed that the caution should have been covered. Operators also noted that such significant cautions were usually in the "precautions and limitations" section, and they submitted a procedure enhancement form concerning the issue.

During the test, the inspectors observed that control room operators adhered to all procedures, used good communication techniques, and adhered to independent verification requirements. The inspectors independently obtained control room test data and verified that acceptance criteria were met. The inspectors also reviewed the IST engineer's methods for establishing new acceptance criteria for the pump, and found that programmatic requirements were followed. Additionally, the inspectors reviewed the test and pump performance against UFSAR descriptions. No discrepancies were noted.

3.3 Containment Material Conditions

3.3.1 Containment Housekeeping

On February 29, the inspectors toured the Unit 1 containment and noted poor housekeeping conditions. Specifically, the pressurizer cubical and the containment basement in the vicinity of the cold leg accumulators was cluttered with material, trash, and various other debris. These observations were brought to management's attention since welding was ongoing in both areas. The inspectors re-toured the areas several days latter and noted considerable improvement.

3.3.2 RCS Loop Flow Transmitter Supports

On March 4, during a Unit 1 containment tour, the inspectors noted that the tubing support frame for the A RCS loop flow transmitters, 01-RC-FT-1414, 1415 and 1416 was not assembled properly. Specifically, neither end of the tubing support frame was attached to another structural member and hence the instrument tubing itself was supporting the tubing support frame. The licensee issued DR N-96-0518 to address this issue. The licensee determined that a base plate, support post, frame connection pieces, and tube clips were missing. An engineering walkdown determined that other seismic supports for the RCS flow transmitter tubing in all three loop rooms had been removed and not reinstalled or were damaged. Furthermore, the walkdown noted that tubing spans exceeded the specification requirements contained in NAI-0001/SUI-0001, Specification For Installation Of Instrumentation, North Anna And Surry Power Stations, Units 1 and 2, revision 3. An engineering evaluation stated that due to the inherent flexibility of the tubing it was not felt that a failure (tubing rupture) would have occurred during a seismic event.

Discussions with engineering and maintenance personnel revealed that no work had been performed this outage to disassemble the tubing support frame for the A RCS loop flow transmitters nor were there any open work instructions to reassemble this tubing support frame. Unit 1 TS 6.8.1 and Appendix A of RG 1.33 require written procedures be implemented for maintenance for safety-related equipment. VPAP-0801, Maintenance Program, revision 5, step 6.7 states that for maintenance of seismic components, the maintenance performed on qualified structures, equipment, and components is controlled to ensure its qualified state is maintained throughout its installed life. MDAP-0002, Conduct of Maintenance, revision 3, step 6.12.3 states that for maintenance of seismic components, the disassembly and reassembly shall be performed in accordance with appropriate procedures or work instructions. The failure to disassemble and reassemble this tubing support frame in accordance with appropriate procedures or work instructions is identified as Violation 50-338/96-03-02: A RCS Loop Flow Transmitter Tubing Frame Support Found Partially Disassembled.

Since the original support installation consisted of field run tubing and no documentation was available to describe its configuration, DCP 96-128, Repair Of Loop Flow Transmitter Tubing Supports/ North Anna/ Unit 1, was developed. WOs 00337646-01, -02 and -03 instructions, supplemented by information and instructions provided in ET CE-96-020, Repair Of Loop Flow Transmitter Tubing Supports, revision 0, adequately described the work scope and activities to be performed. On March 7, the inspectors verified that the tubing support repairs matched the configurations provided in DCP 96-128. The work was performed on a risk basis prior to the DCP approval as authorized by VPAP-0301, Design Change Process, revision 5-PN1, section 6.16, Expedited DCP Process. The inspectors reviewed the completed WOs, ET CE-96-020, and the approved DCP and determined that the expedited DCP process had worked well.

The inspectors were informed that the seismic walkdowns per WOG guidelines had been completed in Unit 1 containment. The inspectors inquired why the Unit 1 RCS flow transmitter tubing support deficiencies were not found during this process. Engineering management indicated that only the tubing supports adjacent to the instruments were included in this program. Thus, the tubing supports discussed above were not included in this program. An overview of the program's scope was provided to the inspectors and was discussed with regional personnel.

3.3.3 Unit 1 Instrument Tubing Supports Inside Containment

Due to the RCS flow transmitter tubing support problems (paragraph 3.3.2), on March 5, the inspectors inspected other tubing supports inside the Unit 1 containment for similar conditions. The inspectors were accompanied by an engineering supervisor during this inspection. Special attention was focused on safety-related steam generator steam and feedwater and pressurizer instrument tubing which were field run. Areas where work was periodically performed or where modifications had been recently performed were selected for emphasis. Except for an isolated example, the tubing supports were in good condition. Missing or loose tubing clamps were found on the pressurizer accumulator nitrogen fill line. This condition was corrected by a WO. This inspection confirmed that the problems with the RCS flow transmitter tubing supports were not indicative of a general problem with tubing supports inside containment.

3.3.4 1-SI-201 Material Condition

On March 4, during a Unit 1 containment tour, the inspectors noted a series of gouges on valve 1-SI-201, its weld joint, and its connecting pipe. This valve was an inside containment isolation check valve on the HHSI to cold leg flow path. The gouges were between 1/2 and 3/4 inch in length and up to 1/8 inch in depth. DR N-96-0517 was issued to address this item. The gouges were buffed smooth and blended into the surrounding material. A liquid penetrant test and an information-only UT were satisfactorily performed. The UT verified that the buffed areas remained above the components' minimum wall thickness. The inspectors reviewed the associated engineering evaluation and had no concerns. The repair evaluation adequately demonstrated that the valve was acceptable in the as-repaired condition. At the inspection period's end, the mechanism by which the valve and piping were damaged had not been identified.

3.4 Inoperable Heat Tracing Circuit

At approximately 8:00 p.m. on March 14, technicians identified during surveillance testing that Unit 1 BIT heat tracing circuit 1-HT-HTT-ET-117R was inoperable (DR N-96-611). Further reviews found that the problem had existed since February 22, when the circuit was found to be in alarm by operators, and a WR had been submitted. The heat tracing circuit was one of two independent circuits, and the other circuit was placed in service and had been operating normally since

February 22. At that time, the unit was shutdown, and the BIT and associated heat tracing circuits were not required to be operable by TS. On March 10, Unit 1 entered MODE 3 at 5:11 a.m., MODE 2 at 11:02 p.m., and MODE 1 at 6:05 p.m. on March 11. In MODEs 3 through 1, TS LCO 3.5.4.2 required that two independent channels of heat tracing be operable for the BIT and associated flow paths. The action statement required that if only one circuit was operable, operation could continue for 30 days provided that temperatures were verified to be greater than or equal to 115 °F every eight hours. A review found that the TS LCO 3.5.4.2 action statement requirements were met because auxiliary operator logs required checking alarms clear (temperatures greater than 120 °F) every six hours, and the logs were properly maintained during the period the circuit was inoperable. However, the mode changes into MODEs 3 through 1 had been unknowingly made while relying upon the action statement to meet operability requirements.

Unit 1 TS LCO 3.5.4.2 requires that two independent channels of heat tracing be operable for the BIT and associated flow paths in MODES 1, 2 and 3. If only one channel is operable, the action statement requires that for operation to continue, the tank and flow path temperatures must be verified to be greater than or equal to 115 °F at least once per eight hours. TS LCO 3.0.4 requires that entries into operational modes not be made unless all the TS LCOs are met without reliance upon action statements. Contrary to this requirement, between 5:11 a.m. on March 10 and 6:05 p.m. on March 11, operational MODEs 1, 2 and 3 were entered while a BIT heat tracing circuit was inoperable and the associated action statement was relied upon to meet operability requirements. This was identified as Violation 50-338/96-03-03: Failure to Comply With TS 3.0.4 - Mode Changes Made With Inoperable BIT Heat Tracing Circuit.

The licensee initiated investigations to ascertain why the deficiency was not identified for repair prior to the mode changes. It was found that the operators who originally identified the deficiency failed to enter the circuit on the unit's information-only TS action statement list. Additionally, the WO was appropriately listed on the list of safety-related WOs which was reviewed by the SNSOC and numerous supervisors and managers prior to startup. However, none of the reviews identified that the WO was a BIT heat tracing circuit for which both redundant circuits were required to be operable by TS. The safety-related WO list described the heat tracing circuit by its designator among several other inoperable heat tracing circuits and had no special description to highlight the fact that it was a BIT heat tracing circuit. All reviewers assumed the heat tracing circuit was not a BIT circuit, and, as such, assumed that the absence of related WOs on redundant circuits meant that requirements for heat tracing were met. (For non-BIT heat tracing, TSs required that only one of two redundant circuits be operable.)

The licensee concluded that the event's cause was personnel error. Due to the significant number of reviews which failed to identify the problem, a formal HPES investigation was initiated. At the inspection

period's end, the licensee was awaiting the HPES investigation results before planning or implementing corrective actions.

3.5 Close Out Issues

The following previous inspection item and LERs were reviewed and closed. For the LERs, the inspectors verified that reporting requirements had been met, cause had been identified, corrective actions were appropriate, and generic applicability had been considered.

3.5.1 (Closed) URI 50-338, 339/95-08-02: Review M&TE Deficiencies

NRC Inspection Report Nos. 50-338/95-08 and 50-339/95-08 discussed DR N-95-646 associated with the use of non-temperature compensated Heise gages to calibrate pressurizer pressure transmitters in an elevated temperature area. Also, a significant deficiency in the M&TE existed, because there was a lack of discrimination between using temperature compensated and non-temperature compensated pressure gages for at least five years without proper procedures or training. To address this area, the licensee conducted audit N95-11, Measuring & Test Equipment, at both Surry and North Anna. The inspectors reviewed the corrective actions for each of the six audit report findings associated with North Anna. The corrective actions were detailed and fully addressed the findings.

VPAP-1201, Control Of Measuring And Test Equipment, revision 2, stated that M&TE accuracy may be affected by environmental conditions such as temperature. VPAP-1201 required the use of M&TE equipment shall be in accordance with manufacture's equipment specifications. Using the non-temperature compensated Heise gages to calibrated pressurizer pressure transmitters in an elevated temperature environment was a failure to follow requirements in VPAP-1201, Control Of Measuring And Test Equipment. This licensee-identified and corrected violation is being treated as a non-cited violation, consistent with Section VII.B.1 of the NRC Enforcement Policy. This is identified as Non-cited Violation 50-338, 339/96-03-04: Failure To Properly Use M&TE As Required By VPAP-1201.

3.5.2 (Closed) LER 50-338/96-01: Main Steam and Pressurizer Safety Valve Setpoints Out of Tolerance Due to Setpoint Drift

This LER concerned the fact that the setpoints for two pressurizer safety valves and one main steam safety valve were found to be outside the setpoint tolerances allowed by TSs. This was discovered during routine surveillance testing during the recent Unit 1 refueling outage. As corrective action, the licensee ensured the safety valves were adjusted and retested within allowable limits prior to reinstallation. The licensee evaluated the setpoint shifts and found that the "as found" setpoints did not place the plant outside design basis assumptions. The inspectors reviewed the event and found that the safety valve setpoint shifts were consistent with industry experience and were not safety significant. Additionally, the inspectors noted that on July 26, 1995,

the licensee submitted a proposed TS amendment to increase the pressurizer safety valve lift setpoint tolerances. The inspectors concluded that the licensee's corrective actions were adequate.

3.5.3 (Closed) LER 50-338/96-03: MODE 3 Entry with Inoperable Redundant Heat Trace Circuit Due to Personnel Error

This LER concerned the event discussed in paragraph 3.4 in which one of two redundant Unit 1 BIT heat tracing circuits was inoperable. During the time the circuit was inoperable, TS 3.5.4.2 action statement requirements were not met, and the unit made mode changes contrary to TS 3.0.4. The inspectors verified that the reporting requirements were met by the LER. Corrective actions for the event will be reviewed during closeout for the associated violation, VIO 50-338/96-03-03.

Two violations and one non-cited violation were identified.

4.0 ENGINEERING (37551, 92903)

4.1 Outage Commitment Review

During the portion of the inspection period prior to Unit 1 startup following refueling, the inspectors reviewed the status of the licensee's actions to meet commitments related to the refueling outage. The inspectors verified that work was completed to meet the following commitments and items of regulatory interest:

- Inspection of SG feed ring J-tubes. The licensee completed inspections and identified very minor degradation which was repaired.

- PSV support modifications. The licensee completed modifications required to ensure PSV tailpipes would remain intact if water were passed by the PSVs.

- Inspection of wide range RTDs and associated insulation. The licensee completed RTD inspections for heat-related damage. No damage was identified, and improved RTD insulation was installed following the inspections.

- MOV testing. The licensee completed the planned MOV testing program. Problems identified during testing will be reviewed during a future MOV inspection and during closeout for IFI 50-338, 339/95-08-03.

- Inspection of MFP motor leads. The licensee completed inspecting the remaining MFP motor leads for damage similar to that which initiated a Unit 1 trip in January 1995.

- TDAFW pump stem and linkage replacements. The licensee completed replacing the TDAFW pump governor valve stem with an inconel stem,

and replacing the governor linkage with a solid linkage. TDAFW pump testing during startup was satisfactory.

- Modifications to containment blowout panels. The licensee completed modifications to blowout panels to restore them to the original configuration as discussed in the UFSAR (NRC Inspection Report Nos. 50-338/96-01 and 50-339/96-01).

Other items of regulatory interest reviewed prior to startup are discussed in NRC Inspection Report Nos. 50-338/96-01 and 50-339/96-01, and in paragraphs 4.2 and 4.4 of this report.

4.2 Rod Cluster Control Assembly Insertion Problem

On February 22, the inspectors learned of a problem occurring during SFP insert shuffles supporting the Unit 1 refueling (DR N-96-381). On February 21, operators attempted to withdraw two new RCCAs from spent fuel assemblies where they had been temporarily stored awaiting loading into fuel assembles discharged from Unit 1. When pulling the two RCCAs, located in assemblies OA2 and OA8, the RCCA tool overload limit was actuated, and the rods could not be removed using the RCCA tool. The two assemblies were twice-burned "Vantage-5H" model assemblies with burnups of 47,782 MWD/MTU and 49,613 MWD/MTU, respectively.

After reviews, a procedure was written to remove the RCCAs using the RCCA tool in conjunction with the bridge crane hoist. Using this procedure, the RCCAs were successfully removed from the spent fuel assemblies, but excessively high drag forces (approximately 140 and 170 pounds) were encountered. Once the RCCAs were removed, they were placed into a series of various other assemblies without problems. Operators then experienced difficulties when attempting to insert an old RCCA into assemblies OA2 and OA8. Based on the results of these tests, the licensee concluded that the problem's cause was related to the two spent fuel assemblies, and not to the new RCCA.

The licensee then established a test program to measure the drag force as a function of burnup in approximately twenty available "Vantage-5H" model assemblies. The results of the licensee's tests led to several conclusions: 1) the "Vantage-5H" model assemblies did not exceed the criteria established by the vendor for RCCA drag (40 pounds in the guide tube region and 100 pounds in the dashpot region) for average assembly burnup up to 50,000 MWD/MTU, 2) the assemblies did exhibit a significant increase in RCCA drag force at burnups greater than 45,000 MWD/MTU, and 3) the "Performance Plus" model assemblies (scheduled for reload for Unit 1, cycle 12) indicated a reduction of drag forces of approximately 20 percent over the "Vantage-5H" model assemblies.

On February 27, the licensee briefed NRC management and NRR specialists by telephone conference call concerning the problem and their analysis results. Recent similar problems at two other facilities were also discussed. The licensee discussed the problem's potential effects on the Unit 1 startup following refueling and the operating unit, Unit 2.

The licensee stated that they planned to document the results of their analysis in a technical evaluation and safety evaluation prior to Unit 1 startup. Additionally, the licensee stated that compensatory actions would be taken similar to those recommended by the WOG in a letter dated February 23, 1996, concerning the other facilities' RCCA problems. The inspectors verified that prior to Unit 1 startup, the technical and safety evaluations were satisfactorily completed.

On March 8, NRC Bulletin 96-01, Control Rod Insertion Problems, was issued. The problems at North Anna, as well as, the two other facilities were discussed in the bulletin. Additionally, licensees were required to respond to the NRC concerns with planned compensatory actions similar to those described in the WOG letter. The inspectors concluded that based on the information available at the time, the licensee's actions were appropriate. The inspectors will continue to review the issue following the licensee's response to the bulletin and/or the receipt of any new information.

4.3 Charcoal Filter Testing

Throughout the inspection period, the inspectors and various other NRC personnel reviewed the licensee's compliance with TS surveillance requirements 4.6.4.3, 4.7.7.1, and 4.7.8.1 for charcoal filter media testing. Issues raised at another Region II facility with similar TSs led to these reviews concerning the acceptability of tests being performed by the licensee for new and in-service testing of charcoal filter media. The following sequence of events briefly describes the reviews:

Late February	Surry NRC inspectors requested and received licensee documents concerning past reviews of charcoal filter media testing requirements. The documents described the licensee's test methods and their relationship to the RG 1.52, revision 2, requirements contained in the TSs for North Anna.
Early March	The information received by Surry inspectors was reviewed by NRR/DRPM/PERB personnel. The review's results raised questions concerning the adequacy of North Anna testing to meet the detailed requirements of RG 1.52 and other supplemental standards.
March 7 and 8	NRC regional and headquarters personnel conferred by telephone to review the adequacy of the North Anna and Surry testing programs. When additional questions were raised, the NRC requested a telephone conference call and requested that the licensee present their position with regards to how their charcoal filter media testing met TS and RG 1.52 requirements. Five specific questions were provided to the licensee for discussion.

March 11 A telephone conference call was held between the licensee and NRC personnel. The licensee presented their positions concerning TS requirements for both the North Anna and Surry sites. The licensee stated that they believed that they were in compliance with all TS requirements and presented their interpretations concerning the requirements of RG 1.52 and its supplemental standards (ANSI N509-1976, RDT M16-1T-1977, and ASTM D3803-1979). The licensee stated that these supplemental requirements were appropriate because of the date when North Anna's two licenses were issued. NRR personnel stated that they believed the licensee was not correctly interpreting the RG 1.52 requirements and that incorrect supplemental standards were being used. However, all parties agreed that the use of the different standards posed no immediate safety concern. The telephone meeting was adjourned without resolving the issue, and NRR planned further reviews.

During the telephone call, it was identified that the UFSAR requirements for charcoal filter media testing were different from the TS requirements because a different revision of RG 1.52 was referenced in the UFSAR (paragraph 7).

March 18 The licensee was informed by the NRC Project Manager that as a result of further NRR reviews, the NRC was considering issuing a letter under 10 CFR 50.54f requesting additional information concerning the issue. The licensee informed the NRC that they planned to propose a TS change to clarify the requirements.

March 21 The licensee submitted to the NRC proposed TS changes to clarify the TS requirements for North Anna. The licensee restated in the proposed change their position that they were in compliance with TS. However, to preclude subjective interpretations and future misinterpretations, the changes were proposed to explicitly specify the current test method or standard being used to test charcoal filter media.

This issue was also the subject of comments received from licensee management in the exit interview (paragraph 8). The issue will continue to be reviewed by the NRC during processing of the proposed TS change.

4.4 Close Out Issues

(Closed) IFI 50-338/95-01-03: Auto-stop Oil Pressure Channel Configuration Problem

This IFI concerned a problem encountered in February 1995, during SSPS wiring modifications, to correct a generic design deficiency. During the modifications, an unexpected annunciator was received. After review, licensee technicians postulated that the problem was caused by

reversed leads on two auto-stop oil pressure switches. The licensee planned to investigate and correct the reversed leads during the next outage.

On February 28, the inspectors met with maintenance supervisors to review work performed in this area during the recent outage. Technicians had walked down the system installation and identified that two neutral leads to the pressure switches were indeed reversed. Additionally, minor labeling problems and configuration improvements were identified. The leads were restored to the proper configuration, and the other problems were resolved prior to unit restart. The inspectors concluded that the licensee's actions to correct the problem were appropriate.

No violations or deviations were identified.

5.0 PLANT SUPPORT (71750, 82701)

Plant support activities were observed and reviewed to ensure that programs were implemented in conformance with facility policies and procedures and in compliance with regulatory requirements. Activities reviewed included radiological controls, physical security, emergency preparedness, and fire protection.

5.1 Operational Status of the Emergency Preparedness Program

5.1.1 Emergency Plan and Implementing Procedures

This area was inspected to determine whether significant changes were made in the licensee's emergency preparedness program since August 1994 (when the last such inspection of this area was performed), to assess the impact of any such changes on the overall state of emergency preparedness at the facility, and to determine whether the licensee's actions in response to actual emergencies were in accordance with the Emergency Plan and its implementing procedures. Requirements applicable to this area are found in 10 CFR 50.47(b)(16), 10 CFR 50.54(q), Appendix E to 10 CFR Part 50, and the licensee's Emergency Plan.

The version of the Emergency Plan in effect at the time of the current inspection was Revision 18, which became effective on January 3, 1996. Since the last routine inspection of the Emergency Preparedness Program in May 1994, the NRC had formally reviewed and approved three revisions to the licensee's Emergency Plan. A review of licensee records indicated all revisions of the Emergency Plan continued to be of high quality and were submitted to the NRC within 30 days of the implementation date, as required.

There were three North Anna Emergency Plan activations since the last inspection. All three declarations were Notification of Unusual Events,

and all required notifications to the state, local governments, and the NRC were properly made. Under revised EALs that were recently implemented following NRC's approval, only one of the above three declarations would be made.

5.1.2 Emergency Facilities, Equipment, Instrumentation, and Supplies

This area was inspected to determine whether the licensee's ERFs and associated equipment, instrumentation, and supplies were maintained in a state of operational readiness, and to assess the impact of any changes in this area upon the emergency preparedness program. Requirements applicable to this area were found in 10 CFR 50.47(b)(8) and (9), 10 CFR 50.54(q), Sections IV.E and VI of Appendix E to 10 CFR Part 50, and the licensee's Emergency Plan.

The inspectors toured the TSC, OSC, and the EOF. Selective examination of equipment and supplies indicated that a high level of operational readiness was being maintained for these ERFs. No significant changes had been made to the facilities. Of these facilities, only the EOF was a fully dedicated facility to emergency preparedness; however, the inspectors observed that the other facilities could be promptly made available to the emergency preparedness program if needed.

5.1.3 Organization and Management Control

This area was inspected to determine the effects of any changes in the licensee's emergency preparedness program, and to determine the effect of these changes on the licensee's overall emergency preparedness program. Requirements applicable to this area are found in 10 CFR 50.47(b)(1) and (16), Section IV.A of Appendix E to 10 CFR Part 50, and the licensee's Emergency Plan.

The organization and management of the emergency preparedness program were reviewed and discussed with licensee representatives. Since the last inspection, there had been no changes in management that impacted the emergency preparedness program. In fact, the maturity of the program with regards to the consistency of personnel assigned to the emergency response organization along with the longevity of the emergency preparedness personnel responsible for the program was considered a strength of the program by the inspectors. The QA department had been reorganized into a Nuclear Oversight Department as recently noted at Surry Power Station; however, this was not seen to impact the independent audits of the emergency preparedness program in an adverse manner.

5.1.4 Training

This area was inspected to determine whether the licensee's key emergency response personnel were properly trained and understood their emergency responsibilities. Requirements applicable to this area are

contained in 10 CFR 50.47(b)(2) and (15), Section IV.E of Appendix E to 10 CFR Part 50, and the licensee's Emergency Plan.

The inspectors reviewed selected records and discussed with cognizant personnel the training program for the Emergency Response Organization. The licensee continued to maintain a formal training program with emphasis on drill participation as an excellent means to improve ERO member's skills. An apparent enhancement to the training program could be the implementation of facility drills that focus on only one of the ERFs, thereby permitting greater interactive training.

5.1.5 Independent Audits and Internal Reviews

This area was inspected to determine whether the licensee had performed an independent audit of the emergency preparedness program, and whether the emergency planning staff had conducted a review of the Emergency Plan and the EPIPs. Requirements applicable to this area are found in 10 CFR 50.54(t) and the licensee's Emergency Plan.

The inspectors reviewed the independent audit report and the annual review of the NAEP and EPIPs by the EP staff. Both the audit reports and review were thorough and fully met regulatory requirements. The inspectors noted that the audits were performed using both performance and compliance based techniques.

5.1.6 Effectiveness of Licensee Controls

This area was reviewed to determine the effectiveness of licensee controls in identification of problems and then making corrective actions.

The inspectors reviewed this area by looking at the follow-up in response to the audit findings. In all instances, it was noted that the responsibility for audit findings was promptly assigned, and the concomitant follow-up to assure complete and adequate corrective action was thorough and aggressive.

5.2 Containment Closeout

On March 7, the inspectors walked down the Unit 1 containment with the Superintendent, Radiological Protection, just prior to final closeout before startup. The inspectors independently verified that material was not left inside containment which could clog the ECCS sump screens during a DBA. Additionally, the inspectors verified that safety-related equipment had been returned to the proper configurations following outage maintenance. A few minor material conditions were noted and corrected by the licensee. Additionally, the inspectors noted that significant quantities of water were present in the containment. The sources of the water appeared to be aggressive decontamination efforts using water washing and humidity from the rainy weather on the day of hatch closure. Overall, the inspectors concluded that the containment conditions were satisfactory and significantly improved in comparison to

observations made at the end of the last Unit 1 refueling outage (NRC Inspection Report Nos. 50-338/94-22 and 50-339/94-22).

No violations or deviations were identified.

6.0 OTHER NRC PERSONNEL ON SITE

On March 19, the NRC Project Manager, Mr. G. E. Edison visited the site. Mr. Edison toured the plant and met with licensee management and the inspectors to discuss plant status and current issues at the facility.

7.0 REVIEW OF UFSAR COMMITMENTS

A recent discovery of a licensee operating their facility in a manner contrary to the UFSAR description highlighted the need for a special focused review that compared plant practices, procedures and/or parameters to the UFSAR description. While performing the inspections discussed in this report, the inspectors reviewed the applicable portions of the UFSAR that related to the areas inspected. The following inconsistencies were noted between the wording of the UFSAR and the plant practices, procedures and/or parameters observed by the inspectors.

- On March 8, the inspectors noted that UFSAR section 3A.52 stated that compliance with RG 1.52 revision 1 is detailed in Table 6.2-59. Table 6.2-59 contained a discussion on the licensee's commitments to each paragraph of RG 1.52 revision 1. On March 11, a conference call between the licensee and the NRC was conducted to discuss TS required testing of charcoal filter samples (paragraph 4.3). The TS required tests were to be in accordance with RG 1.52, revision 2. During the conference call, the inspectors asked the licensee if they could address compliance with the UFSAR commitments, i.e., commitments to RG 1.52 revision 1 as it related to testing charcoal filter samples. The licensee indicated that they would get back to the inspectors. Subsequently, the inspectors compared RG 1.52 revisions 1 and 2 and determined that the specified tests were different. On March 12, the licensee issued DR N-96-593 concerning this subject. The DR noted that Unit 1 had been originally licensed to operate and test ventilation systems in accordance with RG 1.52 revision 1. When Unit 2 was licensed, its TS was issued with references to test charcoal filter samples in accordance with RG 1.52 revision 2. At that time, the TSs for Unit 1 were similarly revised; however, the UFSAR was not reviewed, and the appropriate changes were not made to reflect the change to RG 1.52 revision 2.

- UFSAR page 3.10-3 stated that guidelines for safety-related instrumentation tubing supports are provided in standard STD-CEN-0026. STD-CEN-0026, Instrumentation Seismic Tubing And Tubing Supports, was deleted as discussed in a September 14, 1992, memorandum from C. E. Sorrell to Records Management. The tubing support requirements were superseded by those in NAI-0001/SUI-0001. NAI-0001/SUI-0001 allowed greater spans

between seismic tubing supports, as a function of tube size and configuration, than allowed by in STD-CEN-0026. When notified that the UFSAR referred to STD-CEN-0026, the licensee issued DR N-96-0531 to address this observation.

- During this inspection period, the NRR Project Manager reviewed the licensee's current spent fuel handling activities in comparison to UFSAR descriptions and other licensing bases. Discrepancies were noted and will be detailed in a future inspection report.

Based on the above UFSAR reviews conducted during this inspection period and problems identified during previous inspection periods, the inspectors concluded that discrepancies existed between UFSAR descriptions and the licensee's current operating practices in several areas. These issues will be further reviewed under Unresolved Item 50-338, 339/96-03-05: Review UFSAR Discrepancies.

8.0 EXIT

The inspection scope and findings were summarized on April 12, 1996, by D. R. Taylor with those persons indicated by an asterisk in paragraph 1. Interim exits were conducted on March 1 and 8. The inspectors described the areas inspected and discussed in detail the inspection results. A listing of inspection findings is provided. Proprietary information is not contained in this report. During the exit interview, licensee management made a significant comment concerning NRC activities discussed in this report. The Vice President, Nuclear Operations, commented on the charcoal filter media testing issues (paragraph 4.3). He believed that these issues were generic industry issues and should more appropriately have been handled through the generic communication process.

Type	Item Number	Status	Description and Reference
IFI	50-338/95-01-03	Closed	Auto-stop Oil Pressure Channel Configuration Problem (paragraph 4.4).
URI	50-338, 339/95-08-02	Closed	Review M&TE Deficiencies (paragraph 3.5.1).
LER	50-338/96-01	Closed	Main Steam and Pressurizer Safety Valve Setpoints Out of Tolerance Due to Setpoint Drift (paragraph 3.5.2).
LER	50-338/96-02	Closed	Containment Particulate and Gaseous Radiation Monitors Inoperable Due to Containment Air Recirculating Fans Not Operating (paragraph 2.9).

Type	Item Number	Status	Description and Reference
LER	50-338/96-03	Closed	MODE 3 Entry with Inoperable Redundant Heat Trace Circuit Due to Personnel Error (paragraph 3.5.3).
NCV	50-338/96-03-01	Closed	Failure to Comply with TS 3.9.9 and TS 3.3.3.1 for Inoperable Purge and Exhaust Isolation System (paragraph 2.3).
VIO	50-338/96-03-02	Open	A RCS Loop Flow Transmitter Tubing Frame Support Found Partially Disassembled (paragraph 3.3.2).
VIO	50-338/96-03-03	Open	Failure to Comply With TS 3.0.4 - Mode Changes Made With Inoperable BIT Heat Tracing Circuit (paragraph 3.4).
NCV	50-338, 339/96-03-04	Closed	Failure To Properly Use M&TE As Required By VPAP-1201 (paragraph 3.5.1).
URI	50-338, 339/96-03-05	Open	Review UFSAR Discrepancies (paragraph 7).

9.0 ACRONYMS

ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
BIT	BORON INJECTION TANK
CC	COMPONENT COOLING
CFR	CODE OF FEDERAL REGULATIONS
DBA	DESIGN BASIS ACCIDENT
DCP	DESIGN CHANGE PACKAGE
DR	DEVIATION REPORT
DRPM	DIVISION OF REACTOR PROGRAM MANAGEMENT
EAL	EMERGENCY ACTION LIMIT
ECCS	EMERGENCY CORE COOLING SYSTEM
EDG	EMERGENCY DIESEL GENERATOR
EOF	EMERGENCY OPERATIONS FACILITY
EP	EMERGENCY PREPAREDNESS
EPIP	EMERGENCY PLAN IMPLEMENTING PROCEDURE
ERF	EMERGENCY RESPONSE FACILITY
ERO	EMERGENCY RESPONSE ORGANIZATION
ET	ENGINEERING TRANSMITTAL

F	FAHRENHEIT
FME	FOREIGN MATERIAL EXCLUSION
HHSI	HIGH HEAD SAFETY INJECTION
HPES	HUMAN PERFORMANCE ENHANCEMENT SYSTEM
IFI	INSPECTION FOLLOW-UP ITEM
IST	IN-SERVICE TESTING
LCO	LIMITING CONDITION FOR OPERATION
LER	LICENSEE EVENT REPORT
MDAP	MAINTENANCE DEPARTMENT ADMINISTRATIVE PROCEDURE
MFP	MAIN FEEDWATER PUMP
MFW	MAIN FEEDWATER
MOV	MOTOR-OPERATED VALVE
MS	MAIN STEAM
MSTV	MAIN STEAM TRIP VALVE
M&TE	MEASURING AND TEST EQUIPMENT
MWD/MTU	MEGAWATT DAYS PER METRIC TON URANIUM
NAEP	NORTH ANNA EMERGENCY PLAN
NCV	NON-CITED VIOLATION
NI	NUCLEAR INSTRUMENT
NO.	NUMBER
NOV	NOTICE OF VIOLATION
NRC	NUCLEAR REGULATORY COMMISSION
NRR	OFFICE OF NUCLEAR REACTOR REGULATION
OSC	OPERATIONAL SUPPORT CENTER
OTO	ONE-TIME ONLY
PDR	PUBLIC DOCUMENT ROOM
PERB	EMERGENCY PREPAREDNESS AND RADIATION PROTECTION BRANCH
psig	POUNDS PER SQUARE INCH GAUGE
PSV	PRESSURIZER SAFETY VALVE
PT	PERIODIC TEST
QA	QUALITY ASSURANCE
QC	QUALITY CONTROL
RCCA	ROD CLUSTER CONTROL ASSEMBLY
RCE	ROOT CAUSE EVALUATION
RCP	REACTOR COOLANT PUMP
RCS	REACTOR COOLANT SYSTEM
RG	REGULATORY GUIDE
RTD	RESISTANCE TEMPERATURE DETECTOR
RM	RADIATION MONITOR
SFP	SPENT FUEL POOL
SG	STEAM GENERATOR
SI	SAFETY INJECTION
SNSOC	STATION NUCLEAR SAFETY AND OPERATING COMMITTEE
SRO	SENIOR REACTOR OPERATOR
SSPS	SOLID STATE PROTECTION SYSTEM
SW	SERVICE WATER
TDAFW	TURBINE-DRIVEN AUXILIARY FEEDWATER
TS	TECHNICAL SPECIFICATION
TSC	TECHNICAL SUPPORT CENTER
UFSAR	UPDATED FINAL SAFETY ANALYSIS REPORT
URI	UNRESOLVED ITEM
UT	ULTRASONIC TESTING
VEPCO	VIRGINIA ELECTRIC AND POWER COMPANY

VIO	VIOLATION
VPAP	VIRGINIA POWER ADMINISTRATIVE PROCEDURE
WOG	WESTINGHOUSE OWNERS' GROUP
WR	WORK REQUEST