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

Report Nos.: 50-280/87-21 and 50-281/87-21

Licensee: Virginia Electric and Power Company
Richmond, VA 23261

Docket Nos.: 50-280 and 50-281 License Nos.: DPR-32 and DPR-37

Facility Name: Surry 1 and 2

Inspection Conducted: July 5 - August 29, 1987

Inspectors: _____ 9/15/87
W. E. Holland, Senior Resident Inspector Date Signed

_____ 9/15/87
Larry E. Nicholson, Resident Inspector Date Signed

Approved by: _____ 9/15/87
F. S. Cantrell, 2B Section Chief Date Signed
Division of Reactor Projects

SUMMARY

Scope: This routine inspection was conducted in the areas of licensee action on previous enforcement matters, plant operations, plant maintenance, plant surveillance, followup on inspector identified items, licensee event report review, 10 CFR Part 21 review, and closeout of temporary instruction T2500/19.

Results: Two violations were identified in this inspection report which are being considered for escalated enforcement action and will be forwarded under separate cover. In addition one violation is listed in this report from findings identified in inspection report 280; 281/87-11.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

*D. L. Benson, Station Manager
H. L. Miller, Assistant Station Manager
*E. S. Grecheck, Assistant Station Manager
J. A. Bailey, Superintendent of Operations
D. J. Burke, Superintendent of Maintenance
S. P. Sarver, Superintendent of Health Physics
*R. H. Blount, Superintendent of Technical Services
R. L. Johnson, Operations Supervisor
J. A. Price, Site Quality Assurance Manager
J. B. Logan, Supervisor, Safety and Licensing
G. D. Miller, Licensing Coordinator
*F. P. Mone, Supervisor, Quality Assurance
*M. A. Griffin, Administrative Assistant

*Attended exit meeting.

Other licensee employees contacted included control room operators, shift technical advisors, shift supervisors and other plant personnel.

2. Exit Interview

The inspection scope and findings were summarized on August 31, 1987, with those individuals identified by an asterisk in paragraph 1. The following new items were identified by the inspectors during this exit.

One Violation (paragraph 4) was identified for failure to conduct evaluations for unreviewed safety question determination as required by technical specifications and 10 CFR 50.59. This item is being considered for escalated enforcement.

One Violation (paragraph 4) was identified for inadequate procedures, failure to follow procedures in testing the safety injection system, and failure to perform a technical specification-required portion of the diesel generator surviellance. This item is being considered for escalated enforcement.

One Unresolved Item (paragraph 9) was identified for review of the licensee's revised response to IE Bulletin No. 84-02.

In addition, one violation (paragraph 13) was identified from findings of an NRC headquarters vendor inspection as documented in inspection report 280; 281/87-11.

The licensee acknowledged the inspection findings with no desenting comments in the findings relating to this report. However, the licensee did take exception to the findings identified in this report relating to inspection report 280; 281/87-11. The licensee did not identify as proprietary any of the materials provided to or reviewed by the inspectors during this inspection.

3. Plant Status

Unit 1

Unit 1 began the reporting period at power. The unit operated at power until August 7 when at 1:20 p.m. the unit was manually tripped from 100 percent power due to failure of the cooling capability of the 1B main transformer. Repairs were made to the transformer and the unit returned to power operation the morning of August 8, 1987. The unit operated at power for the remainder of the inspection period.

Unit 2

Unit 2 began the reporting period at power. The unit operated at power for the duration of the inspection period.

4. Licensee Action on Previous Enforcement Matters (92702)

(Closed) Unresolved Item (URI) 280; 281/87-17-01, Review of 10 CFR 50.59 safety evaluation for emergency busses cross-connect breaker configuration.

The subject issue was discussed in inspection report 280; 281/87-17. In that report, the inspector determined that the emergency busses cross-connect breakers (5H1) for both units were racked out; however, the breakers remained in the cubicles. This condition was in conflict with the condition described in the FSAR, paragraph 8.4.1. The inspector requested that the licensee provide the safety evaluation which was required by 10 CFR 50.59 when the decision was made to leave the subject breakers in their cubicles. This request was being evaluated when the last inspection period ended.

During this inspection period, several additional items relating to the above concern have come to the attention of the inspectors. One item involved the licensee's decision to furmanite a leaking valve (2-WT-177) which was a manual isolation valve for the chemical addition system to the B steam generator main feed line in containment. This repair, on July 4, 1987, resulted in the valve being left in the open position and inoperable. The inspector requested that the licensee provide the 10 CFR 50.59 safety evaluation for this change in system configuration and, at the time of the request, the evaluation had not been accomplished. The inspector then reviewed the temporary modification (TM) log and determined that this condition had been logged the evening of July 4, 1987. However, additional review of the log entry determined that no

technical/safety evaluation review was conducted for the modification. Also, the inspectors were reviewing station deviation reports and noted that report number S1-87-512 dated June 19, 1987, identified a condition which indicated that testing of the turbine inlet valves as identified in the FSAR, Section 14.2.13 was not being accomplished. The inspector also requested the safety evaluation for this condition and was informed that the deviation report was still under review.

These concerns were brought to the attention of station management on July 8 and again on July 10, 1987. The inspectors stressed that the main issue was evaluation of plant configuration changes to assure that an unreviewed safety question had not resulted when changes were made. It appears that deleting the turbine inlet valve test does involve an unreviewed safety question and prior Commission approval should have been sought prior to deleting the test.

After these meetings, another concern was identified to the licensee regarding the use of the station fire protection system for purposes not recognized in the FSAR. A ring header is periodically installed on the top of both containments during the hot summer months and fire water pumped through the header and allowed to run down the outside to assist in containment cooling. The inspectors questioned if an evaluation had been performed to determine the impact this usage would have on the capability to respond to a fire, as well as the consequence of the water running into the plant. A tour of the plant revealed water in safety-related pump rooms as well as water running down the wall beside the electrical penetrations in the cable vault.

The inspector also conducted a review of the administrative procedure which provides for requirements to conduct evaluations for unreviewed safety questions. Those procedures were:

- SUADM-ENG-01 Engineering Work Request
- SUADM-ENG-03 Design Changes
- SUADM-O-11 Functional Bypass and Temporary Modification Control

The inspector concluded from the review that procedures do require evaluation for unreviewed safety questions; however, the procedure guidance did not always clarify those areas which could require reviews as required by 10 CFR 50.59 or Technical Specifications.

Additional discussions with station management were held on August 21, 1987, on these issues. Discussion of the issue involving station deviation report S1-87-512 resulted in the conclusion that an unreviewed safety question determination was not conducted when the decision was made

to delete testing of the turbine inlet valves. The licensee provided a copy of a new station deviation to the inspector on August 21, 1987, which indicated that an adequate safety evaluation per 10 CFR 50.59 was not performed when the periodic test for testing of the turbine inlet valves was discontinued.

Based on the previous findings, the inspector determined that safety committee (SNSOC) evaluations for unreviewed safety questions had not been performed and documented in the above cases as required by Technical Specification 6.1.7.f and g; nor had the licensee followed the correct process for conducting a safety evaluation in the above cases as required by 10 CFR 50.59. Deleting the turbine inlet valve test appears to involve an unreviewed safety question. This item is identified as a violation (280; 281/87-21-01) for both units.

(Closed) Unresolved Item 280; 281/87-17-02, Inadequate evaluation of deficiencies noted during surveillance testing.

Inspection report 280; 281/87-17 identified numerous concerns regarding the documentation, evaluation, and corrective actions as a result of the safety injection train undervoltage functional tests performed during the 1986 refueling outages for both units. The specific test procedures reviewed by the inspector were PT-18.2 A & B for both units. Discussions with the licensee following their search for additional documentation revealed the following:

a. Technical Specification 4.6.A.1.b requires testing demonstrate that the loss of voltage and degraded voltage protection is defeated whenever the emergency diesel is the sole source of power to an emergency bus and that this protection is automatically reinstated when the diesel output breaker is opened. This requirement is not included in the above procedures and consequently has not been performed. This is in violation of the Technical Specifications and the licensee stated the test would be performed during the next outages.

b. 1-PT-18.2A, "Safety Injection Train A - H Bus Undervoltage Functional Test," completed 7-7-86.

   - The completed test results were not reviewed by the surveillance and test engineering group as required by paragraph 5.1.5 of station administrative procedure SUADM-0-23.

   - Acceptance criteria was deleted with no reason for deviation stated as required by paragraph 5.4.3 of station administrative procedure SUADM-0-21.

   - Verification that the emergency diesel generator was secured and restored was not performed as required by step 5.24.4 of the above test procedure.

- The use of a special test to satisfy surveillance testing is inadequate in that this procedure does not receive the review and approval required by a normal periodic test. Also, the special test system is inadequate in that the performance of these tests have routinely not been reported to the NRC in the Monthly Operating Report as required by 10 CFR 50.59 and local administrative procedure SUADM-O-18. This is another example of the violation of 10 CFR 50.59 cited above in this paragraph (280; 281/87-21-01).

c. 1-PT-18.2B, "Safety Injection Train B - J Bus Undervoltage Functional Test," completed 7-6-86.

- Test results were "unsatisfactory" and no corrective action was performed; however, the unsatisfactory results were determined to be from a procedure problem. The licensee could not locate any procedure change request forms which are required by administrative procedure SUADM-O-21 and speculated that a procedure change was at one time initiated and subsequently lost.

- The required post-test position of high-head safety injection pump 1-CH-P-1A was changed in Attachment I of the above test procedure without a procedure deviation as required by administrative procedure SUADM-O-21.

d. 2-PT-18.2A, "Safety Injection Train A - H Bus Undervoltage Functional Test", completed 11-23-86.

- Problems identified on the test critique sheet and changed on a procedure deviation were evaluated as "procedure problems." No procedure change request form was initiated nor were the problems corrected in the next revision as required by administrative procedure SUADM-ADM-21. The licensee stated that the changes were submitted, but lost.

e. 2-PT-18.2B, "Safety Injection Train B - J Bus Undervoltage Functional Test," completed 11-21-86.

- The test critique sheet states that high-head safety injection pump 2-CH-P-1A requires retesting. No documentation can be found that either retests this pump or evaluates the deficiency.

Technical Specification 6.4 requires that detailed written procedures with appropriate check-off lists and instructions shall be provided and shall be followed for the testing of components and systems involving nuclear safety of the station. The above findings represent both an inadequate procedure and failure to follow procedures with regard to testing,

documenting, and evaluating results of safety injection system surveillance tests. In addition, a portion of the emergency diesel generator surveillance test apparently has never been performed. This item is identified as a violation of Technical Specifications (280; 281/87-21-02) for both units.

Within the areas inspected, two violations were identified.

5. Unresolved Items

Unresolved items are matters about which more information is required to determine whether they are acceptable or may involve violations or deviations. One new unresolved item is identified in paragraph 9.

6. Plant Operations

Operational Safety Verification (71707)

The inspector conducted daily inspections in the following areas: Control room staffing, access, and operator behavior; operator adherence to approved procedures, Technical Specifications, and limiting conditions for operations; examination of panels containing instrumentation and other reactor protection system elements to determine that required channels are operable; review of control room operator logs, operating orders, plant deviation reports, tagout logs, jumper logs, and tags on components to verify compliance with approved procedures.

The inspector conducted weekly inspections in the following areas:

Verification of operability of selected ESF systems by valve alignment, breaker positions, condition of equipment or component(s), and operability of instrumentation and support items essential to system actuation or performance.

Plant tours which included observation of general plant/equipment conditions, fire protection and preventative measures, control of activities in progress, radiation protection controls, physical security controls, plant housekeeping conditions/cleanliness, and missile hazards.

The inspector conducted biweekly inspections in the following areas:

Verification review and walkdown of safety-related tagout(s) in effect; review of sampling program (e.g., primary and secondary coolant samples, boric acid tank samples, plant liquid and gaseous samples); observation of control room shift turnover; review of implementation of the plant problem identification system; verification of selected portions of containment isolation lineup(s); and verification that notices to workers are posted as required by 10 CFR 19.

Certain tours were conducted on backshifts or weekends. Backshift or weekend tours were conducted on July 9, 11, 29, August 5, 7, 8, and 25. Inspections included areas in the Unit 1 and 2 cable vaults, vital battery rooms, steam safeguards areas, emergency switchgear rooms, diesel generator rooms, control room, auxiliary building, cable penetration areas, independent spent fuel storage facility, low level intake structure, and safeguards valve pit and pump pit areas. Reactor coolant system leak rates were reviewed to ensure that detected or suspected leakage from the system was recorded, investigated, and evaluated and that appropriate actions were taken, if required. The inspectors routinely independently calculated RCS leak rates using the NRC Independent Measurements Leak Rate Program (RCSLK9). On a regular basis, radiation work permits (RWPs) were reviewed and specific work activities were monitored to assure they were being conducted per the RWPs. Selected radiation protection instruments were periodically checked, and equipment operability and calibration frequency were verified.

The Plant Risk Status Information Management System (PRISIM) was installed in the resident inspectors' office during this inspection period. This personal computer program provides PRA results and other risk-related information to the inspector for use on deciding inspection priorities. This version of PRISIM is based on the PRA of Surry 1 performed by EI International as part of the Accident Sequence Evaluation Program. Idaho National Engineering Laboratory modified the PRA in response to comments made by the Virginia Electric and Power Company. The PRA results obtained from PRISIM are based on core damage frequency. PRISIM does not incorporate the results of assessments of plant damage, containment responses, or public health consequences. A meeting was held on July 14, 1987, at Region II to introduce the Surry 1 PRISIM and to discuss the plan for testing and evaluating the program.

On July 20, 1987, the inspector witnessed the loading of four spent fuel assemblies into a dry cask for storage at the Independent Spent Fuel Storage Installation (ISFSI) located onsite at Surry. This fuel movement from the spent fuel pool was being performed by licensed reactor operators using a written procedure. This was the fourth Castor V/21 Cask to be loaded with twenty-one (21) spent fuel assemblies. The three previously loaded casks are presently in storage at the ISFSI storage pad.

On July 27, a malfunction of the Kaman radiation monitor RM-GW-103-1 caused the automatic isolation of the containment vacuum system to atmosphere. The subject monitor surveys the gaseous effluent release path of the process vent stack in conjunction with the Victoreen monitors. A radiation level above setpoint causes the containment vacuum pump discharge valves FCV-GW-160 & 260 to shut. The licensee notified the NRC pursuant to 10 CFR 72 of an engineered safety system actuation, then subsequently determined that this was not an ESF actuation since the subject valves are not required for containment isolation. The shutting of these valves did, however, remove the one containment vacuum flow path required by Technical Specification 3.15.B, and required the licensee to reestablish a flow path or be in hot shutdown in at least six hours. The

inspector expressed concern that during the troubleshooting of this radiation monitor, a jumper was installed essentially around the monitor to permit the reestablishment of the containment vaccum flow path. This jumper was not controlled by an entry to the station jumper log or specified in an applicable approved procedure, as required by administrative procedure SUADM-O-11. The omission of the required administrative controls prevented this temporary plant modification from being properly evaluated as required by 10 CFR 50.59. This is another example of violation (280, 281 87-27-01) identified in paragraph 4.

On several occasions during this inspection period, a high chlorine alarm was received in the main control room from the "A" train chlorine monitor. This monitor is one of two installed in the main control room to sense chlorine that could leak from the storage tanks at the site sewage treatment plant. Investigation revealed the alarm to be caused by an erroneous spike on that detector. This alarm did, however, actuate a train to isolate the control room ventilation as required. The licensee notified the NRC of these ESF actuations as required by 10 CFR 50.72.

In the course of monthly activities, the inspectors included a review of the licensee's physical security program. The performance of various shifts of the security force was observed in the conduct of daily activities to include: protected and vital areas access controls; searching of personnel, packages and vehicles; badge issuance and retrieval; escorting of visitors; and patrols and compensatory posts.

Engineered Safety Feature System Walkdown (71710)

The inspector performed a walkdown of the accessible areas of the safety-related portions of the Emergency Diesel Generator system and the Auxiliary Feedwater System for both units to verify their operability. This verification included the following: confirmation that the licensee's system lineup procedure matches plant drawings and actual plant configuration; hangers and supports are operable; housekeeping is adequate; valves and/or breakers in the system are installed correctly and appear to be operable; fire protection/prevention is adequate; major system components are properly labeled and appear to be operable; instrumentation is properly installed, calibrated and functioning; and valves and/or breakers are in correct position as required by plant procedure and unit status.

Within the areas inspected, one additional example of a violation cited in paragraph 4 was identified.

7. Maintenance Inspections (62703)

During the reporting period, the inspectors reviewed maintenance activities to assure compliance with the appropriate procedures. Inspection areas included the following:

The inspectors followed the repair of a defective weld in the Unit 2 letdown line inside containment. On July 22, the unidentified leakage from the reactor coolant system increased from approximately 0.2 gpm to 0.6 gpm. The operators also noted a slight increase in containment activity. Containment entries were made and the leakage was determined to be primarily from a defective socket weld on a two-inch pipe tee just downstream of the letdown isolation valve HCV-2200C. This condition was documented on station deviation report S2-87-342. On July 28, the licensee had determined that a permanent repair as required by the ASME Code Section XI was not possible due to the inability to successfully isolate the leak; therefore, an Engineering Work Request (EWR 87-288) was issued approving a temporary repair until the 1988 refueling outage. This temporary repair consisted of encasing the defective weld in a can and injecting a Furmanite sealant. The EWR considered this a temporary repair as a gasket joint seal and included a safety analysis. The inspector reviewed all the documentation for this effort and expressed the following concerns:

a. An attempt to permanently repair the defective weld should be made no later than the upcoming 10 day snubber outage scheduled for late this year in lieu of the 1988 refueling outage. The licensee agreed and committed to a repair no later than the snubber outage; and

b. A formal evaluation control with regard to containment integrity was not performed for the time between the discovery of the defect and the accomplishment of the temporary corrective action. The subject defect is located inside the containment between the inside containment isolation valves and the letdown line containment penetration. This results in the outside containment isolation valve being the only barrier for this penetration.

These concerns and the resulting enforcement action are addressed in a special inspection report (280; 281/87-26).

8. Surveillance Inspections (61726, 61700)

During the reporting period, the inspectors reviewed various surveillance activities to assure compliance with the appropriate procedures as follows:

- Test prerequisites were met.
- Tests were performed in accordance with approved procedures.
- Test procedures appeared to perform their intended function.
- Adequate coordination existed among personnel involved in the test.
- Test data was properly collected and recorded.

Inspection areas included the following:

On July 29, the inspector witnessed portions of periodic test 2-PT-18.7, "Charging Pump Operability and Performance Test." This test was performed following the replacement of oil on charging pump 2-CH-P-1C. The licensee noticed foaming of the oil in this pump and suspected it to be contaminated with water. Analysis of the oil removed, however, did not indicate a presence of water. The samples have been sent to an independant lab for further evaluation. No discrepancies were noted.

On August 7, 1987, the inspector witnessed portions of periodic test 1-PT-14.2, "Main Steam Trip Valves and Main Steam Non-Return Valves." No discrepancies were noted; however, the results observed did not meet the requirements of the acceptance criteria. The test requires that the MSTVs close from actuation of the switch to indication of closure in 5 seconds or less. Results being obtained were in the 6 to 7 second range. The inspector noted that this test is not a realistic test of closure time of the valves in an accident situation and also was informed that a Technical Specification change had been submitted to resolve this condition. A deviated PT-14.2 was performed satisfactorily later that evening.

On August 18, 1987, the inspector witnessed portions of the periodic test 1-PT-15.1C, "Steam Generator Auxiliary Feedwater Pumps." This test performed the monthly surveillance on the turbine driven auxiliary feedwater pump 1-FW-P-2. The pump was started using the "A" train steam admission valve and appeared to start and perform within the acceptance criteria specified for alert in the above procedure. The recorded vibration for the turbine to pump bearing was measured to be 0.19 in/sec, thus placing the pump in the alert range. A vibration measurement greater than 0.2 in/sec would constitute an inoperable pump. The licensee is continuing to evaluate this condition. No discrepancies were noted.

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

9. Followup on Inspector Identified Items and IE Bulletins (92701)

(Closed) Inspector Followup Item (IFI) 280, 281/84-31-01: Implementation of Licensed Operator Requalification Program (LORP) and its submittal to the NRC. The LORP required that persons failing to score satisfactorily on requalification examinations be removed from shift duty, participate in an accelerated requalification program, and pass a requalification examination. The accelerated training program required nothing other than self-study. The inspector followup item involved upgrading accelerated requalification to include more than self-study, and the submittal of a revised requalification program for NRC review and approval. The inspectors reviewed the present status of licensed operator requalification and determined that in 1985 the licensee implemented accelerated requalification training with individualized requirements beyond self-study. The licensee stated that the LORP is being updated to incorporate revised 10 CFR 55 requirements, and should be submitted to the NRC within two months. This revised LORP contains expanded requirements

for accelerated requalification. Based on this information, the item is closed.

(Closed) IFI 280, 281/85-31-01: Administrative Controls for Changes Affecting the Work Planning and Tracking System (WPTS). A previous NRC inspection identified that the licensee was using a computerized Work Planning and Tracking System without a formal method to ensure incorporation of changes to applicable plant procedures, policies or hardware. To ensure work orders adhere to current requirements, the licensee returned to verifying information entered on the work orders against the Technical Specifications and hard copies of the procedures addressing Environmental Qualification, Safety Related Equipment (Q-List), and Inservice Inspection Requirements. Because these inputs should have adequate administrative controls, this item is closed. The licensee is in the process of updating the computerized WPTS to assure accuracy, improve software controls, and enhance the tracking of work orders. Full implementation of the computerized WPTS is expected to be completed within two months.

(Closed) IFI 280, 281/85-31-04: Preventive Maintenance Overdue Criterion and Management Review of Overdue Items. Licensee procedures had not defined an overdue criterion for preventive maintenance or required management review of delinquent items. The inspector verified that Procedure SUADM-M-30, Planned Maintenance System Manual, which was approved August 18, 1987, contains overdue criteria and management review requirements. The item is closed.

(Closed) IFI 280, 281/85-31-05: Review of Preventive Maintenance Program for Adequate Procedures as Recommended by Vendor Manuals. The inspector followup item involved assuring that preventive maintenance is required at the frequencies recommended by the vendors, and that the program provides verification of the design basis dewpoint of the containment instrument air system. The licensee stated that all safety-related preventive maintenance procedures will be updated and approved by September 1987 in accordance with their commitment of October 1985 in response to Generic Letter 83-28. The inspectors reviewed a draft revision of procedure IA-C-M/M entitled Nash Model 8045 Containment Instrument Air Compressor Preventive Maintenance (Non-Safety Related). The draft revision included a post maintenance check that the air dryer is operating properly, and was scheduled for final review on August 21, 1987. Based on this information, the item is closed.

(Open) IE Bulletin No. 84-02, Failure of General Electric Type HFA Relays Used in Class 1E Safety Systems. During a review of the subject bulletin for closeout, the inspector questioned the licensee regarding current status. A review of the status was conducted by the licensee and they determined that the original response to this bulletin, dated July 31, 1984, was incorrect in that eight relays per unit were not identified as

candidates for replacement. This omission prevented these relays from being inspected and subsequently replaced as required by the bulletin. The licensee is in the process of preparing a revised response to the bulletin. This issue is identified as an unresolved item (280; 281/87-21-03) pending review of the licensee's revised response.

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

10. Licensee Event Report (LER) Review (92700)

The inspector reviewed the LERs listed below to ascertain whether NRC reporting requirements were being met and to determine appropriateness of the corrective action(s). The review also included a followup on implementation of corrective actions and review of licensee documentation that all required corrective action(s) were complete.

LERs that identify violation(s) of regulation(s) and that meet the criteria of 10 CFR, Part 2, Appendix C, Section V are identified as Licensee Identified Violations (LIV) in the following closeout paragraphs. LIVs are considered first-time occurrence violations which meet the NRC Enforcement Policy criteria for exemption from issuance of a Notice of Violation. These items are identified to allow for proper evaluation of corrective actions in the event that similar events occur in the future.

(Closed) LER 280/84-10, Appendix R Review. The issue involved a reanalysis of the station's compliance with 10 CFR 50, Appendix R design requirements. The reanalysis identified five areas which did not meet Appendix R requirements. The licensee corrected the discrepancies. Region II conducted an inspection in May 1987 of the Surry Power Station which evaluated the licensee's actions regarding the implementation of the requirements of Appendix R. Based on that inspection, this LER is closed.

(Closed) LER 280/87-01, Pressurizer PORVs Declared Inoperable Due to Excessive Stroke Time. The issue involved failure of the subject valves to open within the required time frame when the emergency backup air supply was used as the only pressure source. The test deficiency was identified by the licensee during review of IEN 86-50. The licensee determined that the air supply lines from the emergency air supplies were undersized. Corrective action included redesign and installation of properly sized air lines and related components. The corrective action and retest was verified as complete by the inspector. This item is identified as LIV 280/87-21-04 for failure to provide adequate design and testing of a safety-related system. This LER is closed.

(Closed) LER 280/87-03, Control/Relay Room Chiller Inoperable Due to Inadequate Service Water Flow. The issue involved loss of operation of the subject chiller on three different occasions contrary to Technical Specification 3.14.B. The licensee has identified the root cause to be inadequate flow of service water. The inadequate flow was due to pump

suction strainer clogging, service water pump failure, excessive throttling of service water, respectively, for the occasions. Licensee corrective action is to replace the three control room chillers with new units. In addition, an engineering evaluation has been conducted of the control/relay room ventilation system, including the service water subsystem. The inspector reviewed the engineering conclusions and considers that the licensee is taking appropriate long-term actions (service water system upgrade) to eliminate this condition. This item is closed.

(Closed) LER 280/87-04, Potential for Bypass of Safety-Related Filters Due to Inadequate Fan Shaft Seal. The issue involved the licensee's determination that the control room ventilation fans have the potential to admit more than the Technical Specification allowed limit of unfiltered air into the control room due to inadequate fan shaft seals. Corrective action included installation of temporary shaft seals until permanent bellows seals were procurred. The inspector verified installation of the new seals. This item is closed.

(Closed) LER 280/87-05, Control Room Chillers Tripped Due to Clogging of the Service Water Y-Type Strainers. The issue involved clogging of the Y-type strainers for the B and C chillers when the rotating strainer upstream of the Y strainers was returned to service following maintenance. Marine growth inside the rotating strainer became dislodged when the strainer was returned to service clogging the Y-type strainers. Corrective action included cleaning of the Y-type strainers and returning the chillers to service. Also, the Y-type strainers are now cleaned on a bi-weekly basis and the maintenance procedure for the rotating strainer was changed to require cleaning of the Y-type strainers prior to returning the rotating strainer back to service. This item is closed.

(Closed) LER 280/87-06, Control/Relay Room Chiller Inoperable Due to Chiller Service Water Pump Trip. The issue involved operator observation that the service water pump for B, the control/relay room chiller, had tripped rendering the chiller inoperable. Corrective action included the operator reseting the thermal overload on the pump motor and restarting the pump. The exact cause of the pump trip could not be determined; however, it was suspected that the thermal overload device at the motor control center activated, tripping the pump. The licensee considers that this event was a random event due to no abnormal condition being discovered during checkout of the motor control center. This item is closed.

(Closed) LER 280/87-07, Control/Relay Room Chiller Inoperable Due to Insufficient Service Water Flow. The issue involved a trip of two of the control room chillers. The trips were due to insufficient service water flow. Corrective action included manual adjustment of the service water discharge flow in addition to repairing a seal leak on one of the service water pumps. An engineering evaluation of the service water

system has been conducted. The inspector reviewed the engineering conclusions and considers that the licensee is taking appropriate long-term actions (service water system upgrade) to eliminate this condition. This item is closed.

(Closed) LER 280/87-08, Control/Relay Room Chiller Tripped Due to Valve Positioning Error. The issue involved improper operation (repositioning) of the condenser service water discharge valve causing the chiller to trip on high condenser discharge pressure. The cause of the valve positioning error was using the same operator (valve handle) to position several valves. Corrective action included installing of permanent valve handles to each valve requiring operation. The inspector verified that corrective action was accomplished. This item is identified as LIV 280/87-21-05 for failure to provide adequate control of a safety-related system. This LER is closed.

11. 10 CFR Part 21 Inspections (36100)

(Closed) 280/P2186-01, Power Supply Failures of GE SLV Relays. The issue involved failure of the subject power supply due to potential material problem of the core in the power supply transformer. Corrective action taken by the licensee included replacement of the subject relays with newly designed versions of the relay. The new relays were installed by design change packages 86-01 and 86-02. This action was completed in 1986. This item is closed.

(Closed) 280/P2186-04, Contromatics Actuators on Dampers Furnished by Pacific Air Products (PAPCO) may have Jackscrew/Handwheel Installations which are Improperly used for Routine Cycling. The issue involved regular cycling of the dampers by some plants using the jackscrew/handwheel which was designed only for emergency manual operation of the component. The issue was identified to various utilities by the vendor along with a listing of replacement parts available to allow for continued manual cycling of the dampers. The licensee reviewed this condition and determined that dampers purchased from PAPCO that are air operated do not have handwheels for manual operation. The licensee is also in the process of determining whether any PAPCO air-operated dampers have been subsequently modified to include handwheels, and if so, whether proper components were used. Based on the licensee's action in this area, the inspector considers that this item is being properly resolved. This item is closed.

12. Followup on Temporary Instruction 2500/19 (25019)

(Closed) Temporary Instruction 280; 281/T2500/19, Inspection of Licensee's Actions Taken to Implement Unresolved Issue A-26: Reactor Vessel Pressure Transient Protection for Pressurized Water Reactors.

During this inspection period, the inspector reviewed the licensee's installed systems and program for mitigation of low-temperature overpressure transients in accordance with commitments. This review

included verification of the design, administrative controls and procedures, training, equipment modification, and surveillance programs

implemented due to the subject concern. The licensee completed all required commitments in 1985 and considers that the issue is closed. The inspector reviewed each area as described below and concurs with the licensee's assessment.

Design

The inspector reviewed documentation including the Technical Specifications which requires that the overpressure protection system be operable and in operation prior to the reactor coolant system temperature decreasing below 351 degrees F if a bubble does not exist in the pressurizer or if the RCS is not vented through an open power operated relief valve. Also, all but one charging pump must be demonstrated inoperable every 12 hours. A review was also conducted of applicable design drawings to verify that the two trains of overpressure protection are independent and a single failure in one train does not disable the other train. Finally, documentation was reviewed to verify that the pressure chosen for systems actuation was conservative to ensure that 10 CFR 50, Appendix G limits were not exceeded. No discrepancies were identified.

Administrative Controls and Procedures

The inspector reviewed administrative and operational procedures and verified that:

- Controls are in place to minimize time in a water solid condition.

- Controls are in place to minimize temperature differentials between the steam generators and reactor vessel while solid and prior to unisolating a reactor coolant loop or starting of a reactor coolant pump.

- Controls are in place to limit the number of operable charging pumps during the time that the reactor coolant system is less than 351 degrees F.

Also, the inspector verified that the installed system is in accordance with license requirements and that procedures for manual alignment of the system when required, and removal of the system when not required, are in place and being used during each startup and shutdown. No descrepancies were identified.

Training and Equipment Modifications

The inspector held discussions with the operations superintendent and verified that all operators have received training in RCS low-temperature overpressure events and that procedures require proper alignment of the

mitigation system and removal from service of unneeded pressure sources. Also, modifications that are made to the overpressure mitigation systems receive proper design reviews and are tested after installation to ensure operability in accordance with requirements. The inspector also verified that alarms are installed in the control room to warn the operators of pressure transients which could challenge the overpressure mitigation systems. Also, backup air bottle supplies are required to be pressurized to 1000 psig prior to the system being declared operable. No discrepancies were identified.

Surveillance

The inspector reviewed the appropriate surveillance instructions and determined that system operability is verified prior to entering a condition requiring the systems. After performing corrective maintenance on the system, and stroke times on the PORVs are verified using the backup air bottle supplies. No discrepancies were identified.

Based on the preceding review, the inspector considers that all action necessary to close this item has been accomplished.

13. Inspection Report 280; 281/87-11 Findings

Inspection Report 280; 281/87-11 documented three potential enforcement findings. These findings were discussed during the inspection and in a conference call between Region II, Vendor Inspection Branch, NRR, and the licensee on August 31, 1987. The findings are discussed in detail in IR 280; 281/87-11 and constitute a violation (280; 281/87-21-06) of NRC requirements.

ENCLOSURE 3

PROPOSED MEETING AGENDA

Virginia Electric and Power Company Meeting with NRC

September 24, 1987

I. Opening Remarks — NRC

II. Issues of Concern — VEPCO

A. Failure to perform a 10 CFR 50.59 safety evaluation prior to deleting the turbine valve freedom test described in the Final Safety Analysis Report.

1. Discuss the VEPCO review process prior to deviating from commitments described in the FSAR.

2. Discuss the review process for deleting the turbine valve freedom test and reason for deleting the test.

3. Does VEPCO believe that deleting this test increases the probability of occurrence of a turbine missile.

4. Was obtaining prior Commission approval for deleting this test considered?

5. What actions will be taken by VEPCO concerning performance of this test and performing 10 CFR 50.59 evaluations in general?

B. Failure to perform a surveillance test required by Technical Specifications 4.6.A.1.b and continued operation without performing the test.

1. Discuss the circumstances resulting in the failure to perform the surveillance procedures.

2. Discuss actions taken once the NRC pointed out, on June 29, 1987, that the surveillance had not been performed including actions taken to ensure proper diesel generator operation.

3. Discuss operability as defined in the Technical Specifications and how it relates to operability of the diesels considering this surveillance had not been done. Why were the diesels not declared inoperable?

4. Does VEPCO consider Surry Power Station to be in violation of the Technical Specifications with regard to this missed surveillance.

5. Discuss VEPCOs justification for continuing to operate with a Technical Specification required surveillance not performed and without seeking any temporary waiver of the requirement.

6. Discuss the effect of a failure of the components required to be tested by this surveillance.

III. Closing Remarks NRC