



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

Report Nos.: 50-280/86-41 and 50-281/86-41

Licensee: Virginia Electric and Power Company
Richmond, Virginia 23261

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

Facility Name: Surry 1 and 2

Inspection Conducted: December 7, 1986, through January 31, 1987

Inspectors: *R. Plotter for* 2/12/87
W. E. Holland, Senior Resident Inspector Date Signed

Accompanying Inspectors: G. A. Schnebli, A. J. Szczepaniec

Approved by: *F. S. Cantrell for* 2/12/87
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, IE Bulletin followup, licensee event report review, 10 CFR Part 21 review, and inspection of dry storage spent nuclear fuel facility.

Results: No violations or deviations were identified in this inspection report.

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REPORT DETAILS

1. Persons Contacted

Licensee Employees

- *R. F. Saunders, Station Manager
- *D. L. Benson, Assistant Station Manager
- H. L. Miller, Assistant Station Manager
- D. A. Christian, Superintendent of Operations
- *E. S. Grecheck, Superintendent of Technical Services
- *J. W. Patrick, Superintendent of Maintenance
- S. Sarver, Superintendent of Health Physics
- R. Johnson, Operations Supervisor
- N. Clark, Site Quality Assurance Manager
- *W. D. Craft, Licensing Coordinator
- *J. B. Logan, Supervisor, Safety and Licensing
- *Greta Harkness, Licensing Coordinator, North Anna Power Station

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

NRC Personnel

- J. N. Grace, Regional Administrator
- F. S. Cantrell, 2B Section Chief, Division of Reactor Projects

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on February 4, 1987, with those individuals identified by an asterisk in paragraph 1. The following new items were identified by the inspector during this exit.

One unresolved item (281/86-41-01) was identified (paragraph 6) with regards to the licensee providing appropriate justification for deletion of step 5.4.4.3 of corrective maintenance procedure MMP-C-RH-015 during repair of RHR pump 2-RH-P-1B in October, 1986.

One unresolved item (280/86-41-01; 281/86-41-02) was identified (paragraph 6) with regards to licensees determination of appropriate curves for determining operability pressure differential for the RHR pump(s).

One inspector followup item (280/86-41-02; 281/86-41-03) was identified (paragraph 6) with regards to inspector review of repairs and testing of the service water side of the component cooling water heat exchanger(s).

The licensee acknowledged the inspection findings with no descending comments. The licensee did not identify as proprietary any of the materials provided to or reviewed by the inspectors during this inspection.

3. Licensee Action on Previous Enforcement Matters (92702)

(Closed) Unresolved Item 280; 281/83-PT-02, Written Determination of Unreviewed Safety Questions. The issue, which was identified in inspection report 280; 281/83-27, involved the fact that the Station Nuclear Safety and Operating Committee (SNSOC) was not rendering written determinations with regard to whether SNSOC reviewed items constituted unreviewed safety questions. The licensee subsequently revised the SNSOC meeting minutes to document that the material reviewed at the meeting did not constitute an unreviewed safety question. This was accomplished on October 6, 1983, and has been in effect to the present. This item is closed.

4. Unresolved Items

Unresolved items are matters about which more information is required to determine whether they are acceptable or may involve violations or deviations. Two new unresolved items are identified in paragraph 6.

5. 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 stems 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. Inspections included areas in the Units 1 and 2 cable vaults, vital battery rooms, Steam Safeguards areas, emergency switchgear rooms, diesel generator rooms, control room, Unit 2 containment, auxiliary building, cable penetration areas, independent spent fuel storage facility, low level intake structure, and Safeguards Valve 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. 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.

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.

Unit 1 began the reporting period operating at power. The unit operated at power until December 10, 1986, when the unit was shut down for inspection of condensate and feedwater system piping. The licensee made the decision to shut down the unit after preliminary evaluation of the main feedwater suction pipe rupture on unit 2 indicated that the condition may be generic to unit 1. The unit reached cold shutdown on December 11, 1986. Inspections of condensate and feedwater piping required specific piping components to be replaced prior to restart. This effort is fully addressed in inspection report 280; 281/86-42. The unit remained in cold shutdown at the end of the inspection period.

Unit 2 began the reporting period operating at power. Power operation continued until December 9, 1986, when at approximately 1400 hours the unit experienced an automatic reactor trip due to a low low steam generator level signal from steam generator C. This condition was determined to be a result of the C steam generator main steam trip valve (MSTV) inadvertently shutting while the unit was at power. Discussion of the MSTV failure mechanism is addressed in paragraph 4. Approximately 40 seconds after the reactor trip, the suction line to the A main feedwater pump ruptured releasing pressurized feedwater an approximate temperature of 360 degrees Fahrenheit into the unit 2 turbine building. The primary system responded as designed to the event and the plant was cooled down by feeding the steam generators from the auxiliary feedwater system and bleeding steam to the atmosphere using the steam generator power operated relief valves. During the event, the station went to an ALERT status to obtain accountability of personnel. The event is addressed in inspection report 280, 281/86-42 in detail. At the end of the inspection period, unit 2 remained in cold shutdown while repairs were being accomplished on secondary systems which were affected by the feedwater rupture.

Engineered Safety Feature System Walkdown (71710)

The inspector performed a walkdown of the accessible areas of the safety-related portions of the main steam and main feedwater systems 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, no violations or deviations were identified.

6. Maintenance Inspections (62703)

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

Unit 2 C Steam Generator Main Steam Trip Valve (MSTV) Inadvertent Closure Resulting in a Reactor Trip.

After the MSTV was identified as the cause of the reactor trip which occurred on December 9, 1986, the licensee conducted an investigation to determine why the valve inadvertently closed during full power operation. The investigation was conducted using a special test procedure (SP) 2-ST-191. It should be noted that the MSTV was overhauled during the last refueling outage (October/November, 1986). The inspector witnessed selected portions of the SP and reviewed the completed SP. The following observations were noted:

- During removal of the cover for the valve the inspector observed that the cover was misaligned with regard to the stop tube positioning which would not allow for full opening of the MSTV.
- During stroke testing of the MSTV after removal of the cover, the inspector observed that the valve would open only approximately 75 degrees instead of the design opening of 80 degrees. The short opening radius appeared to be due to the air operator running out of stroke prior to the MSTV fully opening.

The discrepancies were noted by the licensee and were addressed during revision to the overhaul procedure for the MSTVs. The inspector reviewed the revised procedure (MMP-C-MS-002, "Corrective Maintenance Procedure for Inspection of Main Steam Trip Valve") during overhaul of Unit 1 MSTV 101C and determined that steps had been included to provide for proper alignment of the valve cover and radius arm during reinstallation. The procedure also provided for additional testing after reassembly to insure that proper valve operation was verified. A detailed description of licensee/NRC actions is addressed in inspection report 280; 281/86-42.

Review of Maintenance Activities Associated with Safety-Related Rotating Equipment.

During this inspection period, the inspector conducted a review of maintenance activities involving selected safety-related rotating equipment to evaluate the licensee's program for maintenance of this equipment. The review included a discussion with the licensee on how maintenance is performed on this equipment. The following administrative instructions were reviewed by the inspector during this review:

- SUADM-ADM-21, "Station Procedures"
- SUADM-M-11, "Work Request System"
- SUADM-M-14, "Work Order Scheduling"
- SUADM-M-16, "Operation of the Maintenance Department"
- SUADM-ENG-01, "Engineering Work Request"

After review of the administrative procedures, the inspector obtained copies of selected work packages. The work packages were selected at random from maintenance which had been conducted on safety-related pumps within the last year. The work packages were:

- Job Number 3800038032 - PM; Clean, Inspect, Lub, Insulation Test for Outside Recirc Spray Pump 01-RS-P-2A. No discrepancies identified.
- Job Number 3800043749 - PM; Clean, Inspect, Insulation Test for Motor Driven Aux Feed Water Pump 02-FW-P-3B. No discrepancies identified.
- Job Number 3800043982 - PM; Inspect and Service 4160 Motor for Residual Heat Removal Pump 02-RH-P-1B. No discrepancies identified.
- Job Number 3800043981 - PM; Inspect and Service 4160 Motor for Residual Heat Removal Pump 02-RH-P-1A. No discrepancies identified.
- Job Number 3800037081 - Disconnect, Inspect Motor Bearings, Reconnect for Charging Pump 01-CH-P-1B. No discrepancies identified.
- Job Number 3800030771 - Investigate Gear Box Vibration for Charging Pump 01-CH-P-1B. No discrepancies identified.
- Job Number 3800040381 - Investigate and Repair High Vibration Problem in Outboard Pump Bearing for Charging Pump 01-CH-P-1B. No discrepancies identified.

- Job Number 3800021093 - Repair Seal Leaks for Residual Heat Removal Pump 02-RH-P-1B. This job was accomplished using Corrective Maintenance Procedure MMP-C-RH-015. During review of this procedure, the inspector noted that a procedure deviation (change) had been processed on October 26, 1986. The deviation, in part, deleted the requirement to perform step 5.4.4.3 of the procedure. This step required checking of motor mounting fit for centralization. The acceptable tolerance for this step was 0.003 - inch. However, the reason listed for deleting this step from the procedure was that the runout was from 0.020 to 0.025 - inch due to rust and pitting. The pump was then reassembled without correcting the above condition. The inspector then reviewed the vendor technical manual for the pump and determined that the step deleted was one of the steps listed in the manual to assure proper pump alignment. The inspector brought this issue to the attention of licensee management and was told that management was fully aware of the condition of the pump when the decision was made to reassemble the pump without correcting the mating surface condition of the pump motor. The inspector asked if appropriate engineering evaluation and justification was documented prior to the procedure deviation which allowed for reassembly of the pump without meeting the criterion of the procedure step. The licensee stated that an evaluation was done and a vendor representative concurred in the deletion of the requirement; however, the evaluation was not documented. The inspector requested that appropriate engineering justification for the procedure deviation be documented and available for his review. This issue is unresolved pending licensee action to provide the engineering justification for deviating the repair procedure which eliminated a step which would verify pump alignment to be as recommended in the vendor technical manual (281/86-41-01).

- Job Number 3800042352 - Overhaul Pump. This job was identified during performance of periodic test (PT) 2-PT-30.1. The PT declared RHR pump 2-RH-P-1B inoperable due to a high differential pressure of 122.7 PSID. The work order was voided due to engineering work request (EWR) 86-414. The EWR accepted the pressure differential based on review of vendor pump curves. The inspector reviewed the EWR and the PT acceptance criteria and determined that different pump curves were used for the determination of the acceptance criteria in the PT as compared to the criterion used to evaluate the EWR. The inspector identified this concern to the licensee and requested that they determine which document was correct. This issue is unresolved pending the licensee's determination of appropriate curves for determining operability pressure differential for the RHR pump(s) (208/86-41-01; 281/86-41-02).

Component Cooling Water Heat Exchanger Repair.

During the inspection period, the inspector observed that the service water side of two of the component cooling water heat exchangers were open to conduct maintenance. Closer observation on one of the heat exchangers identified a condition in which corrosion was causing deterioration of the shell of the heat exchanger to the point where small areas adjacent to the tube sheet were corroded through. The inspector questioned the licensee as to the condition and requested that he be provided with the work packages describing the method of repair and appropriate testing after repair to verify integrity. The report period ended prior to the licensee completing evaluation of this condition. This issue is identified as an inspector followup item (280/86-41-02; 281/86-41-03).

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

7. Surveillance Inspections (61726)

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

- On January 7, 1987, the inspector witnessed portions of the performance of periodic test 1-PT-22.3C, (Diesel Generator No. 3 Test). The inspector witnessed starting of the diesel and conducted a general inspection of the diesel, associated instrumentation, and supporting equipment in the room. The inspector then witnessed loading of the diesel generator from the control room.
- On January 7, 1987, the inspector witnessed portions of the performance of periodic test 1-PT-15.1B, (Motor Driven Auxiliary Feedwater Pump 1-FW-P-3B). After completion of the test the inspector reviewed the completed test procedure.

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

8. Followup on Inspector Followup Items (92701)

(Closed) Inspector Followup Item (IFI) 280/81-04-02, Shielding study requests response. The issue involved outstanding design requests to allow for shielding on systems in the decontamination and auxiliary buildings to reduce radiation exposures. This issue was addressed in an April 20, 1981 response to the NRC. This item is closed.

(Closed) IFI 280/81-22-05, Review of revision to PT 2.15 to verify that density difference between pure and borated water is compensated for. This issue involved revision of appropriate procedure to correct for density compensation between pure and borated water. The inspector reviewed appropriate documentation including engineering calculations which corrected for the deficiency. This item is closed.

(Closed) IFI 280; 281/81-CI-13, IE Circular #81-13 concerning Torque Switch Electrical Bypass Circuit. The subject circular was reviewed by licensee electrical personnel and it was determined that the problem identified did not exist at the station. This item is closed.

(Closed) IFI 280/82-01-01, Engineering review of above ground cables to B RSS transformer to insure compliance with GDC 17. The licensee informed the inspector that a review to insure that the requirements of GDC 17 was performed and the installation was satisfactory. This item is closed.

(Closed) IFI 280/82-22-01, Review of licensee action with regard to excessive cooldown following reactor trip. The licensee reviewed the possible causes for excessive cooldown rates and took appropriate actions when possible to reduce cooldown rate. These actions included securing the auxiliary feedwater pumps as soon as determinations are made that these components are not required. Additionally, new moisture separator reheater isolation valve components are scheduled to be installed which will help the problem. The inspector considers that the licensee is taking appropriate action to eliminate the concern. This item is closed.

(Closed) IFI 280/82-35-01, Followup on licensee's program for removal and replacement of insulation. The inspector reviewed the licensee's response to this issue and discussed the item with station senior management. The station allows only experienced insulation personnel to remove/install insulation. This item is closed.

(Closed) IFI 280/83-26-01, Followup on Final Safety Analysis Report (FSAR), Section 8.2 requirement that requires blanket in bottom of cable trays in electrical switchgear room. The licensee initiated a change request to the Updated FSAR to allow for ladder type cable trays without a transited or asbestos blanket on the bottom of the trays. This change request was reviewed by the inspector. This item is closed.

(Closed) IFI 280/84-30-02, Technical Specification (TS) Review. This item was initiated to insure that systems which are required to be operable by Section 3 of the TS had surveillance requirements identified which verified or demonstrated operability. The licensee instituted an extensive program to ensure these requirements were met. The program required the development of several new procedures and changes to existing procedures. The normal resident program will continue to monitor future corrective actions in this area. This item is closed.

(Closed) IFI 280; 281/86-38-01, Followup on completion of work requests for freeze protection per PT-52. During this inspection period, the inspector reviewed documentation which completed the majority of work required to insure that adequate cold weather protection actions had been accomplished. In addition, the inspector reviewed PT-52, "Cold Weather Protection" for the month of November and concluded that appropriate attention to freeze protection is an ongoing action item for the licensee and receiving adequate coverage. This item is closed.

(Closed) 280, 281/TI 2515/80, Data Collection for the Performance Indicator Trail Program. The actions of this TI were completed in 1986 and this item is closed.

9. Followup on IE Bulletins (92701)

(Closed) 280; 281/80-BU-05, IE Bulletin 80-05. This bulletin concerned vacuum conditions resulting in damage to CVCS holdup tanks. This issue was discussed in inspection report 280; 281/84-10. In that report the licensee was requested to provide a supplemental response which would address additional tanks.

During this inspection period, the licensee provided the inspector with a supplemental response which addressed additional tanks in the Reactor Coolant, Boron Recovery, Chemical and Volume Control, Liquid Waste, and Vent and Drain System. The inspector reviewed the response and considers that actions required to close this Bulletin are complete.

(Open) 280; 281/80-BU-16, IE Bulletin 80-16. This bulletin concerned a potential misapplication of Rosemont, Inc. Models 1151 and 1152 pressure transmitters with A or D output codes. This issue was discussed in inspection report 280; 281/84-10. In that report the inspector requested that the licensee provide a basis for not including 1152 A transmitters which are used to monitor RWST level, emergency condensate storage tank level, wide range containment pressure, and others in their initial response.

During this inspection period, the licensee provided the inspector with a response to the concerns identified in inspection report 280; 281/84-10. The inspector reviewed this response and agrees with the licensee conclusion that RWST level and condensate storage tank level transmitters did not fall into the bulletin misapplication criterion. The licensee did not identify any other transmitters that are applicable to this bulletin. This item is closed.

(Closed) 280; 281/TI 2515/71, This TI was prepared to inspect licensee action in response to IEB 82-02 (Degradation of Threaded Fasteners in the Reactor Coolant Pressure Boundary of PWR Plants). The Bulletin was closed in inspection report 280; 281/84-10. The issues in the bulletin were responded to by the licensee in their letter to the NRC dated July 30, 1982 (Serial No. 358). This item is closed.

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 inspector's review also included followup on implementation of corrective action and review of licensee documentation that all required corrective action(s) were complete.

(Closed) LER 280/84-01, Reactor Trip. The trip occurred as a result of an Over Temperature (OT) Delta-T reactor trip signal caused by channel II being in trip to perform a periodic test and a power surge on Vital Bus I which resulted in tripping the relays for OT Delta-T channel I. The power surge was due to maintenance being performed on the Gaitronics (Public Address) system. Licensee corrective action included removal of this system from the vital power supply. This work was completed during the 1986 refueling outages for both units. This item is closed.

(Closed) LER 280/84-03, Reactor Trip; Low Steam Generator Level with Steam Flow/Feed Flow Mismatch. The trip occurred due to a decrease in condensate supply to the main feed pumps caused by inadvertent closure of the inlet valves to the demineralizer beds. This condition resulted in a decreased main feedwater flow and steam generator level resulting in the trip. Licensee corrective action included warning signs on breakers to verify that alternate flow paths are available prior to closing breakers which will cause the condition to reoccur, and implementation of a design change to the system which would allow for bypass valves to fail open on loss of electrical power. This item is closed.

(Closed) LER 280/84-20, Reactor Trip; C Reactor Coolant Pump Trip due to complete fracture of the "A" phase main load connection bus bar. The bus bar failure exact cause could not be determined due to the extent of damage to the bus bar. Licensee corrective action included replacement of all main load connection bus bars in C Reactor Coolant Pump. This item is closed.

(Closed) LER 280/85-03 Reactor Trip-Voltage Transient. The reactor trip was due to a voltage transient induced on Vital Bus I when a momentary overload condition existed. That caused circuit breaker No. 13 to trip open. Channel 2 OP Delta-T was already in a tripped condition because of a failed temperature sensor. The voltage transient caused a Channel 1 OP Delta-T reactor trip signal, and two or three OP Delta-T reactor trips occurred. The source of overload condition could not be identified. The delta T Protection Circuit was connected to another temperature sensor and the OP Delta-T and OT Delta-T removed from tripped condition. The Delta-T Protection temperature sensor was later replaced and the Delta-T control circuit returned to its original configuration. This item is closed.

(Closed) LER 280/85-06 Reactor Trip-(Anti-Motoring Turbine Trip). A reactor trip occurred due to a turbine trip. The turbine trip occurred as a result of an incorrectly positioned valve in the anti-motoring instrumentation which led to the anti-motoring Delta-P set point being exceeded. The valve lineup checklist incorrectly identified the valve and required the incorrect position. The corrective action by the Licensee included correctly positioning the valve and changing the station drawings, which did not properly identify the valve, and the valve lineup checklist for the main steam system. This item is closed.

(Closed) LER 280/85-11, Loss of Charging/High Head Safety Injection Pumps. The event was caused by inadequate precautions in the procedure used and by operator error. The inspector reviewed the licensee's actions to prevent reoccurrence which included: reinstruction of personnel in existing charging pump breaker interlocks; warning instructions which were posted at breaker cubicles; and additional operator training. This item is closed.

(Closed) LER 280/85-18, Turbine Trip/Reactor Trip. The trips occurred as a result of a low condenser vacuum signal that was created when an operator inadvertently closed the four condenser inlet valves while attempting to throttle the four condenser outlet valves from the fully open position. Licensee corrective action included placement of covers on the control switches of the inlet valves to prevent inadvertent operation. In addition operators were reinstructed in the manipulation of the control switches for the valves in that only one valve is to be operated at a time. This item is closed.

(Closed) LER 281/84-08, RHR Motor - Wrong Insulation. Review of past maintenance reports revealed that the 4160 volt motor leads for the unit's residual heat removal pump motors were improperly electrically insulated with heat shrinkable material rated for 1000 volts. The maintenance procedure used to repair the motors did not specify the appropriate reference manual or instructions for installing heat shrinkable insulation. The licensee replaced the heat shrinkable insulation on both motors with qualified tape. The licensee will also change the corrective maintenance procedure for all 4160 volt motors to reference the appropriate instruction manual to insure the correct material is used and installed properly. All safety related 4160 volt motor connections will be inspected to insure proper insulation during scheduled surveillance. This item is closed.

(Closed) LER 281/84-11, Potential Failure of No. 3 EDG. The licensee was informed that during a design basis event, the No. 3 EDG could overheat within five to seven minutes due to failure of the engine louvers to open, resulting in an unanalyzed condition. As corrective action, the licensee has mechanically blocked open the engine louvers for the No. 3 EDG and modifications are being evaluated and will be implemented as required to provide reliable EDG operation. This item is closed.

(Closed) LER 281/84-15, Reactor Trip- Load Shedding Actuated. As a result of relay testing in Unit 1, load shedding was initiated which tripped the Unit 2 "A" Main Feed Pump due to the position of the load shed selector switch. This lead to a reactor trip. The breaker testing procedures did not contain instructions relating to load shedding. Corrective action was performed by the licensee to identify and change where necessary all relay testing series procedures to address load shedding. This item is closed.

(Closed) LER 281/85-07, Inadvertent Safety Injection during the performance of SI system functional testing. The cause of the inadvertent safety injection was determined to be an inadequacy in the SI functional test procedure. The licensee modified the procedures for both units to prevent reoccurrence of this event. This item is closed.

(Closed) LER 281/85-08, Inoperable Auxiliary Building Vent System due to inadvertent failure of the auxiliary ventilation damper. The cause of the failure was due to a short in the damper actuators relief valve coil. The actuator was sent to the manufacturer for overhaul and functional testing. The repaired actuator was then returned to the licensee. This item is closed.

11. 10 CFR Part 21 Inspections (36100)

(Closed) 280; 281/P2185-01, K-Line Circuit Breakers with OD-4 or OD-5 Overcurrent Trip Devices. The issue involved inadvertent installation of short time delay band levers by the manufacturer in the subject breakers. The inspector reviewed the licensee's response to the Part 21 report and considers that appropriate actions were taken. This issue is closed.

(Closed) 280; 281/P2185-02, K-Line Circuit Breaker deficiency. The issue involved potential damage to control wire insulation when the circuit breaker is racked out to the full disconnect position with the compartment door closed. The inspector reviewed the licensee's response to the Part 21 report and considers that appropriate actions were taken to identify deficiency including revision of preventative maintenance procedure to inspect for the condition and correct as necessary. This item is closed.

12. Inspection of Dry Storage Spent Nuclear Fuel Facility (TI 0110/2)

Virginia Electric and Power Company received a license from the NRC issued on July 2, 1986, to package and store spent fuel assemblies at the Surry Independent Spent Fuel Storage Location (ISFSI) located on the Surry Power Station site. The license contained specific PREOPERATIONAL LICENSE CONDITIONS which had to be satisfied prior to the loading of spent nuclear fuel. During the previous three inspection periods, the inspector verified that all of these conditions had been accomplished. The inspector also witnessed the loading of the first cask with spent fuel, selected sealing, handling and decontaminating evolutions on the first two casks, and independent evaluation of radiation levels and operability of surveillance systems at the ISFSI.

During this inspection period, the inspector reviewed the completed procedures for Cask No. 500-11-003. These procedures included:

- OP-4.22, Storage of Spent Fuel in the Castor V/21 Dry Storage Cask Loading and Handling Procedure
- OP-4.23, Dry Cask ISFSI Cask Transport from the Crane Enclosure to the ISFSI Pad

No discrepancies were identified during these reviews.

The inspector considers that inspections completed during the past four inspection periods complete the requirements to close open item 280; 281/TI0110/2, Inspection of Dry Storage of Spent Nuclear Fuel at Surry.

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