



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

Report Nos.: 50-424/85-52 and 50-425/85-37

Licensee: Georgia Power Company  
 P.O. Box 4545  
 Atlanta, GA 30302

Docket Nos.: 50-424 and 50-425 License Nos.: CPPR-108 and CPPR-109

Facility Name: Vogtle Units 1 and 2

Inspection Conducted: November 1 - December 2, 1985

Inspectors:	<u>W H Rankin</u>	<u>1/10/86</u>
	for H. H. Livermore, Senior Resident Inspector, Construction	Date Signed
	<u>W H Rankin</u>	<u>1/10/86</u>
	for J. F. Rogge, Senior Resident Inspector, Operations	Date Signed
	<u>W H Rankin</u>	<u>1/10/86</u>
	for R. J. Schepens, Resident Inspector, Construction	Date Signed
Approved By:	<u>M V Sinkule</u>	<u>1/10/86</u>
	M. V. Sinkule, Section Chief Division of Reactor Projects	Date Signed

SUMMARY

Scope: This routine, unannounced inspection entailed 238 resident inspector-hours on site (40 hours were on backshifts) inspecting: containment and safety related structures, piping systems and supports, safety related components, auxiliary systems, electrical equipment and cables, instrumentation, quality programs and administrative controls affecting quality, and follow-up on previous inspection identified items.

Results: One violation was identified in the area of maintenance, paragraph 4.

## DETAILS

### 1. Persons Contacted

#### Licensee Employees

R. E. Conway, Senior Vice-President, Vogtle Project Director  
D. O. Foster, Vice-President, Project Support  
\*R. H. Pinson, Vice-President, Project Construction  
P. D. Rice, Vice-President Project Engineering  
W. T. Nickerson, Assistant to the Project Director  
\*D. G. Smith, Assistant to the Assistant Project Director  
D. S. Read, General Manager, Corporate Quality Assurance  
W. C. Ramsey, Readiness Review Manager  
H. H. Gregory III, General Manager, Site Prudence Audit Activities  
M. H. Googe, Project Construction Manager  
G. Bockhold, Jr., General Manager Nuclear Operations  
\*H. P. Walker, Manager Unit Operation  
O. Batum, Deputy to the Vice-President Engineering  
\*C. W. Hayes, Vogtle Quality Assurance Manager  
\*C. E. Belflower, Quality Assurance Site Manager - Operations  
\*E. D. Groover, Quality Assurance Site Manager - Construction  
S. D. Haltom, Quality Assurance Engineering Support Supervisor  
W. E. Mundy, Quality Assurance Audit Supervisor  
J. E. Sanders, Project Construction Manager - Unit 1  
D. M. Fiquett, Project Construction Manager - Unit 2  
\*B. C. Harbin, Manager Quality Control  
C. R. Brewer, Assistant Quality Control Manager  
T. L. Weatherspoon, Assistant Quality Control Manager  
\*G. A. McCarley, Project Compliance Coordinator  
W. C. Gabbard, Assistant Project Compliance Coordinator  
J. O. Dorrough, Administrative Manager  
W. F. Kitchens, Operations Superintendent  
\*P. T. Ciccinesi, Regulatory Compliance Specialist  
T. Dannemiller, Senior QA Engineer  
J. F. D'Amico, Regulatory Compliance Superintendent  
H. W. Swain, Mechanical QC Section Supervisor  
\*C. L. Coursey, Maintenance Superintendent  
\*M. A. Griffis, Maintenance Superintendent

Other licensee employees contacted included craftsmen, technicians, supervisors, engineers, inspectors, and office personnel.

#### Other Organizations

\*H. M. Handfinger, Preoperational Test Superintendent - Bechtel  
M. L. Bagale, QA Surveillance Specialist - Bechtel  
B. F. Hurless, QA Surveillance Specialist - Bechtel  
\*F. B. Marsh, Project Engineering Manager - Bechtel

\*Attended Exit Interview.

## 2. Exit Interview (30703C)

The inspection scope and findings were summarized on September 26, 1985 with those persons indicated in paragraph 1 above. The inspector described the areas inspected and discussed in detail the inspection finding listed below. No dissenting comments were received from the licensee. The licensee did not identify as proprietary any of the materials provided to or reviewed by the inspector during this inspection.

A separate meeting was held during the inspection period with the General Manager, Nuclear Operations to discuss control of access to plant equipment and necessary interfaces between Operations and Construction.

(Closed) Inspector Follow-up Item 50-424/85-13-01 "Review Implementation of FECO N-17-BF to Install 2 Piece Balance Drum Locknuts into the CVCS Charging Pumps" - Paragraph 4.

(Open) Violation, 50-424/85-52-01 "Failure to Provide Adequate Maintenance Procedures for Work on Safety-Related Equipment Appropriate to the Circumstances".

The following NRC exit interviews were attended during the inspection period by a resident inspector:

November 22, 1985	J. R. Harris
November 27, 1985	O. Masnyk

## 3. Licensee Action on Previous Enforcement Matters (92702)

(Open) Violation 50-424/85-43-01, 50-425/85-32-01; "Failure to Provide Adequate Protection to Safety-Related Components During In-Plant Storage" A meeting was held on November 22, 1985 at the Resident's office to discuss the licensee's response to NRC Violation 50-424/85-43-01, 50-425-85-32-01, dated November 15, 1985. The licensee informed the inspectors that they will be issuing a supplement to their response.

## 4. Licensee Action on Previous Inspection Items (92701)

(Closed) Inspector Followup Item, 50-424/85-13-01 "Review Implementation of FECO N-17-BF to install two-piece balance drum locknuts into the CVCS centrifugal charging pumps". The inspector reviewed maintenance work orders (MWO) No's. 1811851 and 1811852 for the installation of the new two-piece balance drum locknut assembly per FECO N-17-BF, Rev. 0 on the Train "A" & "B" CVCS centrifugal charging pumps. In addition, the inspector witnessed the installation of the new two-piece balance drum locknut assembly on the Train "B" CVCS centrifugal charging pump.

During the inspection of the Train "B" CVCS centrifugal charging pump balance drum locknut assembly change out on November 16 & 18, 1985, the inspector reviewed the following MWO's and procedures and the MWO associated with a lube oil flush and speed increaser gear inspection.

MWO 18511851	MWO To Install New Two-Piece Balance Drum Locknut Assembly on Train "A" CVCS Centrifugal Charging Pump
MWO 18511852	MWO To Install New Two-Piece Balance Drum Locknut Assembly on Train "B" CVCS Centrifugal Charging Pump
MWO 18511088	MWO to Provide Maintenance Support for Lube Oil Flush and Inspection/Cleaning of Speed Increaser Gear
SUM-22, Rev. 10	Maintenance Work Orders
27116-C, Rev. 1	Pacific RL/IJ Pump Inspection

During the inspection the inspector noted the following discrepancies regarding the implementation of SUM-22:

- a. A MWO was issued without all of the applicable documents. FECC N-17-BF specifies the installation instructions for a new two-piece balance drum locknut assembly. MWO 18511852 was issued to implement installation of two-piece balance drum locknut assembly utilizing FECC N-17-BF. However, upon inspection at the work site FECC N-17-BF was not part of the MWO package. In addition, when FECC N-17-BF was obtained and added to the MWO the inspector noted that it was marked as an uncontrolled copy and not for construction use.
- b. MWO was issued without appropriate work procedures and instructions. MWO 18511852 & 18511851 were issued with maintenance procedure No. 27116-C. This maintenance procedure was for the complete disassembly, inspection, and reassembly of a CVCS Pump. The scope of work, however, only required the disassembly of the outboard bearing and seal to achieve access for replacement of the two-piece balance drum locknut assembly. During the preparation of the MWO the unnecessary steps were not deleted nor was the necessary step to affect replacement of the new locknut added.  
  
MWO 18511088 was issued without appropriate work procedures and instructions for the disassembly, inspection, and reassembly of the speed increase gear for performing the lube oil flush. In essence the three MWO's should have been closely coordinated to achieve the overall work scope intended for the CVCS Centrifugal Charging Pumps.
- c. MWO's were processed without the ability to perform adequate reviews. As identified in paragraph b. above, the MWO's contained numerous steps that would not be performed and some steps were not included. Since each MWO undergoes reviews by representatives from engineering, operation, maintenance and quality control, it was evident that proper reviews could not be performed due to a lack of detailed instructions to implement the work scope. In the instance of the QC review for MWO

18411852, hold points were established for steps that were not performed and no hold point was established for witnessing the installation of the new locknut. This hold point was later established after FECO N-17-BF was added to the work package as mentioned in paragraph a. above.

- d. During the performance of work under MWO 18511852 it was observed that a QC inspector verbally waived a hold point upon recommendation by the vendor; however, SUM-22 requires an approved and documented consent waiver prior to work proceeding.

The above discrepancies are examples of failure to provide adequate control of maintenance activities regarding preplanning and review of work.

Several meetings were held with the licensee to fully discuss NRC concerns in this area. The NRC concern centers on the fact that the MWO process relies on the worker to identify the problems in execution of the maintenance and seek resolution of the problem while under pressure to complete the work. In the initial execution of MWO 18511852 it was observed, and later confirmed by the licensee, that the workers had not read nor were following the work procedure but instead were following the verbal directions of the vendor representative.

The foregoing is considered to be in violation of 10 CFR Part 50, Appendix B, Criterion V and will be identified as Violation 50-424/85-52-01 "Failure to provide adequate maintenance procedures for work on safety-related equipment appropriate to the circumstances".

Subsequently, the licensee took the following corrective steps prior to resuming work:

- A maintenance foreman was assigned to supervise all of the MWO's associated with the CVCS centrifugal charging pumps through their completion.
- MWO's 18511851 & 18511852 were enhanced by specifying the exact steps required to be performed in maintenance procedure No. 27116-C.
- MWO 18511088 was voided due to inadequate instructions and reissued as MWO 18512832.
- MWO 18512832 was issued with detailed instructions for performing the lube oil flush. Instructions were also provided pertaining to the completion of some of the work in support of the lube oil flush on MWO 18512833.

- Maintenance procedure No. 27115-C, Rev. 0 for the disassembly, inspection, and reassembly of the speed increaser gear was issued on November 19, 1985.
- MWO 18512833 was issued to disassemble, clean, inspect and reassemble speed increaser gear per the maintenance procedure. Additional instructions were also provided pertaining to the intermediate reassembly process in support of the lube oil flush per MWO 18512832.

#### 5. Construction Inspection - Units 1 & 2

Periodic inspections were made throughout this reporting period in the form of general type inspections in different areas of both facilities. The areas were selected on the basis of the scheduled activities and were varied to provide wide coverage. Observations were made of activities in progress to note defective items or items of noncompliance with the required codes and regulatory requirements. On these inspections, particular note was made of the presence of quality control inspectors, supervisors, and quality control evidence in the form of available process sheets, drawings, material identification, material protection, performance of tests, and housekeeping.

Interviews were made with craft personnel, supervisors, coordinators, quality control inspectors, and others as they were available in the work areas.

The inspector reviewed numerous construction deviation reports to determine if requirements were met in the areas of documentation, action to resolve, justification, and approval signatures in accordance with GPC Field Procedure No. GD-T-01.

On November 19, the inspectors attended one of the licensee briefings given to their QC inspectors to inform them of how protection under federal law is provided. These briefings were an hour long and were scheduled to be presented nine (9) times during the day to reach as many QC personnel on both shifts. The presentation was given by W. C. Whitney, B. C. Harbin and L. B. Glenn. Mr. Whitney described the legal basis for protection available to the employee from the Department of Labor and outlined the legal process that could take place thru the Supreme Court. He stated that Vogtle takes the position that the writing of Deficiency Reports are protected activities. Mr. Whitney stressed that no-one on the project will be retaliated against for identifying a quality concern. The proper level for resolving a concern was identified as first with supervisor then the Quality Concerns Program and finally the NRC which is available at any point. In summary, it was stressed that no-one should get the impression that concerns were not wanted, but instead must bring them forth as part of your employment. Mr. Glenn presented an overview of the Quality Concerns Program. In the presentation, it was pointed out that concerns would be processed and investigated within seven days to preserve the thirty-day time

frame the employee would have to submit a complaint to the Department of Labor. It was also stressed that this program was not in place to be used as a threat to a supervisor. Mr. Harbin stressed the avenues for raising a concern; and stated that he thought that Vogtle had the best QC inspectors. He also made the point that as the QC Manager he was available to discuss any concerns. The meeting was opened for questions. The inspector noted that several times during the presentation that emphasis was made to stress the importance of QC inspectors bringing quality concerns forward for identification and resolution.

No violations or deviations were identified.

6. Fire Prevention/Protection and Housekeeping Measures - Units 1 & 2 (42051C)

The inspector observed fire prevention/protection measures throughout the inspection period. Welders were using welding permits with fire watches and extinguishers. Post indicator valves were being maintained in the open position. Fire fighting equipment is in its designated areas throughout the plant.

The inspector reviewed and examined portions of the following procedures pertaining to the fire prevention/protection measures and housekeeping measures to determine whether they comply with applicable codes, standards, NRC Regulatory Guides and licensee commitments.

- GD-T-05, Rev. 6 Fire-Protection Equipment Inspection and Testing
- GD-T-15, Rev. 5 Welding and Cutting
- GD-T-17, Rev. 3 Housekeeping

The inspector observed fire prevention/protection measures in work areas containing safety related equipment during the inspection period to verify the following:

- Combustible waste material and rubbish was removed from the work areas as rapidly as practicable to avoid unnecessary accumulation of combustibles.
- Flammable liquids are stored in appropriate containers and in designated areas throughout the plant.
- Cutting and welding operations in progress have been authorized by an appropriate permit, combustibles have been moved away or safely covered, and a fire watch and extinguisher was posted as required.
- Fire protection/suppression equipment was provided and controlled in accordance with applicable requirements.

No violations or deviations were identified.



## 7. Containment (Structural Concrete) - Unit 2 (47053C)

## a. Procedure and Document Review

The inspector reviewed and examined portions of the following procedures pertaining to the placement of concrete to determine whether they comply with applicable codes, standards, NRC Regulatory Guides and licensee commitments.

- CD-T-02, Rev. 15 Concrete Quality Control
- CD-T-06, Rev. 9 Rebar and Cadweld Quality Control
- CD-T-07, Rev. 8 Embed Installation and Inspection
- CD-T-20, Rev. 6 Installation and Inspection of Trumpets, Rigid Extensions, and Duct Sheathing

## b. Installation Activities

The inspector witnessed portions of the concrete placement indicated below to verify the following:

## (1) Forms, Embedment, and Reinforcing Steel Installation

- Forms were properly placed, secure, leak tight and clean.
- Rebar and other embedment installation was installed in accordance with construction specifications and drawings, secured, free of concrete and excessive rust, specified distance from forms, proper on-site rebar bending (where applicable) and clearances consistent with aggregate size.

## (2) Delivery, Placement and Curing

- Preplacement inspection was completed and approved prior to placement utilizing a Pour Card (Procedure Exhibit CD-T-02\*18).
- Construction joints were prepared as specified.
- Proper mix was specified and delivered.
- Temperature control of the mix, mating surfaces, and ambient were monitored.
- Consolidation was performed correctly.
- Testing at placement location was properly performed in accordance with the acceptance criteria and recorded on a Concrete Placement Pour Log (Procedure Exhibit CD-T-02\*20).
- Adequate crew, equipment and techniques were utilized.
- Inspections during placements were conducted effectively by a sufficient number of qualified personnel.
- Curing temperature was monitored.



<u>Pour No.</u>	<u>Location</u>	<u>Inspection Activity</u>
A-1111-087	Control Building Wall	Preplacement and Placement
2-59A003, 2-59A-004	Auxiliary Feedwater Pump House Base Slab	Preplacement, Placement, and Curing
2-010-042/043	Containment Dome	Preplacement and Placement

No violations or deviations were identified.

8. Containment (Prestressing) - Unit 1 (47063C)

a. Procedure and Document Review

The inspector reviewed and examined portions of the following specification, procedure, and drawings pertaining to the installation of horizontal tendons, to determine whether they comply with applicable codes, standards, NRC Regulatory Guides and licensee commitments.

-X2AF04	Technical Provisions for Containment Post-Tensioning System
-AX2AF04-100-12	Field Instruction Manual for Installation of VSL E5-55 Post-Tensioning System Within Nuclear Containment Structures, Rev. 9
-1X2AF04-50-5	Horizontal Tendon Elevation-Unit 1 Buttress #1 to #2
-1X2AF04-51-4	Horizontal Tendon Elevation-Unit 1 Buttress #3 to #1
-1X2AF04-52-3	Horizontal Tendon Elevation-Unit 1 Buttress #2 to #3
-AX2AF04-78-4	Horizontal Tendon Stressing Data
-AX2AF04-79-4	Horizontal Tendon Stressing Data

b. Installation Activities

The inspector witnessed portions of the installation activities indicated below to verify the following:

- The latest issue (revision) of applicable drawings or procedures are available to the installers and were being used.
- Tendons were free of nicks, kinks, corrosion; were installed in designated locations; and that the installation sequence and technique was per specified requirements.
- Installation crew was properly trained and qualified.
- QC inspection was properly performed by qualified personnel in accordance with applicable requirements.

- Adequate protective measures were being taken to ensure mechanical and corrosion protection during storage, handling, installation, and post installation.
- Tendons were stressed in the proper sequence.
- All strands in the tendon were moving together during the stressing and the tendon is being stressed from both ends simultaneously.
- Elongation measurements were being taken properly and being compared to the calculated elongation.
- Anchor head lift-off force was being taken and documented properly.
- The stressing operation was being monitored to identify any strand slippage.

The following tendons were observed:

<u>Horizontal Tendon No.</u>	<u>From Buttress to Buttress</u>	<u>Seq. No.</u>	<u>Activity</u>
116	2 East-1 South	20	Pull Through Dummy Tendon
117	3 West-2 West	20	Tendon Installation
139*	1 North-3 East	24	Tendon Stressing
240	2 East-1 South	24	Tendon Stressing

\*Surveillance Tendon

No violations or deviations were identified.

9. Containment (Steel Structures and Supports) - Units 1 & 2 (48053C)

Periodic inspections were conducted to observe containment steel and support installation activities in progress, to verify the following:

- Components were being properly handled (included bending or straightening).
- Specified clearances were being maintained.
- Edge finishes and hole sizes were within tolerances.
- Control, marking, protection and segregation were maintained during storage.

- Fit-up/alignment meets the tolerances in the specifications and drawings.

No violations or deviations were identified.

10. Safety-Related Structures (Structural Steel and Supports) - Units 1 & 2 (48063C)

Periodic inspections were conducted to observe construction activities of safety-related structures/equipment supports for major equipment outside the containment to verify that:

- Materials and components were being properly handled to prevent damage.
- Fit-up/alignment were within tolerances in specifications and drawing requirements.
- Specified clearances from adjacent components were being met.

No violations or deviations were identified.

11. Reactor Coolant Pressure Boundary Piping - Observation of work and work activities - Unit 1 (49053C) (52063C) (52153C) (37301)

During the inspection period, pipe run walkdowns were performed where piping installation is near completion to determine whether the piping run was installed as shown on approved drawings and in accordance with applicable construction specifications. Specific pipe run walkdowns included a walkdown of portions of the following lines:

<u>P&amp;ID NO. REVISION</u>	<u>PIPE RUN INSPECTED</u>
1X4DB112, Rev. 17	Pressurizer Surge Line (053-14") Pressurizer Connections to Root Valves Pressurizer Spray Line (030-4"/030-6") Pressurizer PORV & Code Safety Relief Lines to the PRT (059-6", 063-6", 060-3", 063-6", 064-12", 058-6", 057-6", 056-6", 065-6", 066-6", 067-6" & 068-3/4")

Specific areas examined during the pipe run walkdown for compliance with the applicable isometric drawings and the Plant Design and Instrumentation Construction Specification No. X4AZ01, were as follows:

- Vent and Drain Connections and Locations
- Instrumentation Connections and Locations
- Valve Installation and Orientation
- Line Size and Location
- Fittings Type and Location
- Pipe/Valve/Fitting End Connections
- Hanger Locations and Types

No violations or deviations were identified.

## 12. Reactor Vessel Protection - Units 1 &amp; 2 (50053C)

Periodic inspections were conducted during the inspection period to determine that proper storage protection practices were in place, entry of foreign objects and debris was prevented, and that access was controlled for the following:

- Unit 1 & 2 Reactor Vessel
- Unit 1 Integrated Head Package
- Unit 1 Upper and Lower Internals

No violations or deviations were identified.

## 13. Safety Related Components - Units 1 &amp; 2 (50073C)

The inspection consisted of plant tours to observe storage, handling, and protection; installation; and preventive maintenance after installation of safety-related components to determine that work is being performed in accordance with applicable codes, NRC Regulatory Guides, and licensee commitments.

During the inspection the below listed equipment was observed at various times during the inspection period to verify the following as applicable:

- Storage, environment, and protection of components were in accordance with manufacturer's instructions and/or established procedures.
- Implementation of special storage and maintenance requirements such as: rotation of motors, pumps, lubrication, insulation testing (electrical), cleanliness, etc.
- Performance of licensee/contractor surveillance activities and documentation thereof was being accomplished.
- Installation requirements were met such as: proper location, placement, orientation, alignment, mounting (torquing of bolts and expansion anchors), flow direction, tolerances, and expansion clearance.
- Appropriate stamps, tags, markings, etc. were in use to prevent oversight of required inspections, completion of tests, acceptance, and the prevention of inadvertent operation.

The following Unit 1 equipment was inspected:

- Residual Heat Removal (RHR) Pumps
- Diesel Generators
- Containment Spray (CS) Pumps
- Pressurizer

- Main Coolant Pumps
- Steam Generators
- Safety Injection Pumps
- Containment Penetration Encapsulation Vessel for Train "B"
- RHR and CS
- Component Cooling Water (CCW) Heat Exchangers, Surge Tanks & Pumps
- Cable Spreading Room Train A & B
- Accumulator Tanks
- Reactor Coolant Drain Tank Pumps
- Chemical and Volume Control System (CVCS) Letdown Heat Exchanger
- Reactor Coolant Drain Tank & Heat Exchanger
- Reactor Cavity Pumps
- Battery & Charger Rooms Train A, B, C & D
- Nuclear Grade Piping, Valves & Fittings
- Spent Fuel Pool Heat Exchangers
- Pressurizer Relief Tank
- CVCS Centrifugal Charging Pumps & Positive Displacement Pump
- Bottom Mounted Instrumentation (BMI) Seal Table

The following Unit 2 equipment was inspected:

- RHR Pumps
- CS Pumps
- CVCS Centrifugal Charging Pumps & Positive Displacement Pump
- Steam Generators
- Safety Injection Pumps
- CCW Heat Exchangers Surge Tanks & Pumps
- Accumulator Tanks
- Pressurizer Relief Tank
- Diesel Generator Fuel Oil Tanks
- Nuclear Grade Piping, Valves, & Fittings

No violations or deviations were identified.

#### 14. Safety Related Pipe Support and Restraint Systems - Unit 1 (50090C)

Periodic inspections were conducted during the inspection period to observe construction activities during installation of safety-related pipe supports to determine that the following work was performed in accordance with applicable codes, NRC Regulatory Guides, and licensee commitments:

- Spring hangers were provided with indicators to show the approximate "hot" or "cold" position, as appropriate.
- No deformation or forced bending was evident.
- Where pipe clamps are used to support vertical lines, shear lugs were welded to the pipe (if required by Installation Drawings) to prevent slippage.

- Sliding or rolling supports were provided with material and/or lubricants suitable for the environment and compatible with sliding contact surfaces.
- Supports are located and installed as specified.
- The surface of welds meet applicable code requirements and are free from unacceptable grooves, abrupt ridges, valleys, undercuts, cracks, discontinuities, or other indications which can be observed on the welded surface.

No violations or deviations were identified.

15. Electrical (Components and Systems) - Units 1 & 2 (51053C)

Periodic inspections were conducted during the inspection period to observe safety-related electrical equipment to verify that the storage, installation, and preventive maintenance were accomplished in accordance with applicable codes, NRC Regulatory Guides, and licensee commitments.

During the inspection period the inspector conducted an inspection of the below listed equipment during storage, installation, and cable terminating to verify the following as applicable:

- Location and alignment
- Type and size of anchor bolts
- Identification
- Segregation and identification of nonconforming items
- Location, separation and redundancy requirements
- Equipment space heating
- Cable identification
- Proper lugs used
- Condition of wire (not nicked, etc.), tightness of connection
- Bending radius not exceeded
- Cable entry to terminal point
- Separation

The following Unit 1 equipment was inspected:

1-1605-PS-SDA	Train "A" Shutdown Panel
1-1605-PS-SDB	Train "B" Shutdown Panel
1-1805-S3-DAD	Reactor Coolant Pumps 13.8KV Switchgear
1-1805-S3-CAC	Reactor Coolant Pumps 13.8KV Switchgear
1-1804-S3-A03	4160V Switchgear 1BA03
1-1804-S3-A02	4160V Switchgear 1AA02
1-1805-S3-BBE	MCC 1BBE

1-1805-S3-B06 1BB06 Switchgear  
 1-1805-S3-B07 1BB07 Switchgear  
 1-1805-S3-BBC MCC 1BBC  
 1-1805-S3-B04 1AB04 Switchgear  
 1-1805-S3-B05 1AB05 Switchgear  
 1-1805-S3-BBD MCC 1BBB Train "B"  
 1-1805-S3-ABD MCC 1ABD Train "A"

The following Unit 2 equipment was inspected:

2-1805-S3-B06 2BB06 Switchgear  
 2-1805-S3-B07 2BB07 Switchgear  
 2-1605-S3-SDA Train "A" Shutdown Panel  
 2-1605-S3-SDB Train "B" Shutdown Panel

No violations or deviations were identified.

16. Electrical (Cables and Terminations) - Unit 1 (51063C)

a. Raceway/Cable Installation

The inspector reviewed and examined portions of the following procedures pertaining to raceway/cable installation to determine whether they comply with applicable codes, NRC Regulatory Guides and licensee commitments.

- ED-T-02, Rev. 8 Raceway Installation
- ED-T-07, Rev. 9 Cable Installation

Periodic inspections were conducted to observe construction activities of Safety Related Raceway/Cable Installation in the Containment, Control and Auxiliary Buildings.

In reference to the raceway installation, the following areas were inspected to verify compliance with the applicable requirements:

- Identification
- Alignment
- Bushings (Conduit)
- Grounding
- Supports and Anchorages

In reference to the cable installation the following areas were inspected to verify compliance with the applicable requirements:

- Protection from adjacent construction activities (welding, etc.)
- Coiled cable ends properly secured
- Non-terminated cable ends taped



- Cable trays, junction boxes, etc., reasonably free of debris
- Conduit capped, if no cable installed
- Cable supported
- Bend radius not exceeded
- Separation

b. Cable Terminations

The inspector reviewed and examined portions of the following procedures pertaining to cable termination to determine whether they comply with applicable codes, NRC Regulatory Guides and licensee commitments.

- ED-T-08, Rev. 7 Cable Termination

In reference to cable terminations the following areas were inspected to verify compliance with the applicable requirements.

- Cable identification
- Proper lugs used
- Condition of wire (not nicked, etc.), tightness of connection
- Bending radius not exceeded
- Cable entry to terminal point
- Separation

No violations or deviations were identified.

17. Safety Related Piping (Welding) - Unit 1 & 2 (55083C)

Periodic inspections were conducted on safety-related pipe welding at various stages of weld completion. The purpose of the inspection was to determine whether the requirements of applicable specifications, codes, standards, work performance procedures and QC procedures are being met as follows:

- Work was conducted in accordance with a process sheet which identifies the weld and its location by system, references procedures or instructions, and provides for production and QC signoffs.
- Welding procedures, detailed drawings and instructions, were readily available and technically adequate for the welds being made.
- Welding procedure specification (WPS) were in accordance with the applicable ASME Code requirements and that a Procedure Qualification Record (PQR) is referenced and exists for the type of weld being made.

- That the base metals, welding filler materials, fluxes, gases, and insert materials were of the specified type and grade, have been properly inspected, tested and were traceable to test reports or certifications.
- That the purge and/or shielding gas flow and composition were as specified in the welding procedure specification and that protection was provided to shield the welding operation from adverse environmental conditions.
- That the weld joint geometry including pipe wall thickness was specified and that surfaces to be welded have been prepared, cleaned and inspected in accordance with applicable procedures or instructions.
- That a sufficient number of adequately qualified QA and QC inspection personnel were present at the work site, commensurate with the work in progress.
- That the weld area cleanliness was maintained and that pipe alignment and fit-up tolerances were within specified units.
- That weld filler material being used was in accordance with welding specifications, that unused filler material was separated from other types of material and was stored in heated cans, and stubs properly removed from the work location.
- That there were no evident signs of cracks, excessive heat input, sugaring, or excessive crown.

No violations or deviations were identified.

18. Preoperational Test Program Implementation/Verification - Unit 1 (70302) (71302)

The inspector reviewed, in part, the implementation of the preoperational test program. Test program attributes inspected included review of administrative requirements, document control, documentation of major test events and deviations to procedures, operating practices, instrumentation calibrations, and correction of problems revealed by testing. Specific activities reviewed included the following procedures:

<u>Sum No.</u>	<u>Sum Procedure Title</u>
11, Rev. 2	Construction Acceptance Test Program
12, Rev. 1	Construction Acceptance Test Implementation
<u>Preop No.</u>	<u>Preop Test Procedure Title</u>
1-3BN-17, Rev. 0	Refueling Water Storage Tank
1-3KJ-01, Rev. 0 & Chg. Req's. No. 1	Diesel Generator Train "A" Starting Air System

The inspector also witnessed portions of the following construction acceptance tests (CAT):

<u>Cat. No.</u>	<u>Equipment/Generic CAT</u>
85-2903	RHR Train "A" (CAT-M-01) Pump & Motor (CAT-E-11)
85-908	ACCW Pump #1 (CAT-M-01)

Other tests witnessed by the inspector during the inspection period consisted of the train "A" safety injection pump lube oil flush.

The inspector also reviewed the following completed maintenance procedure data sheets for the train "A" RHR pump motor prior to witnessing the above listed CAT for the RHR pump & motor.

<u>Maintenance Procedure No.</u>	<u>Maintenance Procedure Title</u>
25734-C, Rev. 0	High Potential Testing A-C Motors (4KV Less Than 1000 HP)

No violations or deviations were identified.

19. Meeting With Local Officials (94600) - Unit 1 and 2

On November 20, a meeting was held to familiarize local officials of the City of Waynesboro and Burke County Board of Commissioners with the NRC. The meeting presented the mission of the NRC, introduction of key NRC personnel, discussion of lines of communication available to local officials, and discussion of the facility status. The NRC presented the scope of the inspection and emergency preparedness programs.

The meeting was open for questions during the presentation. NRC persons involved with the presentation were as follows:

- D. M. Collins, Chief, Emergency Preparedness and Radiological Protection Branch, Division of Radiation Safety and Safeguards
- M. V. Sinkule, Chief, Reactor Projects Section 2D, Division of Reactor Projects
- J. F. Rogge, Senior Resident Inspector, Operations
- R. J. Schepens, Resident Inspector

20. Management Meetings (30702B) - Unit 1

On November 25, 1985 the resident inspector attended a management meeting at the Region II office in Atlanta, Georgia. The purpose of this meeting was for Georgia Power Company to present Readiness Review Module No. 8 "Structural Steel"; Appendix D "Document Control Program; and Appendix E "Material Control" to the NRC for review.