



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

Report No.: 50-425/88-10

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

Docket No.: 50-425

License No.: CPPR-109

Facility Name: Vogtle 2

Inspection Conducted: February 22-25, 1988

Inspector: *T. E. Conlon* for 3/30/88
M. D. Hunt Date Signed

Accompanying Personnel: M. Miller

Approved by: *T. E. Conlon* 3/30/88
T. E. Conlon, Chief Date Signed
Plant Systems Section
Division of Reactor Safety

SUMMARY

Scope: This routine, unannounced inspection was in the areas of Electrical Work Observation and Records for Raceways and Instrumentation Procedure Review and Work Observation for Instrument Calibration.

Results: One violation was identified.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

- *J. Adams, Lead Instrumentation Engineer, Mechanical Discipline
- *S. Boutwell, Instrumentation and Control Supervisor, Maintenance (Startup)
- *C. Coursey, Maintenance Superintendent (Startup)
- *E. Duke, Assistant Manager, Electrical Discipline
- *M. Duncan, Instrumentation and Controls Supervisor, Nuclear Operations
- *D. M. Fiquette, Manager, Field Construction - Unit 2
- *J. J. Gilmartin, Staff Engineer Supervisor, Mechanical Discipline
- *L. B. Glenn, Manager, Quality Control
- *E. D. Groover, Quality Assurance Site Manager, Construction
- *H. Handfinger, Plant Startup Manager
- *A. W. Harrelson, Manager Electrical Discipline
- *C. W. Hayes, Quality Assurance Manager - Site
- *R. E. Holland, Electrical Construction Supervisor
- *C. W. Rau, Manager Mechanical Discipline
- *P. D. Rice, Vice President and Project Director

Other licensee employees contacted included construction engineers, technicians, and office personnel.

NRC Resident Inspector

*R. Schepens

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on February 25, 1988, with those persons indicated in paragraph 1 above. The inspectors described the areas inspected and discussed in detail the inspection findings. No dissenting comments were received from the licensee. The following new items were identified during this inspection:

VI0-88-10-01, Violation - Failure to issue Field Change Requests (FCR) for addition of fire protection piping to cable tray supports.

URI-88-10-02 Unresolved Item (URI) - Review the requirements for the performance and acceptance criteria of instrument loop checks during construction acceptance tests

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

This subject was not addressed in the inspection.

4. Unresolved Item

An Unresolved Item is a matter about which more information is required to determine whether it is acceptable or may involve a violation or deviation. One unresolved item identified during this inspection is discussed in Paragraph 6.

5. Electrical Components and Systems-Work Observation (51053)

The inspectors selected several raceway supports for examination. The supports selected were parts of conduit and cable tray systems. The inspection was conducted to verify that proper materials had been specified and installed; weld inspections were performed as required, anchor bolt torque requirements had been verified; the supports met the specification requirements for spacing; and, the location of the supports met the construction drawing requirements.

The QC inspection and acceptance of raceways and supports is performed in accordance with Procedure ED-T-02, Quality Control Raceway and Inspection Checklist. This checklist requires, verification that support materials and bolted assemblies meet the detail drawings as specified; and verification of welded assemblies for adequate size, length, type and configuration. Additionally, the Q/C inspector reviews the appropriate drawing Field Change Requests (FCR) to verify that all changes from the original design have been evaluated. Procedure ED-T-02 requires a minimum of 10% test of bolt torques.

The following conduit runs were examined to verify installation in accordance with procedures, specifications and drawings:

2BE8F2RS05D
2BE8F2RL135
2BE445RL091
2BE445RL087
2AE445RL079
2AE445RL056

The following cable trays supports were examined for various attributes used by the QC inspectors for acceptance of the installation:

TS160360	TS15437D	TS154306
TS160197	TS154493	TS154285
TS149301	TS154508	TS154311
TS149347	TS154320	TS154200
TS17566	TS154298	TS17187

It was noted that fire protection pipe support attachments were mounted on some of the above listed tray supports. In some instances, the cable tray supports had been inspected, accepted and documented by the electrical QC inspectors. The inspectors inquired about the method for permitting additional attachments to be made to the cable tray supports and what reanalysis was performed that assured that the support loading would remain within seismic requirements for which it was designed. The inspectors were advised that attachments were not made to cable tray supports until a seismic reanalysis was made and a FCR issued. The inspectors selected eight supports on which additional attachments were mounted for review of the required documentation. The review of records for these eight supports revealed that Support Nos. TS-154-370, TS-154-493 and TS-154-508 did not have FCRs for the addition of the fire protection piping supports. The licensee later determined possible two other cable tray supports had additional attachments that had not yet been evaluated.

Specification X3AR01, Section E8 states "No pipes, ventilation ducts, or other non-electrical material or equipment shall be permanently attached to or supported by the cable trays on the tray support systems, unless otherwise approved by Engineering." The licensee was advised that the failure to control the attachment of un-evaluated permanent fire protection piping supports to the cable tray supports appears to be a violation of construction Specification X3AR01-E8 and is identified as 50-425/88-10-01, Failure to Issue FCRs for Addition of Fire Protection Piping Supports to Cable Tray Supports.

Before the inspectors completed this inspection, the licensee had held training sessions for the craftsmen installing the fire protection piping on the subject of attachments to cable tray supports and how they are controlled. The licensee advised the inspectors that the undocumented attachments would have been found during a finalization walkdown. While the final walkdown may have identified these supports, it is important to perform the construction as specified to insure that all specifications and drawings requirements are met and appropriate inspections performed.

6. Instrument Components and Systems - Procedure Review (52051)

The inspectors reviewed the licensee's program to determine the requirements and methods used for implementing construction testing [calibration] for instrumentation. After the installation phase of construction is completed, the instruments are either released for test or turned over to the Nuclear Operation Department (N.O. Dept.) for testing. The N.O. Dept. is responsible for instrumentation calibration during the initial test program (ITP). The facility's Safety Analysis Report, Chapter 17.1.6, states the start up manual sets forth the general policies and procedures for the initial test program and that procedures for plant operation and maintenance may be used.

The inspectors examined the following procedures in or referenced in Start-Up Manual [SUM] relating to the ITP for instrumentation calibration:

SUM-1 Start-Up Manual Introduction and Control

SUM-3 Preoperational Test Program Organization, Responsibilities, and Interfaces

SUM-5 Rules for Performing Procedures

SUM-11 Construction Acceptance Test Program

SUM-12-A Construction Acceptance Test Implementation

SUM-18 Operations Deficiency Reports (ODR)

SUM-24 Initial Test Program Personnel Certification

00201-C Quality Control Inspection Program

85301-C Work Planning and Hold Point Assignment

CAT-E-08 Instrumentation

These procedures in the SUM define the requirements, administrative controls, and organizations for conducting Construction Acceptance Tests (CAT). CAT-E-08, Instrumentation, is the general CAT procedure used for implementing instrumentation calibration during the initial test phase.

CAT-E-08, Instrumentation, requires the Maintenance Department (Nuclear Operation) will calibrate instrumentation using approved maintenance procedures in conjunction with CAT-E-08. These approved maintenance procedures are instrument/loop specific and have been developed for instrument, channel, or surveillance calibration requirements when the plant is operational (fuel loaded).

The initial instrument/loop calibration is performed using the specific maintenance procedure(s) as required by CAT-E-08. However, in Section 6.4, Loop Check, of CAT-E-08 Step 6.4.1 requires all components to be loop checked (after initial calibration) to ensure the loop will perform its intended function. A note in Step 6.4 specifically states the Channel Status Check performed by the Maintenance Procedure(s) does not fulfill requirements of the Loop Check. The requirements for the performance and the acceptance criteria of the Loop Check in Section 6.4 of CAT-E-08 needs to be further reviewed to ensure the intended function of the loop is adequately tested. This loop check situation will be examined further during subsequent inspections and is identified as Unresolved Item (URI) 50-425/88-10-02, Review the Requirements for Performance and Acceptance Criteria of Instrument Loop Checks During Construction Acceptance Testing (CAT-E-08).

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

7. Instrument Components and Systems - Work Observation (52053)

The inspectors observed testing and calibration activities for two safety related instruments in the containment building. The instruments were the pressurizer Pressure Transmitter 2PT-457 and the pressurizer Level Transmitter 2LT-461.

The work package for each instrument was examined to determine if the latest approved drawings and procedures were being used. Each work package was found to be complete containing all the required documentation. Both packages contained the general Construction Acceptance Test (CAT) Procedure CAT-E-08, Instrumentation, and the specific maintenance procedure for the instrument calibration. The two maintenance procedures, for calibration were:

24527-2 Pressurizer Pressure Protection Channel 3 2PT-457
Analog Channel Operation Test and Calibration

24531-2 Pressurizer Level Protection Channel 3 2LT-461
Analog Channel Operation Test and Calibration

Each of these procedures was reviewed and the inspector verified the required calibrated measuring and test equipment was being used by the instrument technicians. However, neither transmitter could be calibrated.

Pressure Transmitter 2PT-457 had the signal wires incorrectly terminated. This required the technicians to suspend work and initiate an Operation Deficiency Report (ODR) as required by Procedure SUM-08, Operations Deficiency Report (ODR).

The technicians attempting to calibrate Level Transmitter 2LT-461 suspended work when they experienced set-up problems and were not sure of the calibration requirements. The QC inspector agreed work should be stopped until the instrument foreman could be notified and clarify the calibration requirements.

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