



UNITED STATES
 NUCLEAR REGULATORY COMMISSION
 REGION II
 101 MARIETTA ST., N.W., SUITE 3100
 ATLANTA, GEORGIA 30303

JUN 28 1982

Report Nos. 50-438/82-17 and 50-439/82-17

Licensee: Tennessee Valley Authority
 500A Chestnut Street
 Chattanooga, TN 37401

Facility Name: Bellefonte

Docket Nos. 50-438 and 50-439

License Nos. CPPR-122 and CPPR-123

Inspection at Bellefonte site near Scottsboro, Alabama

Inspectors: <u><i>J. D. Suttons for</i></u> M. D. Hunt	<u>6/25/82</u> Date Signed
<u><i>J. D. Suttons for</i></u> N. Merriweather	<u>6/25/82</u> Date Signed
Approved by: <u><i>T. E. Conlon</i></u> T. E. Conlon, Section Chief Engineering Inspection Branch Division of Engineering and Technical Programs	<u>6-25-82</u> Date Signed

SUMMARY

Inspection on June 7-10, 1982

Areas Inspected

This routine, unannounced inspection involved 54 inspector-hours on site in the areas of power cable installation, construction drawing control, emergency diesel generator storage, QA audits, and nonconforming reports.

Results

Of the five areas inspected, no violations or deviations were identified in four areas; one violation was found in the area of emergency diesel generator storage (space heaters not energized on diesel generator IRT-EMB-001G-B, paragraph 5.9.3). One unresolved item in the area of power cable installation was found (discrepancies between cable bend radii and vertical cable tray fittings, paragraph 5.9.1).

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REPORT DETAILS

1. Persons Contacted

Licensee Employees

- *W. R. Dahnke, Project Manager
- *F. E. Gilbert, Construction Engineer
- *F. J. Huffman, Assistant Construction Engineer, Electrical
- *D. A. Freeman, Electrical Engineering Unit (EEU) Supervisor
- *A. L. Richards, Assistant EEU Supervisor
- *W. L. McCollum, Instrumentation Engineering Unit Supervisor
- *J. T. Barnes, QA Unit Supervisor
- P. Cox, Electrical QC Inspector
- M. Thompson, Electrical QC Group Leader
- S. H. Thorne, QA Auditor
- G. Burns, Electrical Systems Engineer
- R. Roberts, Instrumentation Engineer

NRC Resident Inspector

*J. D. Wilcox

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on June 10, 1982, with those persons indicated in paragraph 1 above. The licensee was informed that the following items had been identified:

- a. 438-439/82-17-01, Unresolved item, Discrepancies between cable bend radii and vertical cable tray fittings
- b. 438/82-17-04 Violation, Space heaters not energized on diesel generator 1RT-EMB-001G-B

The licensee acknowledged the findings and offered no comments.

3. Licensee Action on Previous Inspection Findings

Not inspected.

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. New unresolved items identified during this inspection are discussed in paragraph 5.a.1.

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5. Electrical (Cables and Terminations I) - Observation of Work and Work Activities, and Review of Quality Records (51063B and 51065B)

This inspection was performed to determine whether site work is being accomplished in accordance with NRC requirements and SAR commitments, and that prompt and effective action is taken to correct deficiencies.

The following areas were examined to achieve the inspection objective:

a. Field Inspection

- (1) The inspector selected safety-related power cables 1-RT-ECA5-71A, 1-RT-ECA5-70A, 1-RT-ECA5-69A, 1-RT-ECA5-116A, 1-RT-ECA5-117A, 1-RT-ECA5-118A, 1-RT-ECA5-194B, 1-RT-ECA5-195B, 1-RT-ECA5-196B, 1-RT-ECA5-207B, 1-RT-ECA5-208B, and 1-RT-ECA5-209B for examination to assure that site work is being accomplished in accordance with NRC requirements and SAR commitments in the areas of storage, handling, identification, issue control, nonconformance control, material as specified, QC and work procedures, installation as specified, location, routing, physical separation and protection, raceway identification, raceway loading and nondestructive tests. While observing the cable routing the inspectors questioned the licensee concerning the minimum bending radius for the cables identified above. The licensee presented the inspectors with a table developed from Construction Specification G-38 which gives the minimum bend radii for each cable type used at Bellefonte site. This table specified a minimum bend radius of 19.60 inches for the cables identified above. The NRC inspector accompanied an electrical QC inspector to measure the bend radii on the vertical 90° cable tray fittings. From these field measurements and subsequent review of the cable tray procurement specifications it was determined that all 90° vertical fittings have a 12 inch bend radius. The licensee identified several different cable types (mark numbers) purchased on various contracts which have a minimum bend radius greater than 12 inches. The licensee has issued QC Investigation Report number 21465 requesting EN DES to resolve this discrepancy between Construction Specification G-38 and the cable tray procurement specification for Bellefonte site. The inspector informed the licensee that this item is unresolved pending EN DES evaluation and is identified as unresolved item 50-438, 439/82-17-01, Discrepancies Between Cable Bend Radii and Vertical Cable Tray Fittings.
- (2) The inspectors toured the cable spreading room and observed the as-built installations for cable tray and cable tray supports for identification, separation and routing. The inspectors questioned the licensee concerning the use of common supports for train A riser MK-R39A and train B riser MK-R4R from support MK-62A. The

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licensee has issued QC Investigation Report Number 21466 requesting EN DES to resolve the question concerning the use of common supports for train A and train B cable tray. This item is identified as inspector followup item 50-438, 439/82-17-02, Train A and B cable tray riser supported from a common cable tray support (MK-62A).

- (3) During the cable installation inspection it was found that the space heaters located in the generator section of diesel generator 1RT-EMB-001G-B (DG-1B) were not energized. Further examination revealed that the permanent power feed breaker was open but no tag had been installed stating a reason for this condition. The monthly inspection records stated that the heaters were energized as of May 18, 1982 and at the time of the other monthly inspections prior to this date. Bellefonte Nuclear Plant QA Procedure-1.3, Rev 3 paragraph 7.1e maintenance, states "Space heaters enclosed in electrical items shall be energized." This item appears to be a violation and is identified as 438/82-17-04, Space Heaters Not Energized on Diesel Generator 1RT-EMB-001G-B.

After being informed of the deenergized heater, the licensee issued Quality Control Investigation Report No. 21,464 for disposition of this condition. The heaters were energized, and a daily surveillance was instituted for a period of two weeks to verify that the heaters are energized. The inspectors verified on two different instances during the remainder of the inspection that the heaters were energized. Based on the corrective actions taken by the licensee, no response to this violation is required.

b. Drawing Control

The inspector reviewed several drawings to determine whether the most recent revisions of drawings are being issued and controlled in accordance with NRC requirements and SAR commitments.

c. QA Records Review

The inspectors reviewed the receipt inspection reports, certifications, completed pull slips and cable testing records for the safety-related power cables identified in paragraph 5.a.1 to assure compliance with NRC requirements and SAR commitments for QA records.

d. QA Audits

The inspectors reviewed QA Audits BN-E-80-02 and BN-E-81-08 of the Division of Power System Operations (DPSO) Field Engineering Section activities on site. DPSO has the responsibilities for calibration of the protective relaying system.

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The audit No. BN-E-80-02 was one of the first QA audits of DPSO performed by the BNPQA section. Six findings were identified. All were resolved in a timely manner. Audit No. BN-E-81-08 had only one finding, indicating that program improvement has occurred.

Within the areas examined, one violation (438/82-17-04), one unresolved item (438, 439/82-17-01), and one inspector followup item (438, 439/82-17-02) was identified.

6. Independent Inspection Effort

Control room panel IIX-IM-13 which contains trains A and B of the Engineered Safety Features Actuation System was examined for adequate separation of train wiring and cables. It was noted that the cabinet had a barrier between the cabinet wiring inside the panel. However, the panel was mounted over a well in the floor. The well area under the panel has no barrier thus the bottom of both train areas of the panel is open. The cables enter the panel through this open area. The inspector was advised that the open well area under the panel is considered part of the panel. The inspectors questioned the need for a fire barrier to divide the well area under the panel. The licensee will review the criterion. This item is identified as an inspector followup item 438/439/82-17-03 Fire Barrier Requirements for Area Under Panel I-IX-IM-13.

Within the areas examined, one inspector followup item was identified (438, 439/82-17-03).