



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

Report Nos. 50-438/82-18 and 50-439/82-18

Licensee: Tennessee Valley Authority  
500A Chestnut Street, Tower II  
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

Inspector: John W. York 7/23/82  
J. W. York Date Signed

Approved by: N. Economos 7/23/82  
N. Economos, Acting Section Chief Date Signed  
Engineering Inspection Branch  
Division of Engineering and Technical Programs

SUMMARY

Inspection on June 8-11, 1982

Areas Inspected

This routine, unannounced inspection involved 28 inspector-hours on site in the areas of licensee action on previous inspection findings, safety-related pipe support and restraint systems.

Results

Of the two areas inspected, one violation was found in one area, (Violation - 438,439/82-18-01, Failure to Follow Procedure for Hanger Inspections, paragraph 3). No deviations were identified.

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## REPORT DETAILS

### 1. Persons Contacted

#### Licensee Employees

- \*W. R. Dahnke, Project Manager
- \*F. Gilbert, Construction Engineer
- \*D. Smith, Assistant Construction Engineer
- \*B. J. Thomas, Assistant Construction Engineer
- \*F. J. Huffman, Assistant Construction Engineer
- \*D. R. Bridges, Assistant Construction Engineer
- \*G. K. Blackburn, General Construction Superintendent
- \*H. Johnson, Welding Engineering Unit Supervisor
- \*T. M. Brothers, Hanger Engineering Unit Supervisor
- \*J. T. Barnes, Quality Assurance Unit Supervisor
- \*F. L. Moses, Mechanical Engineering Unit Supervisor
- \*K. Lawless, Welding Engineering Unit
- \*D. Horn, QC Records, HEU
- \*P. C. Mann, Engineering Management Assistant

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

#### NRC Resident Inspector

- \*J. D. Wilcox

\*Attended exit interview

### 2. Exit Interview

The inspection scope and findings were summarized on June 11, 1982, with those persons indicated in paragraph 1 above. The inspector described the areas inspected and discussed the items listed below. Management licensee personnel stated that in their opinion they did not believe the Bellefonte hanger inspection program results would be any different than could be found in other licensee plants. The inspector gave the licensee a summary of the results of similar inspections at several other licensee's and stated that the magnitude of inspection problems appeared greater at Bellefonte.

Violation 438, 439/82-18-01, Failure to Follow Procedure for Hanger Inspections, paragraph 3;

Inspector Followup Item 438/82-18-02, Inoperable Valves, paragraph 3;

Unresolved Item 438/82-18-03, Spring Can Settings, paragraph 5;

Unresolved Item 438/82-18-04, Alternate Analysis of Hanger 1FF-MPHG-0058F, paragraph 5.

## 3. Licensee Action on Previous Inspection Findings

(Open) Violation 438, 439/81-32-01, Failure to Follow Procedure for Hanger Inspection. During an inspection at Bellefonte during December 9-11, 1981, the inspector examined 14 hangers, 7 from each Unit. The results of this inspection indicated that 6 of the hangers did not meet drawing requirements because one or more parameters did not conform to the drawing and related tolerances.

In a letter of response dated February 4, 1982, the licensee stated that the following steps and/or corrective actions had been taken to avoid further violations:

- A memorandum has been issued to reiterate the criteria and requirements for supports and inspections to all QC inspectors.
- The internal audit program established in April 1980, within the Hanger Engineering Unit, (HEU) was intensified on January 6, 1982, by the creation of a special team of audit inspectors made up of personnel outside of the QC Inspection Unit to perform "next day" audit inspections. HEU now audits on a sampling basis hangers that were inspected the previous day. The special team supplements this effort by auditing the regular audit teams.

In an inspection aimed at closing this violation and evaluating the effectiveness of the corrective actions, the inspector randomly selected the following hangers for reinspection (the QC records showed these hangers as having been final inspected).

a. UNIT 1

<u>HANGER NO.</u>	<u>SYSTEM</u>	<u>DATE OF INSPECTION</u>	<u>PIPE DIAMETER</u>
(1) INV-0184	Makeup and Purification	1/22/82	2"
(2) *1KC-1335	Component Cooling	2/26/82	4"
(3) 1KC-0051	Component Cooling	1/21/82	20"
(4) *1GN-0688	Nitrogen Purge	4/5/82	1"

b. UNIT 2

<u>HANGER NO.</u>	<u>SYSTEM</u>	<u>DATE OF INSPECTION</u>	<u>PIPE DIAMETER</u>
(1) *2KE-0981	Essential Raw Cooling Water	4/13/82	24"
(2) 2NS-0034	Reactor Building Spray	5/20/82	8"

(3) 2KD-0021            CRD Cooling Water            5/18/82            4"

The asterisk indicates the hangers on both units that did not conform to drawing qualifications.

On Unit 1, hanger number 1KC-1335 did not have the required full thread engagement on a locking nut. On hanger number 1GN-0688 the swing or perpendicularity of the vertical rod exceeded the allowable four degrees tolerance. Also, the Grinnel figure 66 item that attaches the rod to the base plate required the use of a 1/2 inch diameter rod and not the 3/8 inch diameter rod, called for in the drawing.

On Unit 2, hanger number 2KE-0981 had a loose jam nut and thread engagement did not meet drawing requirements for one of the locking nuts. Hanger number 2NS-0034 was partially disassembled because the pipe that this hanger was supporting had been relocated. A free pipe end (unwelded) was observed approximately two feet from this hanger. The inspector noted that this hanger had been improperly designated as, "final inspected" by the Hanger QC Records Unit.

Quality Control Procedure BNP-QCP-6.17 Rev. 3, "Seismic Support Installation and Inspection," in part describes the methods and requirements to be used in the inspection of seismic pipe supports (hangers). This procedure requires reporting of the deficiencies found during the reinspection of three out of seven hangers/supports. This failure to follow requirements of procedure BNP-QCP-6.17 Rev. 3 was in violation of 10 CFR 50, Appendix B, Criterion V as implemented by FSAR Section 17, paragraph 17.1A.5. This violation was identified as item number 438,439/82-18-01, Failure to Follow Procedure For Hanger Inspections. Violation 438,439/81-32-01 will remain open until a review can be conducted of the results of the intensified internal audit program.

This violation is a repeat violation for hanger inspections performed at Bellefonte. The importance of this matter was called to the licensee's attention in a telephone conversation between F. J. Long, Acting Chief, Projects Branch 1, USNRC-Region II, and L. M. Mills, TVA, Manager Nuclear Regulation and Safety on July 2, 1982.

During the hanger inspection of the Unit 1 Makeup and Purification System, the inspector noted that several valves had operability problems. The handle of valve number INV-VGFB-551-N could not be rotated 360 degrees because of its close proximity to an electrical conduit. Valve number INV-VGFB-185-N had a similar problem but in this case the obstruction was the base plate of the pipe hanger. This item will be noted as inspector followup item 438/82-18-02, Inoperable Valves.

## 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.

## 5. Safety-Related Pipe Support and Restraint Systems (Unit 1)

The inspector performed a visual examination of 5 hangers with snubbers and 5 hangers with spring cans. These were as follows:

HANGERS WITH SNUBBERS

<u>HANGER NO.</u>	<u>SYSTEM</u>	<u>SNUBBER SIZE</u>
a. ORE-0021	Demineralized Water	1/2
b. 1KC-007	Component Cooling	35
c. 1ND-0620	Decay Heat Removal	1
d. 1ND-0910	Decay Heat Removal	1/4
e. 1ND-0592	Decay Heat Removal	35

HANGERS WITH SPRING CANS

<u>HANGER NO.</u>	<u>SYSTEM</u>	<u>SIZE</u>
a. 1RK-0098	Compressed Air	3
b. 1RK-0096	Compressed Air	3
c. 1RK-0111	Compressed Air	8
d. 1KE-0765	Essential Raw Cooling Water	10
e. ONM-0569	Spent Fuel Cooling	7

The inspector observed that the spring cans had tabs indicating the hot and cold setting positions. The craft were setting the spring can indicators according to these tabs. On hanger numbers (drawing number) 1RK-0098 and 1RK-0096 the tabs had been positioned by the supplier to revision 0 of the applicable drawing. On both of these hangers a later revision of the drawing had changed the spring can loadings. None of these hangers had been inspected. The licensee stated that a method would be developed to insure that the spring cans had the proper setting. The licensee stated that the

craft would use the latest revision of the drawing for the settings and then the position tabs would be changed. This matter was identified as unresolved item 438/82-18-03, Spring Can Settings.

During an inspection of the Diesel Generator Building hanger No. 1FF-MPHG-0058F was visually inspected. The 1/2 inch diameter concrete expansion anchors supporting the hanger appeared small for the size of the support. The licensee stated that the hanger had been designed by Bellefonte personnel and the as-built parameters sent to TVA design group for Alternate Analysis. Until the Alternate Analysis can be examined for the adequacy of the concrete expansion anchors this matter will be identified as unresolved item 438/82-18-04, Alternate Analysis of Hanger 1FF-MPHG-0058F.