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

JUN 05 1984

Report Nos.: 50-438/84-10 and 50-439/84-10

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

Docket Nos.: 50-438 and 50-439

License Nos.: CPPR-122 and CPPR-123

Facility Name: Bellefonte 1 and 2

Inspection Dates: April 30 - May 4, 1984

Inspection at Bellefonte site near Scottsboro, Alabama

Inspector: R. W. Wright — R. W. Wright — 5/31/84 Date Signed

Approved by: C M Upright — C. M. Upright, Section Chief, Division of Reactor Safety — 5/31/84 Date Signed

SUMMARY

Scope: This routine, unannounced inspection involved 44 inspector-hours on site in the areas of onsite design activities; drawing control; seismic support installation and inspection activities; licensee action on previous enforcement matters; and licensee identified items reported under 10 CFR 50.55(e).

Results: Of the five areas inspected, no violations or deviations were identified.

REPORT DETAILS

1. Persons Contacted

*L. S. Cox, Project Manager
*R. E. Young, Construction Engineer
*B. J. Thomas, Construction Quality Manager
*J. T. Barnes, Construction QA Section Supervisor
*D. R. Bridges, Assistant Quality Manager, Electrical/Instrumentation/Civil/Materials/Preventive Maintenance
*P. C. Mann, Nuclear Licensing Unit Supervisor
R. G. Delay, Hanger, QC Unit Supervisor (HQC)
P. L. Mercer, Site Pipe Stress Analysis and Support Design Section Supervisor (SPSA & SDS)
S. Spencer, Engineer, SPSA & SDS
J. T. Dorman, Engineer, SPSA & SDS
M. J. Boddie, HQC Inspector
J. H. Rollins, HQC Inspector
D. W. Harbin, Materials Services Unit QC Inspector

Other Organizations

D. H. Moreau, Site Supervisor, ITT-Grinnell Engineering Support Group (ITTG-ESG)
A. D. Napolitano, Engineer, ITTG-ESG
I. E. Shaheen, Engineer, ITTG-ESG

NRC Resident Inspectors

J. W. York

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on May 4, 1984, with those persons indicated in paragraph 1 above. The licensee was notified by telephone on May 16, 1984, of the Region 1 decision to identify the following as an inspector followup item. The licensee acknowledged this finding.

IFI 438,439/84-10-01, Inspection Rejection Notice Corrective Action Responsibility

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

(Closed) Severity Level V Violation 50-438/83-07-02; 50-439/83-07-02: Failure to Audit Several Site Construction Activities on an Annual Frequency.

The licensee response dated October 13, 1983, was considered acceptable by Region II. As noted in the subject violation, the late audits were eventually performed during the next quarter. The inspector conducted discussions with the QAB unit supervisor pertaining to the reorganization of the Office of Quality Assurance (OQA) and the effect it has had on his manpower staffing. During the old scheme of doing things, Bellefonte was losing auditor/surveillance manpower because it had to periodically provide lead auditors to conduct audits at other TVA nuclear facilities. OQA has since delegated the Planning and Supports Group to provide three lead auditors to handle the planning, scoping, followup, and closeout of all site audits. This change will make more time available to existing Bellefonte audit/surveillance personnel to accomplish their program. The inspector examined the current QA staffing levels and the completed Bellefonte Surveillance Verification Schedule for January, February, and March 1984 versus the Annual Verification Plan and Schedule (Surveillance and Audits) for FY 1984. The inspector concluded that the onsite QA organization appears to be meeting its schedule for the performance of the Bellefonte audit/surveillance program.

(Closed) Severity Level V Violation 50-438, 439/83-07-03: Audit of ITT-Grinnell.

The licensee response dated May 16, 1983, was considered acceptable by Region II. Although TVA's vendor audit group failed to perform the required reaudit of the design activity until September 26-28, 1982 (20 months later), there was not at that time, nor is there at this point, any indication that the ITT-G A/E services provided to TVA are suspect or that the ITT-G QA program has problems. The September 21-28, 1982 audit of the Providence Design Office (audit No. 82V-41) and a subsequent audit conducted on ITT-G's onsite engineering support group resulted in a total of two minor record findings which have been resolved. Since the reorganization in November 1982, QA responsibilities were transferred from ENDES to the Office of the General Manager. Additionally, the staff of the procurement QA group was increased by four auditors and three TVA nuclear plant projects were deferred or cancelled; thus, the number of vendors has been reduced. TVA has committed to auditing all active vendors to bring the licensee in compliance with their required vendor audit frequency as specified in NRC Regulatory Guide 1.144 and a recent inspection in this area (IE Inspection Reports 438,439/83-30) did not disclose any problems.

(Closed) Severity Level V Violation 50-438/83-11-02; 50-439/83-11-02: Inadequate Storage and Protection of Equipment in Place.

The licensee response dated June 27, 1983, was considered acceptable by Region II. The inspector examined the in-place storage condition of motor operated valves and auxiliary feedwater pumps (AFW) cited by the IE Construction Appraisal Team and various randomly selected equipment to verify that this equipment was clean, covered with plastic where necessary and free of dripping water and rust. QCIRs (#35,281 and 29654) were written to replace the damaged temperature gauge, broken nipple, and flex conduit on AFW pump 1CAMPMPIA. The inspector examined the monthly trend analysis reports for maintenance of equipment (QCP 1.3) for January through April 1984 and the storage trending report (QCP 1.2) for the month of April 1984. This trending program helps the Construction Superintendent place proper emphasis on protection, storage, and maintenance of equipment in that he can provide additional attention, training, and personnel where needs are identified. Procedure BNP-QCP-1.3 has been revised and now provides more definitive maintenance inspection requirements. It appears to this inspector that since the reorganization of (consolidation of all preventive maintenance QC inspection personnel in April 1983) the Material-Receiving-Preventive Maintenance QC Unit, it has received better and more uniform training, the group has more clout, personnel morale has improved, and field engineering has taken a more responsible attitude for their assigned equipment.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Onsite Design Activities (37055B)

a. Functional Responsibilities for Onsite Design

(1) ENDES Site Pipe Stress Analysis and Support Design Section (PSA & SDS)

This extension group from ENDES Bellefonte Design Projects located on site performs certain original pipe design. Discussion with the PSA & SDS supervisor revealed that their design authority extends to alternate and rigorous analysis of 2-inch and under low temperature piping with the exception of that installed in the reactor building. In general, the site PSA & SDS will not analyze around anchor points or nozzles, piping whose temperature will exceed 120°F, and interface areas of rigorous analysis. Supports for these piping systems are chosen from ENDES-approved typicals. Modifications to seismic pipe supports are handled in accordance with procedure BNP-QCP-6.13, R8. By this procedure, PSA & SDS handles all modifications required on pipe support detail drawings that have been taken over by TVA.

(2) ITT-Grinnell Engineering Support Group (ITTG-ESG)

The ITTG-ESG, located at the Bellefonte Nuclear Plant, is a field engineering extension of the ITT-G Engineering Pipe Hanger Division and corporate office located in Providence, Rhode Island. ITTG-ESG activities at Bellefonte Nuclear Plant are limited to providing onsite design support to TVA during installation of ITT-G engineered component supports. They handle modifications required on engineering pipe support detail drawings that are still under the authority of ITT-G. For support changes which are too involved for the onsite ENDES/ITT-G engineers to revise, the drawing is placed on "Hold" and returned to the ITT-G Providence office for resolution.

b. Design Review

The inspector discussed and examined various designer personnel QA manuals, implementing procedures, and design input documents to determine whether the design staff were knowledgeable of the requirements, that documents were readily available, and that these documents were controlled and of current issue. Onsite design documents examined were the following:

ENDES PSA & SDS	Controlled Copy No.
Rigorous Analysis Handbook	45
Pipe System Engineering Inc., TPIPE User Manual	500
Pipe Support Design Manual	10
GTSTRUDL Users Manual	38
Seismic Support Modifications	R8
ITTG-ESG	
ITT-G QA Manual (Engineering Services)	155
ITT-G Engineering Standards, Vols. 1, 2, 3	87
General Requirements (Job Specifications)	28
Design Policy Information	203

The inspector discussed and examined the work effort of the below listed support modification requests that were prepared and checked by onsite design engineers. For this completed work, the designers were requested to discuss the scope of the design relative to design input, design review, design approval, reason/need for the change, and interface with their home offices. It was noted that all drawings released by ITTG-ESG are only preliminarily approved for use. Final approval is obtained after TVA Construction has installed the components and the Providence office has finalized, revised, and submitted the drawings to TVA (ENDES, Knoxville) for final approval.

For the following Support Modification Requests (SMRs), pertinent sketch numbers, design calculations and cover sheets, design review reports, and computer input and output data were reviewed by the inspector as applicable:

ENDES PSA & SDA	SMR 14450, 14797
ITTG-ESG	SMR R1269, 14752, 14201, 14789, R1782

c. Audits

The following audits of onsite design activities were selected for review to assure that they verified implementation of proper design, document, and records control; that adverse findings received effective corrective action; that the auditors possessed necessary technical expertise; and that the audited organization received a copy of the audit report.

Audit No./Title	Audit Agency	Date
83V-5 ITT-G Field Service Engineering Bellefonte Nuclear Plant	TVA	1/26-27/83
Internal QA Audit Report Bellefonte Site	ITT-G Providence, RI	07/14/83
Internal QA Audit Report Bellefonte Site	ITT-G Providence, RI	10/21/82
Internal QA Audit Report Bellefonte Site Activity	ITT-G Providence, RI	03/19/81

Within this area, no violations or deviations were identified.

6. Independent Inspection (92706B)

a. Seismic Support Installation and Inspection (35061B)

The Region II inspector accompanied an inspection team composed of two HQC personnel during their routine inspection of pipe hanger supports 1RJ-EPHG-0027F, 1RJ-EPHG-0741F, and 1RJ-EPHG-0028F. These inspections were conducted in accordance with procedure BNP-QCP-6.17, R7, Seismic Support Installation and Inspection, and other procedures referenced therein. These pipe hanger supports were inspected to the inspection criteria provided in Attachment "A", Support Inspection Checklist, and this record serves as a Life of Plant QA document. Items thoroughly inspected by this team were identification of supports; location of supports; configuration checks; and dimensional checks of plates, structural members, components, and anchors.

Prior to conducting this visual inspection activity, pertinent records pertaining to the supports were checked and verified by the HQC Unit as being complete and acceptable. Some of the documentation verified by the HQC Unit were the typical support location versus the ENDES-approved support load table location; that all QCIRs, NCRs, sequence control charts, work release, and anchor spacing variances are complete; that all required pull tests and/or torque tests were accomplished; and that all required welding was complete and acceptable. All this information is assembled into an inspection package which is given to the inspector to support his visual inspection.

All of the above-mentioned inspected pipe hanger supports were rejected because the elevation of the supports fell outside the ±2-inch allowable tolerance for the piping run. The HQC inspectors initiated inspection rejection notices (IRNs) for the three failed inspections in accordance with procedure BNP-QCP-10.43 R0, Inspection Rejection Notice, dated 11/1/83. This relatively new procedure applies to all Bellefonte inspection activities except those where corrective actions for an inspection rejection are adequately covered by existing QC procedures. The IRN system replaced the Quality Control Investigation Report system, whereby observed or suspected problems were previously identified for evaluation and resolution by Engineering.

Review of the subject procedure by the inspector revealed that the responsibility for determination of corrective action was not specified. Discussions with responsible site TVA personnel stated that it was understood that if the crafts could not restore the item to the conditions specified on the approved design drawing utilizing existing approved site procedures, the crafts would then involve Construction Engineering to obtain proper corrective action. However, statements to this effect do not exist in the subject procedure.

The subject IRN procedure should be more definitive as to what generalized type conditions the craft may disposition on their own and what matters should be referred to Construction Engineering. This concern was subsequently transmitted to the Bellefonte Quality Manager by telephone on May 16, 1984, and will be carried as Inspector Followup Item IFI 438,439/84-10-01, IRN Corrective Action Responsibility, until clarified in the IRN procedure.

Within this area, no violations or deviations were identified.

b. Verification of Drawing Control (35061B)

The inspector examined two separate controlled drawing sticks being utilized by the crafts in their respective work areas; one was in reactor building Unit 1 and the other was in the auxiliary building.

The following randomly chosen drawings and FCRs noted thereon were verified to be the latest controlled documents for the Bellefonte Plant.

Drawing Number	
5RW0812-RU-1, R9	FCR E2028, FCR E2047
5RW0866-RV-4, R9	
5RW0866-RV-11, R9	
5RW0818-RU-9, R10	
5RW0822-RU-1, R6	
WM1CA-15, R0	
WM2CA-2, R4	
WM2CA-5, R5	
WM2CA-13, R4	

The inspector conducted discussions with craftsman #4-028 concerning how his drawing file was upgraded with current drawings and FCR revisions, the action taken with superceded documents, and how he assures himself that he is working to the latest approved drawings.

Within this area, no violations or deviations were identified.

7. Licensee Action on Construction Deficiency Reports (CDRs) (92700B)

(Closed) CDR 438/81-25; CDR 439/81-27: Waiving of Source Inspection Without Proper Authority - QA Program Fails to Meet ANSI N45.2.11 - Procurement Contract Activities (Audit M80-11).

The licensee has submitted numerous interim reports on the various deficiencies referenced in OEDC Audit M80-11. The subject deficiencies were found generic to all TVA plants under construction. The corrective actions specified in the licensee's report dated August 3, 1981, for deficiency C and reports dated October 21, 1982 and April 27, 1983, covering deficiencies B, E, and A, D, respectively, were considered satisfactory for closure of this item. Watts Bar inspection reports 50-390/83-22 and 50-391/83-16 provide acceptable justification and rationale for closure of deficiencies A through E which is also valid for the Bellefonte Nuclear Plant.