



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

MAY 15 1984

Report Nos.: 50-390/84-27 and 50-391/84-22

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

Docket Nos.: 50-390 and 50-391

License Nos.: CPPR-91 and CPPR-92

Facility Name: Watts Bar 1 and 2

Inspection at Watts Bar site near Spring City, Tennessee

Inspector: R. W. Wright
R. W. Wright

5/7/84

Date Signed

Accompanying Personnel: D. K. Walters

Approved by: C. M. Upright
C. M. Upright, Section Chief
Operations Branch
Division of Reactor Safety

5/10/84

Date Signed

SUMMARY

Inspection on April 9-13, 1984

Areas Inspected

This routine, unannounced inspection involved 45 inspector-hours on site in the areas of verification of as-builts, and inspection of housekeeping activities.

Results

Of the two areas inspected, no violations or deviations were identified.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

- *S. Johnson, Quality Manager, Construction (Const)
- *F. Smith, Assistant Construction Engineer
- *C. Jetter, General Construction Superintendent
- *R. Nabors, Assistant Group Supervisor, Modifications and Additions (M&A), Const.
- *R. Sauer, QA Analyst, Office of Quality Assurance (OQA)
- *J. Selewski, QA Evaluator, Const. QA Branch (QAB)
- *T. Hayes, Nuclear Licensing Unit Supervisor, Const.
- *W. Cottle, Plant Manager, Operations
- *G. Denton, Operations Supervisor, Nuclear Power
- *W. Byrd, Compliance Supervisor, Nuclear Power
- L. Clift, M&A Group Supervisor, Const.
- F. Butcher, Civil Engineer, Civil Engineering Unit (CEU)
- K. Cook, Civil Engineer, CEU
- S. Francis, Const. Engineer, CEU
- L. Pauley, Steel and Architectural Features Group Supervisor, Civil QC Unit (CQC)
- K. Miller, QC Inspector, CQC
- L. Varner, Iron Worker Superintendent, Const.
- J. Fifrlick, QA Evaluator, Const. QAB
- K. Lester, Engineer, EN DES
- M. Johnson, Document Control Unit B Supervisor, Const.
- J. Smith, Document Control Unit A Supervisor, Const.

Other licensee employees contacted included construction craftsmen, technicians, QA/QC personnel, security force members, and office personnel.

NRC Resident Inspector

- *W. Swan
- *W. Holland

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on April 13, 1984, with those persons indicated in paragraph 1 above.

3. Licensee Action on Previous Enforcement Matters

Not inspected.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Verification of As-builts (37051B)

This inspection was conducted to determine that as-built design and construction drawings/specifications of selected structural assembly configurations correctly reflect the as-built conditions of the plant and that changes from original design were properly reviewed and approved. Supplemental review in this area of inspection has been conducted by the NRC resident inspector on site and by Region II based electrical and piping/welding discipline inspectors (Inspection Reports 50-390/82-27, 82-38, 83-18, 83-40, 84-30; 50-391/82-24, 62-25, 83-14, 83-29, 84-25) who have been inspecting selected piping systems, electrical raceways, and cables to determine that the Watts Bar as-built condition is as described in the FSAR.

a. Governing procedures and status of completion of as-built design documents

The inspector reviewed the following interdivisional quality assurance procedure, site quality control procedures, and instructions utilized by the licensee to control the transfer of features and as-built drawings, changes, and measures to assure that seismic and other stress calculations are based on these as-built conditions:

ID-QAP 1.2, R3, Transfer of Responsibility for the Plant From
OEDC to Power

QCI-1.22, R7, Transfer of Permanent Features to the Division
of Nuclear Power

QCI-1.30, R6, Control of Work On Transferred Systems,
Equipment, and Architectural Features

QCI-1.25, R7, Control of As-Constructed Drawings

QCI-1.02, R11, Control of Nonconforming Items

QCI-1.01, R12, Drawing and Document Control

QCP-2.04, R13, Fabrication, Erection, and Inspection of
Structural and Miscellaneous Steel

QCP-2.04-1, R0, Hot Functional Thermal Expansion Gap
Inspection

The transfer of permanent features to the Division of Nuclear Power occurs in two phases identified as tentative and final transfer. Tentative transfer of equipment or features requires that construction activities are sufficiently complete to allow routine operation by Nuclear Power to support other activities such as preoperational testing or occupancy of plant structures. Final transfer of equipment or features requires that all construction requirements be complete. Under this program, construction in preparation for a tentative transfer of equipment, structures, or system conducts in advance of the scheduled transfer (approximately 6 weeks) a walk-down to identify and document (punchlist of outstanding work items - OWIL) all incomplete work to include, but not limited to, outstanding ECNs, FCRs, QCIRs, NCRs, temporary conditions/alternations, construction tests and inspections, and work items within the features of the transferred boundaries.

Construction personnel also identify affected SCCDL ¹/₁ drawings and mark the boundary of the transfer feature on both SCCDL and non SCCDL drawings which contain details of the transfer feature. Construction personnel attempt to complete or resolve all items to Nuclear Powers satisfaction prior to transfer. Punchlist items not completed at the time of tentative transfer are listed in the transfer and encoded to the OWIL by Nuclear Power. The final transfer of permanent plant features is initiated by Nuclear Power after all incomplete work items are completed on the tentative transfer and, where applicable, that plant feature has been successfully tested by Nuclear Power.

Discussion with personnel responsible for the implementation of the Unit 1 tentative transfer program for permanent plant features revealed that as of April 5, 1984, 15 out of 309 system transfers and 3 out of 148 total architectural/structural transfers remain to be completed. It appears that the licensee has developed an adequate program and measures to control as-built design documents.

b. Review of As-builts (Structures)

Transfer Boundary Package X-PDO (1) which involved the transfer of equipment restraints, supports, and protection devices located in reactor building Unit 1 and the North and South valve rooms was

¹ System Configuration Control Drawing List (SCCDL) - A list by systems of configuration control drawings compiled by Nuclear Power as the minimum needed for operation and maintenance of the plant between tentative transfer and fuel loading.

selected for examination. Within the package, the inspector selected loop 2's upper and loop 4's lower steam generator supports to visually inspect to determine if their as-built configurations agreed with the following latest approved drawings and associated design changes:

<u>Drawing Numbers</u>	<u>Design Changes</u>
48N414, R13	NCR 3659R1, FCR F-2844
48N417, R11	NCR Nos. 1053R R1, F-2844, ECN 2032
48N418, R11	FCR F-2844
48N423, R22	FCR Nos. 523, 890

The inspector reviewed a sampling of the documentation compiled for tentative transfer package X-PDO(1) which included procedure QCI 1.22 attachment "B" which officially turned the subject transfer boundary package over to Nuclear Power, the transfer punchlist (OWIL) and the latest computerized OWIL dated 4/7/84, the listing of drawings to be as-constructed for this transfer, and the final walk through participation sheet.

The inspector examined the work being conducted by Work Plan 3802 and 3803 initiated by ECN 4507 which required various auxiliary and control building partition walls to be reinforced by steel angle restraints because additional unaccounted for loadings due to attachments added to these walls (hanger supports for cable trays, HVAC, fire protection, and various conduits) made them potentially suspect to the seismic effects of an earthquake. The inspector examined the materials involved, some of the shop and field fabricated welds associated with the restraints, the expansion shell anchor criteria involved and conducted discussions with responsible civil engineering unit and QC unit personnel concerning their involvement, inspection responsibilities, and knowledge of the controls that affect the processing of these work packages. Specific drawings, changes, procedures, and sections examined during this review were as follows:

Drwg. No. 41N373-3, R5	Elev A3-A-3	FCR F-3206
Drwg. No. 41N373-4, R2	Sect C4-C4	FCR F-3181

QCP 1.14, R13, Inspection and Testing of Bolt Anchors Set In Hardened Concrete and Control of Attachments to Embedded Features

QCP 2.04, R13 Fabrication, Erection, and Inspection of Structural and Miscellaneous Steel

The inspector conducted discussions with responsible construction document control unit supervisory personnel regarding their management controls (as discussed in QCI 1.01 and 1.25) for drawings and documents in particular for as-constructed and SCCDL drawings prior to their transfer to Nuclear Power. After these discussions, examination of the subject instructions and contact with document control personnel the

inspector concluded the licensee has established appropriate measures for control of these items.

Within this area, no violations or deviation were identified.

6. Independent Inspection (92706 B)

The inspector accompanied an OQA auditor during a routine housekeeping surveillance (Report No. C03S840111-C00) of the Unit 1 reactor building and later that week conducted by himself a housekeeping walkdown of the Unit 2 reactor building. No deviations or violations were identified during these inspections. Examination of a previously conducted surveillance (1/17/84) disclosed that site OQA had identified unsatisfactory conditions for the reactor buildings in that Zone A restrictions were not maintained. This item received top site management attention and OQA performed verification of the corrective action taken for the subject deviation (C03-S-84-0031-D01) and closed this item March 14, 1984, on the basis that adequate corrective action had been completed.

Within this area, no violations or deviations were identified.