



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

Report No. 50-390/80-16

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

Facility: Watts Bar Nuclear Plant

Docket No. 50-390

License No. CPPR-91

Inspection at Watts Bar Nuclear Plant near Spring City, Tennessee

Inspector: P. A. Taylor for  
J.A. McDonald

6/20/80  
Date Signed

Approved by: P. A. Taylor for  
H.C. Dance, Section Chief

6/20/80  
Date Signed

SUMMARY

Inspection on May 1-30, 1980

Areas Inspected

This routine, announced inspection involved 184 resident inspector-hours on site in the areas of plant procedures, and nonconformance reporting.

Results

Of the two areas inspected, one item of noncompliance was found in the two areas collectively. ( Infraction-failure to follow procedures, Paragraphs 5. and 6).

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## DETAILS

### 1. Persons Contacted

#### Licensee Employees

- \*J. E. Wilkins, Project Manager
- \*J. M. Lamb, Mechanical Engineering Supervisor
- \*R. D. Eidson, Startup and Test Supervisor
- \*C. O. Christopher, Assistant Construction Engineer
- \*J. G. Shields, Assistant Construction Engineer
- \*A. W. Rogers, Quality Assurance Supervisor
- \*R. L. Heatherly, Quality Control and Records Supervisor
- \*J. Johnson, Assistant Construction Engineer
- \*L. C. Northard, Assistant Construction Engineer
- \*J. P. Ballard, Mechanical Engineer Unit "B"
- John Smalley, Engineer, Mechanical Engineer Unit

Other license employees contacted included two office personnel in the drawing control center and three office personnel in the Quality Control and Records Unit.

### 2. Exit Interview

The inspection scope and findings were summarized on May 30, 1980 with those persons indicated in Paragraph 1 above. The licensee acknowledged the findings. No commitments for resolution of the open items discussed in this report were made by the licensee. The inspector will make a separate request for such commitments.

### 3. Licensee Action on Previous Inspection Findings

Not inspected

### 4. Unresolved Items

Unresolved items were not identified during this inspection.

### 5. Dispositioning of Nonconformances

- References:
1. Watts Bar Nuclear Plant Quality Control Procedures (WBNP-QCP) 1.2, Control of Nonconforming Items, Revision 9, dated February 20, 1980.
  2. Office for Engineering Design and Construction Quality Administrative Instruction (OEDC-QAI) 4, Determining, Reporting, and Correcting Conditions Adverse to Quality, revised December 21, 1979.

3. Office for Construction - Quality Assurance Staff Procedure (CONST-QASP) 4.7, Review of Significant NCRs for Action Required to Prevent Recurrence, Revision 0, dated January 22, 1980.

The inspector reviewed the licensees procedures for administering resolution to and reporting of nonconforming conditions to verify appropriate requirements existed for correcting all nonconforming conditions and additional requirements for reporting and taking action to preclude recurrence of significant nonconformances per 10 CFR 50.55(e). The inspector reviewed the log of recently identified nonconforming reports (NCR's) and selected twenty-five NCR's to verify that the required procedural actions were being implemented. Findings were acceptable except as follows:

- a. WBNP-QCP 1.2, Section 5.3, requires the Unit Supervisor of the responsible Construction Engineers Office to tag in-process nonconforming items. NCR 2267R- initiated April 18, 1980, included identification of improper storage of QA materials such as valves, fittings and gaskets. Materials in this area were generally unprotected and dirty, yet were available for construction of the plant.

However, the inspector noted the materials were still available for issue (without nonconformance tagging) thirty-nine days after the nonconforming condition report. The failure to identify and segregate nonconforming materials, combined with similar examples in Paragraphs 5.b., 5.c., and 6.a. collectively constitutes an item of noncompliance. In response to this item, the licensee should also address the potentially adverse affects which have resulted from this apparently long standing nonconforming condition.

- b. Section 2.1 of CONST-QSAP-4.7 requires that the Supervisor of the Quality Assurance Unit (QAU) review significant NCR's to concur in the determination of action taken to prevent recurrence. The following significant NCR's did not receive the required QAU supervisor review:

NCR NUMBER	DATE	TITLE
2111R	02/21/80	Insufficient Weld Metal
2120R	02/18/80	Additional Weld Metal Required
2128R	02/26/80	Additional Weld Metal Required
2137R	02/18/80	Additional Weld Metal Required
2138R	02/29/80	Additional Weld Metal Required
2157R	03/07/80	Additional Weld Metal Required
2162R	03/21/80	Additional Weld Metal Required
2168R	03/10/80	Additional Weld Metal Required

This failure to perform required reviews, combined with similar examples in Paragraph 5a, 5c, and 6a, collectively constitutes an item of noncompliance (50-390/80-16-01).

It was noted that the QAU supervisor was only on the distribution list for completed NCR's per the processing form, Attachment A1 to QBNP-QCP-1.2. The form appears to be designed to assure routing to persons who must take action during the actual NCR processing, yet there was no place for the QAU supervisor reviews which were noted as missing in this inspection. Further comment is contained in Paragraph 5.c.

- c. Section D. of OEDC-QAI-4 required that the applicable site QA organization review "nonsignificant" conditions adverse to quality and upgrade them to "significant" where deemed necessary. Further, Section G required the Watts Bar facility to provide written procedures for the implementation of this requirement. No site written procedure contained this requirement and the review was not being accomplished. This failure to follow procedures, combined with similar examples in Paragraphs 5.a., .5b., and 6.a., collectively constitutes an item of noncompliance (50-390/80-16-01).
- d. Watts Bar QCP-1.2, Section 6.1.2, required the Quality Control and Records Unit personnel to ensure NCR record logs are current and complete. The following NCR's were found to be incomplete as noted:

NCR	DEFICIENCY
2253R	No location, no vendor, no contract item numbers, no quantity
2277R	No location, no quantity
2292R	No location
2293R	No location, no vendor
2294R	No location, no vendor
2295R	No location, no quantity
2296R	No location, no vendor
2297R	No location, no vendor
2298R	No location
2299R	No location, no reason for nonconformance
2300R	No location
2301R	No location
2302R	No location
2304R	No location

This information was, however, retrievable from the specific NCR. Until subsequent inspection reveals that the NCR log is current and complete this item will remain open (50-390/80-16-02)

## 6. Plant Procedures

- References:
- 1. Watts Bar Nuclear Plant Quality Control Procedure (WBNP-QCP) 1.8, Quality Assurance Records, Revision 3, dated April 30, 1979.
  - 2. WBNP-QCP 1.25, Control of As-Constructed Drawings, Revision 3, dated April 30, 1979.

3. Watts Bar Standard Practice Manual (WB) 14.1, Procedure for Initial Operations, Testing, and Transfer of Equipment and Auxiliaries, revised April 14, 1980.
4. WBNP-QCP-1.22, Transfer of Permanent Features to the Division of Nuclear Power, Revision 0, dated May 19, 1980.
5. Division of Construction Quality Assurance Procedure (CONST-QAP) 17.1, Quality Assurance Records, Revision 4, dated January 25, 1980.
6. WBNP-QCP-1.13, Preparation and Documentation of Field Change Requests, Revision 8, December 27, 1979.
7. WB-3.2.1. Document Control and Identification of Critical Systems, Structures, and Components (CSSC), revised April 4, 1980.
8. Administrative Instruction (AI) 8.B, Control of Modification and Construction Completion Work on Transferred Systems Before Unit Licensing, Revision 1, dated January 22, 1980.
9. WBNP-QCP-1.30, Control of Work on Transferred Systems, Equipment, and Architectural Features Revision 0, March 23, 1979.
10. Interdivisional Quality Assurance Procedure (ID-QAP) 6.1, Drawing Control, Revision 0, dated July 28, 1978.
11. WBNP-QCP-1.2, Control of Nonconforming Items, Revision 9, dated February 20, 1980.

The licensees administrative procedures for "as constructed" drawings and drawings under "configuration control" and related procedures referenced above were reviewed to verify they provided appropriate support for system turnover and preoperational testing. Findings were acceptable with the exception of the following:

- a. Section 6.3 of WBNP-QCP-1.8 required responsible Engineering Units to submit lists of "Life of Plant" and "Duration of Construction" quality assurance records to the Quality Control and Records Unit (QC & RU). No such lists have been submitted to the Quality Control and Records Unit. This example of failure to follow procedures, combined with similar examples listed in Paragraphs 5.a., 5.b., and 5.c., collectively constitutes an item of noncompliance (50-390/80-16-01).

The QC & RU supervisor indicated that he had generated his own working list of "Life of Plant" and "Duration of Construction" quality assurance records. This list was strictly an informal document used by the

unit. The inspector noted that the list was incomplete in at least two areas and had some questionable designations.

- b. The licensee's administrative procedures which control interfacing activities between the Division of Power Production and the Division of Construction were noted to give varying guidance on the same subjects.
- (1) Section B.4 of WB-14.1 required the Division of Power Production to hang operation release tags on Auxiliary Building equipment; whereas Section 6.2.9 of WBNP-QCP-1.22 required the Division of Power Production to physically identify by tag or other means the boundaries of a system which has been released for initial operation.
  - (2) Attachments 1-14 of WB-3.2.1 specify retention times for non-permanent records (DOC): however, WBNP-QCP-1.8 does not specify retention times for these documents.
  - (3) WB-14.1, Step B.5 addresses control of all construction activities on Initial Operation Release (IOR) equipment; however, WBNP-QCP-1.22, Section 6.2 only addresses operation activities.
  - (4) The format for Initial Operation Release (IOR) Sheets are given differently in WB-14.1, Attachment 1 and WBNP-QCP-1.22, Attachment 1.
  - (5) The Work Plan control sheet differs somewhat in format, depending on whether it is given as Attachment B to WBNP-ACP-1.30, Attachment A to AI-8B or Attachment 4 to WB-14.1. Only the latter notes whether or not work is safety-related.
  - (6) AI-8B, Section 5.2.2 identifies Division of Construction responsibilities including "...Provide QA documentation for construction work on Safety Related systems...." WBNP-QCP-1.30 does not list this responsibility.
  - (7) The scope of configuration control drawings is given differently in WB-14.2, ID-QAP-6.1, Section 3.1.5 and WBNP-QCP-1.25, Section 4.1.
  - (8) AI-8B and WBNP-QCP-1.30 differ on the definition of:
    - a. Work plan Reference: I-8B, Section 4.12  
WBNP-QCP-1.30, Section 4.4
    - b. Construction Coordinator  
Reference: AI-8B, Section 4.9  
WBNP-QCP-1.30, Section 4.4
    - c. Design Change Request  
Reference: AI-8B, Section 4.17

- d. Construction Work Plan Coordinator  
Reference: AI-8B, Section 4.10  
WBNP-QCP-1.30, Section 4.15
  - e. Responsible Engineer  
Reference: AI-8B, Section 4.8  
WBNP-QCP-1.30, Section 4.13
  - f. Modification Reference: AI-8B, Section 4.1  
WBNP-QCP-1.30, Section 4.7
- 9. The definition of field change request (FCR) is given differently in WBNP-QCP-1.13, Section 4.1 and AI-8B, Section 4.5.
  - 10. The definition of "Duration of Construction records is given differently in CONST-QAP-17.1, Section 2.B, WBNP-QCP-1.13, Section 4.4, and WB 3.2.1, SECTION 3.0.
  - 11. The definition of "Life of Plant" records is given differently in CONST-QAP-17.1, Section 2.A.1, WBNP-QCP-1.13, Section 4.3, and WB 3.2.1, Section 3.0.

Until the licensee resolves the differing guidance provided in the procedures governing the interfaces between the Division of Power Production and Division of Construction, this item is open (50-390/80-16-03).

- c. Section 6.1.30 of WBNP-QCP-1.25, stated that the Drawing Control Center maintains a complete file consisting of a copy of each drawing designated to be under configuration control. Presently, not all drawings under configuration control are being maintained. Only those prints (and their subsequent revisions) requested by site personnel and forwarded from Engineering Design are being maintained. This item is open until procedures are updated to reflect current activities (50-390/80-16-04).
- d. Section 6.44 of WBNP-QCP-1.25 stated that the Drawing Control Center will maintain a current list of all drawings revised by completed work plans and transmit these master reproducibles to the Division of Engineering Design (EN DES) at 30 day intervals. No such list was being maintained and the master reproducibles are not being transmitted to EN DES. No QA program breakdown as a result of this departure from procedures could be foreseen by the inspector, therefore only the procedures are required to be updated. Until procedures are updated to reflect current activities, this item is open (50-390/80-16-05).
- e. Section 5.1.6 of WBNP-QCP-1.25 state that the Drawing Control Center is responsible for reviewing and accepting Power Production generated System Configuration Control Drawing Lists (SCCDL). The inspector

found the following three examples of prints which were under configuration Control, yet did not appear on the SCCDL:

47B601-74-10 Residual Heat Removal Instrument Tabulations  
47B601-74-10 CVCS Instrument Tabulations  
47B601-74-10 CVCS Instrument Tabulations

Also, several prints had not been added to the SCCDL as required by the two TVA Transmittal letters listed below:

TVA Transmittal number 781127009, dated November 27, 1978, required Drawings 47W610-14-2 through 11 and 47 B601-14 series to be added to the SCCDL.

TVA Transmittal number 1008011, dated October 4, 1979, required Drawing 45W760-78-2 to be added to the SCCDL. Until the licensee brings activities and instructions concerning the updating of the SCCDL into agreement, this item is open (50-390/80-16-06)

- f. The Drawing Control Center tracks the status of "AS-Constructed" prints using an "IBM System 6". Also the accountability and distribution of drawings under Configuration Control is maintained on "Ledger Cards." Documental procedures covering both of these activities have not been established. Until the licensee establishes administrative procedures for the control of drawings which are "As-Constructed" or under "Configuration Control", this item is open (50-390/80-16-07).