TENNESSEE VALLEY AUTHORITY
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MAY 04 1988

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Gentlemen:

In the Matter of the Application of) Docket Nos. 50-390
Tennessee Valley Authority) 50-391

WATTS BAR NUCLEAR PLANT (WBN) UNIT 1 - REGION II INSPECTION REPORT NO. 50-390/86-20 - ADDITIONAL INFORMATION ADDRESSING INITIAL TEST PROGRAM

Enclosed is our response to Kenneth P. Barr's letter to S. A. White dated February 3, 1988, which transmitted a request for information on the subject of adequacy of the WBN initial test program in light of violation 50-390/86-20-01.

As discussed with Raj Auluck, Steve Elrod, and Glenn Walton on March 4, 1988, TVA is in the process of developing a detailed Prestart Test Program for submittal to NRC as part of the Watts Bar Program Team's presentation of major programs at WBN. The enclosure provides an overview of TVA's plan for conducting component and preoperational test programs that will provide validation of plant configuration and system design when construction and modification work is completed.

Glenn Walton, NRC Resident, was notified of the delay in submitting this response on May 4, 1988.

If there are any questions, please telephone D. A. Kulisek at (615) 365-8650.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

R. Gridley, Director
Nuclear Licensing and
Regulatory Affairs

Enclosure
cc: See page 2

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U.S. Nuclear Regulatory Commission MAY 0 4 1988

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ENCLOSURE

WATTS BAR NUCLEAR PLANT (WBN) UNITS 1 AND 2
RESPONSE TO NRC REGION II LETTER
FROM KENNETH P. BARR TO S. A. WHITE
DATED FEBRUARY 3, 1988
REPORT NO. 390/86-20
INITIAL TEST PROGRAM FOR
WATTS BAR UNIT 1

This report responds to the request for information on the subject of adequacy of the WBN initial test program in NRC inspection report No. 50-390/86-20.

The areas of concern such as control of postmodification and postmaintenance testing addressed in the August 21, 1987 letter transmitting the revised notice of violation, report Nos. 50-390/86-20 and 50-391/86-20, and the adequacy of the WBN test program are described in this report. These issues are within the scope of the Watts Bar Completion Program (WBCP) being developed by the Watts Bar Program Team (WBPT) through the generation of the program plan. Submittal of the WBCP plan was discussed in a telephone conversation on April 21, 1988, with NRC's R. J. Auluck, Project Manager, Office of Special Projects, TVA.

The adequacy of construction and component integrity tests will be determined by the systematic evaluation performed in conjunction with WBCP. Verification of the performance of system functions and compliance with design requirements will be resolved through the Watts Bar Prestart Test Program. This program, currently being reviewed by WBPT, is one of the priority one programs and will be presented to NRC for concurrence following the submittal of the WBCP plan and subsequent meeting with NRC.

The purpose of the Prestart Test Program will be to ensure that required design functions of specified systems are reverified by testing before fuel load. The Prestart Test Program will be conducted following completion of construction and modification work which could impact the acceptability of testing on the respective system. Component functions will also be reviewed at this time to determine if retesting is required. This will provide additional confidence in personnel and equipment readiness to support plant operation. This program will provide for retesting of systems within the scope to verify correct performance of system functions and compliance with approved design requirements. Attached is the outline of the Prestart Test Program describing the basic elements.

ATTACHMENT

PRESTART TEST PROGRAM

1.0 PURPOSE

The purpose of the Prestart Test Program is to ensure that required design functions of specified systems are reverified by testing before fuel load. The Prestart Test Program is established as a supplementary program to the Preoperational Test Program. This program provides for retesting of all systems within its scope to verify correct performance of system functions and compliance with approved design requirements. Component functions will be reviewed to determine if retesting is required. The Prestart Test Program will be conducted following completion of any construction and modification work which could impact the acceptability of previously performed testing on the respective system.

2.0 SCOPE

Systems listed within the scope of the program are those required to:

- Mitigate the consequences of Final Safety Analysis Report (FSAR), chapter 15, events.
- Are required for safe shutdown of the unit.
- Ensure that radiation is maintained within 10 CFR 50, Part 100 limits.
- Serve to prevent significant challenges to reactor protection or engineered safeguard features actuation systems.

Remaining preoperational testing and open items will be completed in accordance with the FSAR, chapter 14 requirements, Initial Test Program. This will include preoperational test, previously started and not completed or their conduct not approved, and any deficiencies or exceptions identified that will require additional system testing.

The scope of this program does not include system or component integrity testing such as hydros, weld inspections, concrete strength, bolt pull testing, etc.

3.0 PROGRAM IMPLEMENTATION

The major program elements are being defined and developed as follows:

- Appropriate program administrative and test procedures will be developed to supplement normal plant programs and procedures.

- A Prestart Test Group (PTG) will be established and staffed by experienced test personnel.

- System functions of systems within the program scope will be developed by the Division of Nuclear Engineering (DNE) in the form of system scoping documents. System functions are functions involving more than one component, demonstrating system response for accident or normal operation, demonstrating automatic actuation or interlocks, or system response time performance.

- System functions will be reviewed by the PTG to ensure consistency with plant configuration drawings, technical specifications, design criteria, and the FSAR.

- Functions identified above will be cross-referenced to a test instruction to be performed or to a completed test. This cross-reference will be documented in a functional test matrix.

- Prestart retesting will be performed for all system functions through performance of surveillance instructions or special tests.

- Component level functions will be reviewed to determine if additional testing is required. This review will consider the products of other programs and inputs, for example, workplan reviews and incomplete preoperational open items. If deficiencies are identified during system shakedown or testing, they will be evaluated for impact on decisions concerning retesting.

- The identified test instructions will be reviewed to verify that they contain or will contain, when completed, test results to demonstrate acceptable operation.

- A Joint Test Group will be established to provide an overall review of the Prestart Test Program. This overall review will ensure that:

  (1) The results of other programs that affect testing are adequately addressed.

  (2) The scope and depth of the program are acceptable.

  (3) Additional test instructions are developed, as required.

  (4) The performance results of prestart program-required tests are acceptable.

- Completed test results will be reviewed by the Plant Operations Review Committee (PORC) and approved by the plant manager.