

UNITED STATES NUCLEAR REGULATORY COMMISSION **REGION II** 101 MARIETTA STREET, N.W. ATLANTA, GEORGIA 30323

Report Nos.: 50-390/91-04 and 50-391/91-04 Licensee: Tennessee Valley Authority 6N11 B Missionary Place 1101 Market Street Chattanooga, TN 37402-2801 Docket Nos.: 50-390 and 50-391 License Nos.: CPPR-91 and CPPR-92 Facility Name: Watts Bar 1 and 2 Inspection Conducted: March 16 - April 19, 1991 Inspectors: G. A. Walton, Senior Resident Inspector Sianed Construction Consultants: G. Bethke, Consultant, COMEX Corporation (Paragraph 7) Approved by:

K. P. Barr, Section Chief **TVA** Projects

SUMMARY

Scope:

This routine resident inspection consisted of a review of; recent management changes, test program for shallow undercut anchors, site activities, site procedures, Three Mile Island action items, condition adverse to quality reports, and previous inspection findings. The facility was also toured periodically to review corrective actions being taken in preparation for restarting construction work.

Results:

9105290355 910430 PDR ADOCK 05000390

PDR

One violation was identified during this inspection period. The violation involves a failure to incorporate engineering design changes into site procedures and resulted in work being performed using outdated procedures. This indicates controls in place are inadequate to assure outdated requirements are revised and new requirements are implemented.

REPORT DETAILS

Persons Contacted 1.

Licensee Employees

- L. Bush, Operations Superintendent
- S. Crowe, QC Manager
- *W. Elliott, Engineering Manager, Nuclear Engineering
- E. Fuller, Chairman, Program Team
- *J. Garrity, Site Vice President, Watts Bar
- *L. Jackson, Operations Manager
- R. Johnson, Modifications Manager
- F. Laurent, NQA Special Projects Manager
- *L. Martin, Site Quality Manager
- C. McIntosh, Electrical Field Engineering Manager
- C. Nelson, Maintenance Support Superintendent
- *L. Nolan, Construction Manager
- *D. Nunn, Vice President Nuclear Projects
- P. Pace, Compliance Licensing Supervisor
- *G. Pannell, Site Licensing Manager *R. Purcell, Plant Program Manager
- *J. Scalice, Plant Manager
- *E. Wallace, Manager of Nuclear Licensing
- H. Weber, Engineering and Modifications Manager
- P. Wilson, Special Projects Manager

Other licensee employees contacted included engineers, technicians, nuclear power supervisors, and construction supervisors.

* Attended exit interview

Acronyms used throughout this report are listed in the last paragraph.

2. Recent Management Changes and Facility Status

On April 1, 1991, the following management changes became effective: Henry Weber became Manager, Modifications and Engineering; Robert Johnson became Modifications Manager, and Lee Maillet joined WBN as Program Manager (Site Support).

On April 8, 1991, the following management changes became effective: Lawrence Martin became Site Quality Manager; Sam Crowe became Quality Control Manager; and Ron George left WBN to become TVA's Project Manager for Clean Air Projects.

Additionally, TVA has recently acquired the services of two management consultants, Jesse Crews, who advises the site QA Manager, and Dick Conway, who will advise and make recommendations to the Site Vice President.

TVA has recently determined that the Program Team is no longer needed at Watts Bar. The team is currently developing a final report to TVA which is scheduled for completion by the end of April 1991. After the report is issued the team will be disbanded and all functions and follow-up will be absorbed into PAC.

On December 21, 1990, TVA voluntarily stopped construction work at Watts Bar due to concerns raised by the NRC and TVA's own quality assurance audits. The work stoppage affected construction activities being performed using workplans. Subsequent to the stop work, TVA performed a self assessment of all on-site groups that included engineering, QA/QC, operations, and site maintenance activities. The self assessment did not cause TVA to curtail maintenance activities using the MR program. TVA felt that continued maintenance was necessary to protect the installed equipment. The projected construction restart date is September 1991.

On January 18, 1991, the NRC issued a letter to TVA requiring NRC notification and involvement prior to recommencing construction activities at Watts Bar. The NRC's involvement will include on-site inspections that will be performed prior to allowing Watts Bar to restart construction activities.

Unit 2 is continuing in a layup mode.

3. Test Program for Evaluation of Shallow Undercut Anchors

Based on an employee concern, the licensee has committed to perform testing of shallow undercut anchors. The testing will verify the adequacy of those anchors already installed. On April 9, 1991, the licensee submitted a letter to the NRC describing the planned actions, as discussed below.

Shallow undercut anchors are standard concrete anchors utilized at WBN and other TVA facilities. These shallow undercut anchors are embedded in the concrete less than the regular length undercut anchors specified in TVA Civil Design Standard DS-C1.7.1. The regular length anchors are intended to be "ductile" by failing in tension by rod fracture. The shallow undercut anchors are intended as substitutes for expansion anchors. The tensile capacity of the shallow undercut anchors is controlled by concrete pullout.

For shear loadings, the design standard allowed the shear capacity of the rod to be used for both shallow and regular length anchors. The use of the full shear allowable for shallow undercut anchors is based on tests by the manufacturer at another nuclear utility. In response to questions regarding the applicability of the existing test data, TVA has initiated a test program to verify that shallow undercut anchors not near a free edge have ultimate shear capacities exceeding the design requirements. Singleton Material Laboratory was contracted to perform this evaluation for TVA. A concrete slab 7 feet by 13 feet with a minimum thickness of 15 inches will serve as the test facility. The concrete will be equivalent to concrete Class 300.75 AFW, in accordance with TVA General Engineering Specification G-2. The concrete is required to be at least 28 days old when the first anchors are tested.

Upon conclusion, results of this test will be summarized in a test report which documents load and deflection measurements for all shallow undercut anchors, the mechanism of failure, the concrete class, and all test parameters of the concrete such as air content, slump, age, and compressive strength.

The estimated schedule for completion of this test is July 15, 1991, at which time the summary report will be available for NRC review.

TVA will evaluate the test results for acceptability. If it is determined that unsatisfactory conditions exist, the corrective action program process will be utilized to initiate proper corrective actions (reference Nuclear Power Standard 3.1.1, "Corrective Action"). Generic applicability to other TVA facilities will also be assessed as required by the corrective action process. In this way, implications to TVA operating facilities will be dispositioned as appropriate.

This item is identified as IFI 50-390, 391/91-04-01, Adequacy of Shallow Undercut Anchors, pending the licensees completion of the test and NRC review of the results.

4. Review of Site Activities

During this inspection period the inspectors were notified that the licensee had decided to melt the ice in the unit 1 ice condenser. The ice had been maintained in an operational readiness status since it was loaded in 1984. The licensee indicated that the decision to melt the ice was made after evaluating the the financial advantages against the need to perform several modifications to the condenser. Additionally, the licensee indicated that the recent stop work decision at Watts Bar also influenced their decision since fuel load is no longer a driving factor.

The modifications planned for the ice condenser improvements include:

- Remove top cruciform from all ice baskets
- Add 2" x 2" opening in the bottom of all ice baskets to facilitate U-bolt inspections
- Add adjustable dampers to air duct supply headers
- Add insulation to the top deck radial I beams

Add insulation to the embedded steel plates in the ceiling of the accumulator, fan, and equipment rooms

The inspectors were kept informed of the ice melt activities by the licensee and periodically monitored the ice melt process. Since the defrost and drain portion of the ice condenser is rarely used the inspectors were interested in performance of this equipment. During one of the inspections the inspector noted water running down the inside containment wall during the defrost process. It appeared to the inspector that it may be a leak in the upper and lower containment divider seal. The licensee's investigation indicated that the divider seal was leaking and MR 673627 was written to correct the leak. Additionally, MR 530892 was written to inspect other areas of the seal for leakage or damage.

FSAR Section 3.8.3.1.4 describes the seal as follows:

Seals Between Upper and Lower Compartments

The seals extend across the gap between the inside surface of each steel containment vessel and the concrete structure within each vessel. They are located along the bottom of the concrete floor under the ice condenser, at Elevations 739'-6" and 751'-4" between the ends of the ice condenser and the refueling canal concrete structure, and along the vertical sides of the refueling canal structure. These seals form part of the barrier between the upper and lower compartments of the containment vessels.

The seals consist of long strips of flexible elastomer coated fabric folded longitudinally with open edges butted and sewn to form two loops in cross section. Metal bars are inserted into the seal for use during attachment. These strips are field-spliced with vulcanized overlay joints to form a continuous seal.

The seals are attached to the containment vessel and the interior concrete structure using bolted clamps with bolts spaced 1'-0" apart. These clamps grip the metal bars inserted in the seal thereby closing and sealing the gap.

During normal operating conditions, the seals prevent airflow around the ice condensers. In an accident, the seals and the other divider parts limit the amount of hot gases, steam, and vapor that can bypass the ice condenser. The seals are required to maintain their integrity for the first 12 hours after an accident. A small amount of leaking during this period is described as permissible.

The seals are required to maintain their integrity during earthquake conditions and effectively maintain their air seal. The seals are required to function effectively in a post-earthquake condition. The slack in the coated fabric seals, which was purposely provided, allows for the relative movement, between the containment vessel and the interior concrete structure, which results from earthquakes.

From the inspectors observations and the licensee investigations, a PER was issued to document the observed conditions. Additionally, the licensee initiated a second PER (WBPER910177) to document that an evaluation needs to be performed on the acceptability of the environmental qualifications of the barrier seal material. The licensee is also addressing the possible corrosion of the steel containment liner from the water that has been leaking from the ice condenser. The licensee's action involving the seal leakage and damage as well as the qualification of the material and possible containment liner corrosion. This item will be tracked as IFI 50-390/91-04-02, Seal Liner Adequacy.

5. Implementing Design Specification Requirements In Construction Procedures

IR 50-390, 391/91-03 identified URI 50-390, 391/91-03-03, Update of CPIs Due to G-Spec Revision, regarding the licensee's compliance with the design engineering requirements to incorporate G-Specification requirements into CPI within the time limit specified in the G-Specification updates. The URI questioned the licensee's use of the procedures after the required implementation date expired.

The inspector reviewed revisions to G-38 to determine if they had been incorporated in site implementing procedures. Three recent changes were chosen for the review as discussed below.

(a) G-38, Revision 10, SRN-G-38-111 released December 5, 1990, paragraph 3.7.1.1 B, specifies acceptance criteria for cable inspection.

The affected procedure WBN CPI-8.1.8.E 105, Revision 1, and 1C 90-682 issued December 5, 1990, incorporated, SRN-G-38-101, 103, 107, 108, and 110.

As stated in SRN-38-111 dated December 5, 1990, the implementation date of the SRN is 90 days of issue or sooner. The 90 days expired on March 5, 1991, and SRN-38-111 was not incorporated in the affected procedure WBN CPI 8.1.8.E 105 as required.

(b) Construction Specification G-38, Revision 10, was issued on November 30, 1990, included several changes. As examples, paragraph 1.2.1 incorporated standard design drawings SD-E12.5.1-1 and SD-E12.5.1-2 both titled Cable Splicing and Termination. Also paragraph 1.1.3 of Revision 10 incorporated MIL-STD-454. The latest revision of WBN CPI-8.1.8.E 105 dated February 7, 1990, failed to incorporate these requirements. It appears that all Revision 10 changes failed to be incorporated in the CPI's. (c) SRN G-38-94 was issued on August 31, 1990, and specified an implementation date of thirty days (September 30, 1990.) The requirements affected construction procedure CPI-8.1.8-E-105. Work activities were performed using the outdated procedures and are discussed below.

The inspector determined that the CPIs were not being updated within the time specified on the revision to the G-Spec. The licensee has evaluated the issue and determined the following conditions exist.

Approximately 300 workplans that performed work were done using procedures that were outdated CPIs. Some examples are workplan K-M11600A-1 and K-M12422A that were performed in accordance with CPI-8.1.8-E-105 after the implementation date expired. This CPI should have been revised by September 30, 1990, to incorporate the requirements of SRN G-38-94. It was not revised until November 10, 1990, and the SRN specified a 30 day implementation date, requiring revision changes by September 30, 1990. Further, the licensee's review of electrical workplans in the electrical area for work performed before the stop work went into effect found that approximately 75 percent referenced out of date CPIs. This represents approximately 300 workplans.

- Failure to incorporate the design requirements into the site CPI within the required time period specified by the design document (G-Spec) is identified as VIO 50-390, 391/91-04-03, Failure to Follow Procedures and Incorporate the Design Requirements Into Site Construction Procedures. URI 50-390, 391/91-03-03 is closed.
 - 6. TMI Action Plan Status

In the 1985 timeframe the inspectors provided the current status of the Unit 1 TMI Action Items in IR 50-390/85-08. Since that time little physical work has been performed to complete those open hardware items. Additionally, reviews of commitments and the licensing basis through the DBVP has resulted in numerous changes to DBD, FSAR, TS and regulatory commitments.

The updated 1985 historical status as presented in IR 50-390/85-08 was reviewed by the inspector. Several of the items that were previously closed are being identified for additional verification due to possible outdated administrative commitments that provided the basis for NRC closure in 1985.

Current Status of TMI Items

(1) The following is a listing of several administrative control items that were considered closed in the 1985 timeframe. These items are being reverified due in part to changes in the licensees program that provided the original basis for closure. These items will be tracked by IFI 50-390/91-04-04, Open TMI Administrative Items. These items should be reevaluated as part of the operational readiness assessment if appropriate.

- (a) I.A.1.1, Shift Technical Advisor
- (b) I.A.1.2, Shift Supervisor Responsibilities
- (c) I.A.1.3, Shift Manning
- (d) I.A.2.1, Immediate Upgrade of RO & SRO Training and Qualifications
- (e) I.A.2.3, Administration of Training Program
- (f) I.A.3.1, Revise Scope and Criteria for Licensing Exams
- (q) I.C.2, Shift Relief and Turnover Procedures
- (h) I.C.3, Shift Supervisor Responsibility
- (i) I.C.4, Control Room Access
- (j) I.C.5, Feedback of Operating Experience
- (2) Current Status of items that were still open at the time of the 1985 status as described in IR 50-390/85-08.
 - (a) (Open) 80-RD-04; Item I.B.1.2, Evaluation of Organization and Management. This item was left open in paragraph 10.h of IR 50-390/85-08 because TVA had not finalized their organizational plans regarding the ISEG. Subsequent to the reviews in IR 50-390/85-08 the NRC closed this item in IR 85-40 based on the proposed SSER 5. TVA reorganized several additional times and the item was reopened as an IFI in IR 50-390/86-05-02 and is currently being tracked on the OIL. This item remains open pending review of the TVA final operating organization.
 - (b) (Open) 80-RD-48; Item I.C.1, Short-Term Accident and Procedure Review. This item was left open in paragraph 10 of IR 50-390/85-08 since TVA was in the process of implementing the Westinghouse owner group guidelines for emergency operating instructions. TVA indicated that the revised procedure generation package was submitted to the NRC on April 23, 1986. The licensee is currently rewriting the EOI to the WOG R1-A guidelines. Setpoint verification is under review by the licensee's NE organization and the validation and verification process and operator training is scheduled for 1992.

This item remains open.

(c) (Open) 80-RD-38; Item I.C.6, Verify Correct Performance of Operating Activities. This item remained open after IR 50-390/85-08 and was addressed again in IR 50-390/85-59. The licensee had established controls by procedure AI-2.19. However, this procedure was not required to be implemented until a yet to be established milestone prior to fuel load.

Additionally, in IR 50-390/90-33 the inspector opened IFI 50-390/90-33-04 to track independent verification problems associated with SOI-32.2. It appears that although the licensee has developed an independent verification program for Watts Bar (AI-2.19), problems continue to be identified and the program has not been totally implemented. This item remains open.

- (d) (Open) 80-RD-39; Item I.D.1, Control Room Design Review. This item was evaluated by the NRC several times prior to and subsequent to the 1985 inspection. These evaluations were addressed in IR 50-390/84-35, 84-37, 84-77, 84-82, 85-38, 85-64 (escalated enforcement) and 89-11. Subsequent to the 1986 withdrawal of their fuel load license application, TVA committed to complete the DCRDR prior to fuel load. Recently, the status of the DCRDR was evaluated by HQ staff and is addressed in IR 50-390/88-07 as well as section 18.1 of SSER 6 which documents the August 21 23, 1990, on-site HQ audit. The HQ staff audit concluded that the DCRDR program implementation at Watts Bar Unit 1 satisfies the DCRDR program a confirmatory audit to ensure complete implementation. This item is currently open.
- (e) (Open) 80-RD-50; Item I.D.2, Plant Safety Parameter Display Console. This item has been reviewed by NRR and is discussed in section 18.2 of SSER 5 NUREG 0847. As stated in SSER 5 the HQ staff performed an on-site audit of the SPDS installation between August 21 and 23, 1990. That audit evaluated several elements of the SPDS which included; 1) concise display of critical plant variables, 2) location and convenience of the display to the control room operators, 3) continuous display of plant safety status information, 4) timeliness of information updates, 5) isolation of SPDS from electrical interference, 6) implementation of accepted human factor principles.

At the time of the audit the Unit 1 SPDS was still in the design/development phase and several deficiencies were noted by the audit team. The licensee made several commitments to resolve these deficiencies and their resolution will be followed by section 18.2 of future SSERs. Additionally, a

follow-up audit is currently planned prior to fuel load after the system is functional. The licensee has indicated that full operability of the system will not be established until after the first fuel cycle. The licensee indicated that the period of time between "functional" and "operable" is necessary to allow operator feedback after use and to validate parameters, through comparison of SPDS values to instrument indication, which will not be available until power operations. This item remains open.

- (f) (Open) 80-RD-11; Item I.G.1, Training During Low Power Testing. The current status of this item is the same as that reported in IR 50-390/85-08. This item will remain open through start-up testing at which time it will be evaluated by the inspectors and resolved prior to full power operations. This item is also being tracked as Confirmatory Item CI-15 in the SSER (NUREG 0847). This item involves Natural Circulation testing for training purposes. Based on TVA's current status, they plan to request an exemption from this testing based on demonstration that the results of the Diablo Canyon natural circulation test are applicable to Watts Bar.
- (g) (Open) 80-RD-51; Item II.B.1, Reactor Coolant System Vents. At the time of the 1985 inspection the installation of the RCS vents had been evaluated by NRR and inspected by the inspectors. However, procedures were not in place for using the vents without RVLIS installation.

Subsequent to the 1985 inspection the licensee has identified additional issues associated with the RCS vent system. These issues are: 1) reliability of Target Rock PORVS; 2) testing of the system prior to use; 3) procedures for use of vents with and without RVLIS; and 4) procedure and valve/breaker alignment required in modes 1-4, and 5, since current SOI-68.1 indicates that the power supply breaker to operate the system will be open and tagged.

(h) (Open) 80-RD-13; II.B.3, Post accident Sampling. This item was still open at the time of the 1985 inspection. The primary review was documented in IR 50-390/84-74 and several open items were identified: 1) the need for additional shielding in the sample room to be evaluated; 2) the need for evaluations of temperature and pressure corrections and line losses in sample lines; 3) the need to verify the containment atmosphere sample is actually taken from the containment; 4) the need for NRC review of TI-66; 5) the need for NRC inspection after reaching five percent power. The licensee has indicated that items 1, 2, and 3 above are complete and ready to be reviewed by the NRC. Additionally, the licensee has indicated that item 4 above is also ready for review. This item is open.

- (i) (Open) 80-RD-17; Item II.E.1.1, Auxiliary Feedwater System Evaluation. This item was evaluated by the NRC and addressed in section 10.4.9 of NUREG 0847. Additionally, the inspectors reviewed the licensee commitments and verified that all items were acceptable pending a 48 hour endurance test prior to exceeding 10 percent reactor power. The licensee verified that current draft TS still reflect this requirement. This item remains open pending the completion of the required system testing.
- (j) (Open) 80-RD-23; Item II.F.1, Accident Monitoring Instrumentation. This item involved the installation/modification of accident monitoring instrumentation for six parameters. The installation status as reported in IR 50-390/85-08 was as follows:
 - (.1) Noble Gas Monitor (Closed) IR 390/84-09
 - (.2) Iodine Particulate Monitor (Closed) IR 390/84-09
 - (.3) Containment High Range Monitor (Closed) IR 390/84-09
 - (.4) Containment Pressure (Closed) IR 390/84-59
 - (.5) Containment Water Level (Closed) IR 390/84-85
 - (.6) Containment Hydrogen (Closed) IR 390/84-85

Since the initial hardware installation inspection, there have been additional inspections. Specifically, IR 50-390/87-05-01 identified a violation associated with the installed adequacy of the Hydrogen monitor. This item was also discussed in IR 50-390/91-03. Since other ongoing programs such as Instrument CAP and REG Guide 1.97 commitments affect this area, all six installations should be reverified by the licensee and reevaluated by the NRC. Additionally, the procedure requirement of this TMI item is still outstanding as discussed in paragraph 10.i of IR 50-390/85-08.

(k) (Open) 80-RD-24; Item II.F.2, Instrumentation for Detection of Inadequate Core Cooling. IR 50-390/85-08 indicated that the licensee had provided additional information to NRR by letter dated February 25, 1985. This item was reevaluated in IR 50-390/85-59 and it was left open pending NRR acceptance of TVA responses on this issue including their September 19, 1985, response. Additionally, the latest supplement to NUREG 0847 indicates that this item is still under review by NRR.

- (1) (Closed) 80-RD-25; Item II.G.1, Power Supplies for Pressurizer Relief Valves (PORVS), Block Valves, and Level Indicators. This item was evaluated and closed in IR 50-390/85-25.
- (m) (Open) 80-RD-30 and 31: Items III.A.1.1, Emergency Preparedness-Short Term; III.A.1.2, Upgrade Emergency Support Facilities; III.A.2, Emergency Preparedness. The 1985 status of these items were reported in IR 50-390/85-08. NRR has reopened the issues and has tracked them under license conditions (27) in NUREG 0847. The latest supplement of this NUREG indicates that these issues are currently under review.

This item is being reopened to track completion of the NRC's review and to allow reevaluation of the licensee emergency preparedness by the NRC prior to fuel load application.

(n) (Open) 80-RD-32; Item III.D.1.1, Primary Coolant Outside Containment. At the time of the 1985 inspection this was still an evolving issue. The licensee has submitted additional information to NRR and the latest results are documented in section 11.7.2 of supplement 5 to the SER (NUREG 0847). NRR agreed with the licensee program once the waste gas system was included. Subsequent to the letters that provided the basis for SSER 5, the licensee submitted additional information by letter dated March 27, 1986.

This issue is currently under review by NRR and will be resolved in a future SSER. However, the licensee implementation of the licensing requirement will need to be verified by inspections once implemented. Additionally, verification that the requirement are captured in a regulatory requirements document is required.

7. Resolution of CAQ

An IFI was identified as a result of an NRC inspector's review of an ALARA concern which had been brought to the attention of the Watts Bar Resident Inspectors Office. The inspector conducted a review of this concern during the period March 4 - 15, 1991. Among the numerous documents associated with this matter was CAQR 870252, which was initiated on April 24, 1987, and closed on August 18, 1988. The CAQR was initiated by the site RADCON group because of a concern over potential discontinuities in permanent plant shielding structures (e.g., vacant pipe sleeves, ducts, conduit and pipe penetrations, etc.). A thorough plant walkdown procedure WP-42, "Walkdown of Penetrations for ALARA Evaluation," was developed and conducted by representatives from Nuclear Engineering and RADCON. The results of the walkdown were documented in two attachments to the CAQR; Attachment B listed "Acceptable" penetrations and Attachment C listed "Penetrations Needing Further Evaluation." The "Description of Proposed Disposition" block of the CAQR that "NEB will propose remedial

action for each of these penetrations (i.e., those on Attachment C) for consideration by plant management." The inspector could find no evidence, written or through interview, that this action was ever taken, although the CAQR was closed on July 30, 1988. During the course of this review, the inspector discovered that a new CAQR 900317 had been written by Watts Bar Nuclear Quality Assurance Department on the basis of the lack of corrective action taken in CAQR 870252. The justification for re-opening the issue stated, "The hardware, penetrations in permanent shielding structures, does not contain adequate shielding material. The proposed disposition of said CAQR (870252) was accomplished but the hardware problems in the plant still exist."

The new CAQR (WBP900317) sets forth the following corrective action for addressing the Attachment C penetration list contained in CAQR WBP870252: 1) Fix (by either replacing existing low density sealant with high density sealant, or adding external shielding) each penetration identified in CAQR WBP870252 Attachment C; 2) Justify, on a case by case basis, leaving the penetration "as is." This is identified as IFI 50-390/91-04-05, Condition Adverse to Quality, pending correction of the CAQR to address the inappropriate closure of the first CAQR.

8. Action on Previous Inspection Findings (92701)

(Open) URI 390/90-03-04, Unit 1/Unit 2 Interface Program

IR 50-390/90-03 opened the URI pending resolution of four specific issues included in the Inspection Report. Also the NRC inspection report documented a licensee commitment to discuss the interface program in an update to the FSAR.

The specific issue involved the following:

- The affect of future Unit 2 construction and testing on Unit 1 operation.
- The program's consideration of 10 CFR Part 100 and Part 20 requirements in addition to GDC-5.
- The interface program's consideration of security program requirements.
- Engineering calculations to support single unit operation at the time of licensing of unit 1.

During this inspection period the licensee provided the following information associated with the Unit 1/Unit 2 Interface Program.

- The procedure planned to control the interface is AI-1.6, "Unit 1/Unit 2 Interface Program."

- WBN has developed Design Criteria WB-DC-40-56, "Selection of Unit Interface Points Between Licensed and Unlicensed Units." Additionally, the individual design criteria have been revised to reflect the interface points.
- Engineering calculations:

WBN-OSG4-123, R3, "Safety-Related Equipment Interface Points"

WBN-OSG4-126, R1, "Non-Safety-Related Equipment Interface Points"

WBN-OSG4-129, R4, "Unit 2 Equipment List Required for Unit 1 Operation"

- DCNs P-03427-B and C-04324-A (revises interface drawings)
- Work Packages P03427-1 through 6
- FSAR Section 3.1.2.1 Amendment 64 addressing GDG-5, "Sharing of Structures, Systems, and Components"

Additionally, the licensee provided the following status:

The Unit 1/Unit 2 Interface Program is nearing completion. However, due to recent site activities and the subsequent stop work order, completion dates for the remaining activities cannot be established.

- The Unit 2 construction and testing question has been addressed by revision of the applicable AIs to ensure appropriate controls are maintained.
- The necessary engineering calculations have been completed. Calculation WBN-OSG4-123 incorporates the appropriate requirements of 10 CFR Part 100 and Part 20.
- The WBN Security Plan was submitted to NRC for approval on July 27, 1990, (L44 900727 800). The new security plan eliminates the unit separation wall and subsequently the problem with securing required equipment previously outside the Unit 1 security boundary.
- The FSAR has been updated (Amendment 64) to describe the Unit 1/Unit 2 Interface Program.
- Five of the six work packages listed above are in process and one is in final review.

The inspector reviewed the licensee's FSAR Amendment 64 and determined that little or no details were included to describe how the interface program will work. Additionally, the program that has been described relies heavily on administrative controls, which in the past have not been very effective.

9. Exit Interview

The inspection scope and findings were summarized on April 19, 1991, with those persons indicated in paragraph one. The inspectors described the areas inspected and discussed in detail the inspection results listed below. The licensee did not identify as proprietary any of the material provided to or reviewed by the inspectors during this inspection. Dissenting comments were not received from the licensee.

<u>Item Number</u>	<u>Status</u>	Description and Reference
50-390/90-03-04	Open	URI - Unit 1/Unit 2 Interface (Paragraph 8)
50-390/91-03-03 50-391/91-03-03	Closed	URI - Update of CPIs Due to G-Spec Revision (Paragraph 5)
50-390/91-04-01 50-391/91-04-01	Open	IFI - Adequacy of Shallow Undercut Anchors (Paragraph 3)
50-390/91-04-02	Open	IFI - Seal Liner Adequacy (Paragraph 4)
50-390/91-04-03 50-391/91-04-03	Open	VIO - Failure to Follow Procedures and Incorporate the Design Requirements Into Site Construction Procedures (Paragraph 5)
50-390/91-04-04	Open	IFI - Open TMI Administrative Items (Paragraph 6)
50-390/91-04-05	Open	IFI - Condition Adverse to Quality (Paragraph 7)

10. List of Acronyms

AI	Administrative Instruction
AFW	Auxiliary Feedwater
ALARA	As Low as Reasonably Achievable
ANSI	American National Standards Institute
CAP	Corrective Action Program
CAQ	Condition Adverse to Quality
CAÒR	Condition Adverse to Quality Report
CATD	Corrective Action Tracking Documents

CFR	Code of Federal Regulation
CPI	Construction Process Instructions
DBD	Design Basis Documents
DBVP	Design Baseline Verification Program
DC	Design Change
DCN	Design Change Notice
DS	Design Standard
EOI	Emergency Operating Instruction
FSAR	Final Safety Analysis Report
G-Spec	General Construction Specification
GDC	General Design Criteria
HQ	Headquarters
IFI	Inspector Follow-Up Item
IR	Inspection Report
ISEG	Independent Safety Engineering Groups
MIL	Military
MR	Maintenance Request
NE	Nuclear Engineering
NEB	Nuclear Engineering Branch
NQAP	Nuclear Quality Assurance Plan
NRC	Nuclear Regulatory Commission
NRR	Nuclear Reactor Regulation
NSSS	Nuclear Steam Supply System
NTOL	Near Term Operating License
NUREG	Nuclear Regulatory Guide
OIL	Open Items List
PAC	Program for Assurance of Completion
PER	Problem Evaluation Report
PMP	Program Manual Procedures
PORV	Pressurizer Operator Relief Valve
QA	Quality Assurance
RADCON	Radiological Control
RCS	Reactor Coolant System
RD	Region Directive
REG	Regulatory
RO	Reactor Operator
RTV	Room Temperature Vulcanizer
RVLIS	Reactor Vessel Level Indication System
SD	Standard Design Drawing
SER	Safety Evaluation Report
SOI	System Operating Instruction
SQN	Sequoyah Nuclear Plant
SRN	Specification Revision Notice
SRO	Senior Reactor Operator
SSER	Supplemental Safety Evaluation Report
TI	Technical Instructions

TMI	Three Mile Island
TS	Technical Specification
TVA	Tennessee Valley Authority
URI	Unresolved Item
VIO	Violation
WB	Watts Bar -
WBN	Watts Bar Nuclear Plant
WOG	Westinghouse Owners Group