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

Report Nos.: 50-390/87-17 and 50-391/87-17

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: September 28, 1987 - November 22, 1987

Inspectors: /s/ S A Elrod 2/24/88
G. A. Walton, Senior Resident Inspector Date Signed
Construction

/s/ S A Elrod 2/24/88
P. G. Humphrey, Resident Inspector Date Signed

/s/ S A Elrod 2/24/88
T. B. Powell, Resident Inspector Date Signed

Accompanying Personnel: J. W. Gilray, Sr., Senior Quality Assurance Engineer, Office of Special Projects

Approved by: /s/ S A Elrod 2/24/88
S. A. Elrod, Section Chief Date Signed
Office of Special Projects

SUMMARY

Scope: This routine inspection was conducted in the areas of licensee action on inspector identified items, fire prevention and fire protection, preoperational test (Preop) program implementation, testing of pipe support and restraint systems, status of issues, documentation of Class 1E equipment, issues from the employee concerns special program, and licensee - Archetect/Engineer (AE) interface control for contracted engineering services.

Results: One Unresolved Item was identified involving the documentation of Class 1E equipment.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

G. Toto, Site Director
E. R. Ennis, Plant Manager
R. A. Pedde, Nuclear Project Manager
*H. C. Johnson, Acting Site Quality Manager
*J. A. McDonald, Licensing Manager
H. B. Bounds, Engineering Project Manager
*D. M. Lake, Modifications Manager
G. W. Curtis, Assistant Project Engineer
J. P. Mulkey, Quality Assurance Manager
*L. Peterson, Quality Control Supervisor
*R. D. Tolley, Assistant Nuclear Project Manager, Unit 2
M. K. Jones, Division of Nuclear Engineering
H. M. De Souza, Acting Plant Superintendent (Maintenance)
*R. D. Schulz, Compliance Licensing Manager
D. W. Stewart, Assistant Site Director
*T. L. Dean, Licensing Engineer
*J. B. Rollins, Employee Concern Program
*J. W. Smith, Project Manager
*R. W. Kosky, Weld Evaluation Program Manager
*G. Atwood, Nuclear Engineer
*S. Stout, Regulatory Engineer Supervisor
*J. E. Gibbs, Assistant Project Engineer
*W. D. Hall, Assistant Project Engineer
*J. R. Lyons, Assistant Project Engineer
*M. D. Riden, Engineering Assurance Engineer (EAE)
*P. J. Wilson, Technical Evaluator
*T. Horst, Site Representative

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

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on November 20, 1987, with those persons indicated by an asterisk in paragraph one above. An interim exit on the subject of contractor interfaces was conducted October 8, 1987, (paragraph 10). The following new items were discussed:

- Unresolved Item (URI) 390, 391/87-17-01, "Documentation of Class 1E Equipment". (paragraph 9).

- Inspector Followup Item (IFI) 390, 391/87-17-02, "Licensee's Interface Program With Engineering Shell Contractors". (Paragraph 10).

The licensee acknowledged the inspection findings with no dissenting comments. The licensee did not identify as proprietary any of the materials provided to or reviewed by the inspectors during this inspection period.

3. Unresolved Items

Unresolved Items are matters about which more information is required to determine whether they are acceptable or may involve violations or deviations.

One Unresolved Item was identified during this inspection dealing with documentation of Class 1E equipment.

4. Licensee Action on Inspector Identified Items (92701)

a. (Closed) IFI 391/82-24-02, "Bolt Spacing Tolerances for Surface Mounted Plates". During Inspection 390/82-27 and 391/82-24, a problem was reviewed dealing with bolt spacing tolerances for surface mounted plates as identified by Non-Conformance Report (NCR) 3517R. In Inspection Report 390/84-45, the corrective action taken by NCR 3517R was reviewed, found to be adequate and IFI 390/82-27-02 was closed. It has been determined 391/82-24-02 was not closed due to an administrative oversight. This item is considered closed.

b. (Open) IFI 390/86-07-01, "Employee Concerns Program" (ECP). Inspection 390/86-07 documented an NRC concern that the ECP staff was undermanned to address the large backlog of employee concerns. A subsequent review of this item, during inspection 390, 391/86-25, revealed that the ECP had no provisions to ensure implementation of corrective action.

(1) The backlog issue was discussed with ECP management. The following status of ECP issues was obtained:

- 291 concerns were to be investigated
  - 205 of 291 investigations were completed
  - 186 reports were completed
  - 153 concerns were resolved (corrective action identified or concern not substantiated)
  - 103 concerns were closed (corrective action verified completed)
- 370 additional items (not included in the above 291 concerns) are being tracked to ensure that necessary corrective is taken by the Inspector General's office or by appropriate line management.

The ECP staff currently is staffed with five investigators plus one person tracking corrective action to closure. Considering the status of concerns, the present staff appears to be adequate.

(2) This review of the "ensuring corrective action" issue included review of Employee Concern Program Instruction (ECP) 1, Rev. 6, "Employee Concern Program Site Representative Procedure". ECP 1, Rev. 6, indicates that, in Rev. 5, dated March 27, 1987, the definition of a Closed Concern was changed to require that the ECP verify completion of specified corrective actions. A Quality Assurance (QA) audit issued Condition Adverse to Quality Report (CAQR) WBA870932730, on September 22, 1987, indicating there was no objective evidence that verification of completed corrective action had actually been performed in accordance with ECP 1. This item will remain open pending review of corrective action.

c. (Closed) URI 390/85-45-01, "Adequacy of Conformance to Maintenance Request Procedure". The inspector reviewed the issue pertaining to a lack of conformance to WBN-AI-9.2, "Filing Instructions", as it pertains to the requirement for all plant operations personnel to report the need for maintenance on plant equipment by use of the maintenance request (MR). The issue was prompted by the inspector's observance of a damaged reactor coolant drain line.

The licensee responded by correcting the damaged line as documented on MR 491294 and by including in the General Employee Training Program the necessity for employees to report damage to plant equipment through the proper channels. Based on the above actions taken by the licensee, this issue is closed.

d. (Closed) IFI 390/85-22-02, "Review STA Training On Use of NIX Tables". The inspector reviewed the issue pertaining to the training requirements for the Shift Technical Advisor (STA) to perform Xenon calculations using the NIX tables following a reactor shutdown. In addition, Instruction Letter A23, Rev. 1, "Station Shift Technical Advisor Training", Attachment 1A, Rev. 2, "Reactivity Control", was reviewed. This addresses the requirement for the STA to be able to "Calculate the reactivity of Xenon and Samarium at any time after a reactor trip using plant-approved instructions". The requirement that the STA be able to perform these calculations is to be accomplished prior to successful completion of the STA training requirements. Based on review of the above requirement and consultation with the appropriate NRC technical inspection staff, this issue is closed.

e. (Open) URI 390, 391/87-10-01, "Design Control of Modifications". During Inspection 87-10, it was identified that engineering change procedures were not adequate to ensure quality of modified equipment

at least equivalent to that specified by the original design basis and requirements. During Inspection 87-15, the licensee reviewed this issue and determined that site procedures do not adequately subject design changes to control measures commensurate with those applied to the original design as required by 10 CFR Part 50, Appendix B, Criterion 3, "Design Control" and as implemented by TVA Quality Assurance (QA) Topical Report, TVA-TR75-1A, Rev. 9, section 17.1.3.4, "Design Changes". The licensee issued Condition Adverse to Quality (CAQR) WBP 870917 to initiate an evaluation on this deficiency.

The licensee issued the following proposed disposition to CAQR WBP 870917, Rev. 0:

- The Vendor Information Area of the Design Baseline Verification Program (DBVP) will be conducted as identified in CAQR WBP 870701 to ensure that design requirements contained in vendor information are properly contained in or referenced by design input or output documents.

- The Design Verification Area of the DBVP will be performed to verify that design basis requirements have been properly implemented in design output.

- An improved means of design change control is being implemented at WBN through the Configuration Control Area of the DBVP. The division-level procedures which are being written to control this process are Nuclear Engineering Procedures (NEPs) 6.3 - 6.7. The project-level procedures which will implement this process are Watts Bar Engineering Procedures (WBEPs) 5.03, 5.08, and two additional procedures titled (1) "Configuration Control Drawing (CCD) Categorization and Origination" and (2) "Drawing Control". These procedures will contain the appropriate set of requirements and checklists to ensure that design basis requirements are properly considered for each plant modification.

Even though the procedures that control design changes need improvements, the licensee's opinion is that equipment qualification was maintained using design drawings and specifications.

The inspector will continue to monitor the Design Change program.

f. (Closed) IFI 390, 391/85-07-01, "Operator Requalification Program". During Inspection 85-07, a condition was identified that licensed operator requalification training hours specified in the Final Safety Analysis Report (FSAR) were different from those specified in Watts Bar Operation Section Letter for Training (OSLT) -1. The inspector reviewed OSLT-1, Rev. 13 and FSAR Amendment 61 and both indicate that "a licensed operator is required to attend a minimum of 32 hours during each of his or her scheduled requalification weeks". Since the inconsistency has been corrected, this item is closed.

g. (Closed) URI 390/86-17-09, "Authorization For Change of Nondestructive Examination (NDE) and Material Traceability Requirements On Bristol Steel Drawing". This unresolved item questioned the basis for deleting liquid penetrant testing examinations on welds when the original Bristol Steel drawing specified liquid penetrant. Instead, the welds were visually examined. Structural Design Drawing, 48N754-1 R1, issued to Bristol Steel for shop fabrication, specified field welding shall be liquid penetrant tested. The licensee determined that these requirements were in excess of the code requirement and not appropriate for shop fabrication or field installation. Drawing 48N754-1 was revised per Engineering Procedure EP 4.02 R2, paragraph 3.1.6. This procedure has since been cancelled and replaced by Nuclear Engineering Procedure NEP 6.1. Inspection requirements were assigned per Quality Control Procedure DEC-QCP-4.3, "Assignment Sheet," and documented per procedure DEC QCP-2.3, "Fabrication Inspection Data Sheet." Since the Bristol Steel fabrication was not affected by this change, field erection was completed using later drawing revisions/procedures and the design drawing was revised in accordance with procedure EP 4.02. Therefore, the licensee is in compliance with the specified requirements discussed above. This item is closed.

h. (Closed) IFI 391/86-18-02, "Damage On Heating, Ventilating, and Air Conditioning (HVAC) Duct". This inspector followup item identified damage to a duct leading to the Purge Air Supply Fan 2-030-FAN-1. The damage noted was a through wall crack approximately three inches long. On August 4, 1986, the licensee issued NCR 6943 to address the issue.

The licensee has replaced the damaged section and provided a plywood protective covering to prevent construction damage until construction activities are completed in this area. This vent duct section is located in an area susceptible to construction workers climbing and stepping on the duct. This item is closed.

i. (Closed) IFI 390/86-26-04, "Corrosion Consideration On Piping". This IFI questioned the licensee's method of performing wall thickness calculations without including corrosion allowances on a pipe referenced on deficiency report (DR) 212-0006. The licensee has identified this pipe as containment penetration X-82. The drawings and field weld operation sheet identify this penetration as being part of the Spent Fuel Pit Cooling System and fabricated of SA 376-316 stainless steel material. Stainless steel is considered corrosion resistant in this type application. The inspector had no further questions on this matter and this item is closed.

j. (Closed) URI 390/85-56-02, 391/85-45-02, "Welder Qualifications". This item was unresolved to allow further review of the licensee's practice of obtaining current welding information to update welder qualification through verbal means which did not appear to be in compliance with procedure requirements.

In a meeting held between the licensee and NRC in Atlanta, Georgia, on March 19, 1987, this item was discussed. On April 30, 1987, the licensee issued a final report on the issue and made the following commitment: "TVA determined that weaknesses did occur in the execution of the construction procedures in a few instances. To prevent the reoccurrence of such weaknesses, TVA has incorporated procedural enhancements and provided supplemental training for welding personnel. The procedural enhancements involved clarifying and strengthening the requirements for control and documentation of welder recertifications. The revised procedures require that objective evidence be present prior to recertification. This objective is obtained by requiring that the foreman witness the actual welding. Procedures have been revised further to require that both the welder and the foreman sign the documentation."

The inspector reviewed the licensee's corrective actions on this matter:

- (Construction Area) Quality Control Instruction - QCI - 4.02, Rev. 8, and Addendum 1, dated October 27, 1986, and April 14, 1987, respectively, titled "Welder and Welding Operator Performance Qualification". These procedure revisions comply with the licensee's commitments in the construction area defined in the April 30, 1987 letter to the NRC.

- (Operations Area) Administrative Instruction AI - 9.4, "Welders Qualification and Continuity Program" and Change Number 47-438 "Procedural Instruction Change Form", dated November 17, 1987. This procedure and revision change, applicable to operations, requires the welder and either a QC inspector or the foreman sign update forms that attest the welder actually performed welding.

  The areas reviewed by the inspector were found acceptable and this item is closed.

  Violation 390/85-56, 391/85-45 issued June 18, 1987, also concerns this issue in part and will remain open pending further inspection.

k. (Closed) URI 390/86-12-02, 391/86-13-02, "References to Welding Standards". The inspector questioned whether proper references to welding standards G-29C or G-29M were being included on construction drawings, including the 47A050 drawing notes, to assure welds were being properly made using qualified procedures and welders.

The inspector reviewed the below listed documents relative to this matter.

(1) Quality Control Instruction QCI-4.03, "Process Control and Weld Procedure Assignment" was issued on October 8, 1980. This instruction requires the welding engineering unit to assign welding procedures, together with any inspection and nondestructive examination required, for features within the scope of the Quality Assurance Program. The welding procedure to be used (ASME Section III, Class 1, 2, and 3 items) is designated by the Office of Engineering, either on the applicable drawing or on a related document. A specific instruction exists to assure that the appropriate welding procedures are used.

(2) Several inspection procedures and drawings from 1974 to 1980 reference the general welding specification (Note that General Specifications G-29C and G-29M were originally one specification designated G-29.)

Procedure WBNP-QCP 4.8, Rev. 0, dated June 20, 1975, and Rev. 1, dated September 14, 1975, reference General specification G-29 as a criterion to be considered in inspection and documentation of seismically qualified supports. Procedure WBNP-QCP 4.23, Rev. 0, dated February 8, 1980, references this specification in relation to inspection and documentation and in relation to visual examination of seismic supports.

Procedure QCP 4.03-1, Rev. 8, dated June 11, 1986, supersedes QCP 4.8 and included references to both G-29C and G-29M for weld surveillance.

As stated above, references to General Specification G-29 were included in several design drawings from the 1974 to 1977 time period. Examples of this are: Drawing 47A051-1, dated June 15, 1977, which requires instrument sensing line seismic supports to meet G-29; Drawing 47A052-1, dated November 28, 1977, which required instrument sampling line seismic supports to meet G-29; Drawing 47A053-1, dated November 17, 1776, which requires process pipe two inches or less which have seismic supports to meet G-29; Drawing 47A054-1, dated November 28, 1977, which requires control air line seismic supports to meet G-29. The licensee has also revised the 47A050 drawing notes (45A050-1N3, Rev. 1) "Mechanical Hanger Drawing General Notes", to clarify that support welds are to be made in accordance with G-29C or G-29M. The licensee's actions on this item are considered to have been acceptable. This item is closed.

Within this area, no violations or deviations were identified.

5. Fire Prevention and Fire Protection - Unit 2 (42051)

During plant tours, the inspectors conducted observations of fire prevention and protection activities in areas containing combustible materials where ignition of these materials could damage safety-related structures, systems or components. The observations included verification that applicable requirements of Administrative Instruction (AI) 9.9, Rev. 17, "Torch Cutting, Welding, and Open Flame Work Permit", Security Procedure 2, Rev. 26, "Fire Protection Plan", AI 1.8, Rev. 12, "Plant Housekeeping" and WBNP Construction Engineering Procedure (CEP) 1.36, Rev. 0, "Storage and Housekeeping" were being implemented with regards to fire prevention and protection.

Within this area, no violations or deviations were identified.

6. Preoperational Test Program Implementation Verification - Unit 1 (70302)

The inspectors conducted routine tours of the facility to make an independent assessment of equipment conditions, plant conditions, security, and adherence to regulatory requirements. The tours included a general observation of plant areas to determine if fire hazards existed and observation of other activities in progress, e.g., maintenance and preoperational testing, to determine if they were being conducted in accordance with approved procedures. Also observed were other activities which could damage installed equipment or instrumentation. The tours included evaluation of system cleanliness controls and a review of logs maintained by test groups to identify problems that may be appropriate for additional followup.

Within this area, no violations or deviations were identified.

7. Testing of Pipe Supports and Restraint Systems - Unit 1 (70370C)

The inspector toured areas of the Unit 1 auxiliary building and reactor building. Numerous snubbers and restraints were observed. Visual examinations were conducted to check for deterioration and physical damage of mechanical snubbers. Visual examinations were also conducted to check for damage of base support plates, fasteners, locknuts, brackets, and clamps associated with these installed pipe supports.

Within this area no violations or deviations were identified.

8. Status of Plant Issues (92705)

a. The inspectors were presented, by the licensee, a status of reported deficiencies pertaining to the Watts Bar Nuclear Plant (WBNP) during this reporting period. This status included both the deficiencies reported under the old program, Non-Conformance Reports (NCR), and those reported under the new program, Conditions Adverse to Quality (CAQR). The areas presented pertained to the outstanding numbers of

reports that were dispositioned with physical corrections not completed (open); those that require dispositioning; those that require evaluation for generic applicability whether originated at WBNP or received from another of the licensee's nuclear facilities; and those requiring a reportability determination. The quantities of each of the above categories are as follows:

OUTSTANDING REPORTED DEFICIENCIES

STATUS	OLD PROGRAM (NCRs)	NEW PROGRAM (CAQRs)
OPEN (DISPOSITIONED BUT CORRECTION NOT COMPLETE)	1066	836
DISPOSITION REQUIRED	30	19
REQUIRES PLANT GENERIC CONDITION EVALUATION	95	10
REPORTABILITY DETERMINATION REQUIRED	1	0

The numbers reported above represent an improvement in the status of the deficiency reporting program. This improvement is attributed to a concentrated plant and engineering effort to achieve this goal.

b. The inspector reviewed the licensee's Weld Evaluation Program (WEP) which is presently nearing completion on Unit 1. A similar program is planned for Unit 2.

The WEP was established by the licensee to reassess commitment compliance and reinspection of welds to determine adherence to the commitments. The reinspection program was also designed to address many of the employee concerns expressed in the area of welding. The licensee contracted the U. S. Department of Energy (DOE) who then contracted EG&G Idaho to perform the inspections on Unit 1. Previous NRC inspection reports addressing the WEP include 87-01, 87-03 and 87-09.

(1) Unit One Status

In the structural area, which includes pipe supports, instrumentation and conduit supports, electrical supports, heating and ventilating supports, and civil structure components, 1365 components which represent 14,938 welds were reinspected. A total of 2844 welds failed to meet the licensee's original acceptance standards. The most common failure was weld size, which involves 1134 of the total welds inspected. Engineering is presently evaluating the discrepancies. In the piping welds, 721 welds were reinspected and 211 failed the original acceptance criteria. The most common failure was arc strikes, which involved 112 of the welds.

Based on the inspection findings, an expansion program was implemented in the areas of electrical supports, civil structure supports, instrumentation supports, pipe sleeve supports and small bore piping. This expansion program added 348 components to the reinspection program. In addition, the licensee has expanded certain program areas to a 100 percent review. These areas include film interpretation of piping weld radiographs, visual inspection of structural steel connections at elevation 741 in the control building, field fabricated instrument panels, heating and ventilation welds, and pipe lugs.

The inspection of the structural steel connections at elevation 741 is completed and repairs are almost complete. Of the 1,098 connections at elevation 741, 1,091 required some type of modification.

The rereview of all Unit 1 radiographs is complete and repairs are in progress. Of the approximately 12,000 exposures, which represent approximately 2,700 welds, 297 exposures representing 185 welds were rejected for weld imperfections and 192 exposures representing 138 welds were rejected for film quality or technique discrepancies. Also 27 exposures representing 20 welds were rejected for base material imperfections. As of October 15, 1987, 25 of the welds were repaired or reradiographed to comply with ASME Section III requirements.

All of the inspections have been completed in all 115 of the weld groups originally defined in the program including 36 specific groups, 66 special groups, and 13 general groups. (Specific groups were formed when problem and location were defined; special groups were formed when a problem was identified, but the exact location was not specific; general groups were formed to investigate concerns that were vague with respect to hardware location. The specific groups were 100% reinspected for all re-creatable attributes. The special and general groups were reinspected on a statistical basis.)

Reports of the inspections (97 total reports) are near completion. Ninety four of the 97 group closure reports have been issued.

The aggregate report will summarize the findings and conclusions of the group closure reports and is in preparation for issuance.

The final Phase II report from EG&G is in preparation and planned for issue by December 31, 1987.

(2) Unit Two Status

The licensee has determined that Unit 2 reinspection should be accomplished at this time to satisfy licensing concerns about the adequacy of welding on Unit 2. EG&G has submitted a

proposal to do the reinspection of welds on Unit 2 and the licensee is in process of evaluating this proposal. Unit 2 work may commence as early as the first quarter of calendar year 1988.

9. Electrical Records Review (51055B)

The inspector reviewed the contract documents and specifications for the following class 1E equipment specified by the Final Safety Analysis Report (FSAR):

EQUIPMENT	FSAR SECTION	CONTRACT #
Diesel Generators	8.3.1	83090
125VDC Vital Batteries	8.3.2.1.1	85763
125VDC Battery Chargers	8.3.2.1.1	85251
120V Vital A.C. Inverters	8.3.1	85216
		85264

The FSAR Section 8.1.5.3, "Compliance to Regulatory Guides and IEEE Standards", commits to Regulatory Guide 1.89, November 1974, "Qualification of Class 1E equipment for Nuclear Power Plants", and indicates class 1E equipment was qualified in accordance with IEEE 323-1971, "Qualification of Class 1E Electric Equipment for Nuclear Power Generating Stations". Some of the contracts and specifications referenced IEEE 308-1971, "Class 1E Electrical Systems for Nuclear Power Generating Stations". None of the contracts reviewed referenced IEEE 323-1971. The inspector could not find manufacturer's Certificates of Conformance or any other documentation that would meet Section 5 of IEEE 323-1971, "Method and Documentation".

This issue was discussed with the licensee. The licensee is reviewing this concern. This item is identified as URI 390,391/87-17-01, "Documentation of Class 1E Equipment", pending review of the licensee's findings.

10. TVA A/E Interface Controls and Applicability of the TVA Employees Concern Program for Engineering Contracts (TI 2512/15)

A QA specialist from the Office of Special Projects (OSP) headquarters visited the site on October 6-8, 1987 and the Bechtel Gaithersburg Office on October 22, 1987, to review contractor interface controls of the four major engineering contractors. An interim exit interview was held with the licensee on October 8, 1987 and the below listed concerns were discussed:

Interim Exit Interview:

General

The inspector reviewed and evaluated the overall process by which TVA interacts with its four major contractors with particular emphasis placed on the Employees Concern Program (ECP) and the controls for identifying

and resolving recommendations and conditions adverse to quality (CAQ). The overall objective was to assess the adequacy and consistency of procedures relating to the ECP and the CAQ programs within TVA and the four contractors and the degree to which they understood the process and their specific responsibilities for carrying out these programs. The inspector reviewed the Watts Bar Engineering Project (WBEP) Manual, the Watts Bar Contractor Interface Procedure, the Employees Concern Program Site Representative Procedure, and the four contractors' procedures pertaining to the ECP and CAQ Program. In addition, the inspectors interviewed and had detailed discussions with TVA and contractor personnel to gain an understanding of their responsibilities for carrying out the ECP and CAQ program.

a. Employees Concern Program

The procedural controls and TVA's and contractor's understanding of the ECP were found generally acceptable except for the following concerns:

TVA employee concern procedure WBEP 2.04 and the contractor's employee concern procedures rely heavily on exit interviews of site contractor employees to provide the opportunity to identify employee concerns. The procedures are not clear in instructing contractor employees of other means for reporting employee concerns such as notifying either the TVA ECP Site Representative, the TVA Inspector General or the NRC of those concerns that they may not wish to discuss with their company.

In this regard the ECP procedures should be revised to incorporate this provision.

b. Condition Adverse to Quality Program

(1) CAQ procedures applicable to Watts Bar and the four major contractors (Bechtel, Ebasco, Stone & Webster (S&W) and Sargent & Lundy (S&L)) were not clear in describing the CAQ controls for closeout and feed-back to the initiator and the responsibility of the initiator to evaluate the acceptability of CAQ resolution. A TVA Administrative Instruction describes the distribution of CAQ closeouts back to the initiator but the applicability of this control to contractor-initiated CAQs was not evident. TVA and contractor procedures should clarify this issue.

(2) In general the contractor CAQ procedures are not consistent in describing the detailed methods and specific responsibilities for carrying out the CAQ program. In addition, there was some uncertainty as to the contractors' understanding regarding how to carry out the CAQ program. The licensee agreed to consider re-reviewing the four contractor CAQ procedures for consistency and to assure the controls are clear and sufficient in describing by who and how the CAQ program is to be carried out.

Also, the licensee agreed to consider training the contractors and walking through step-by-step the proper use of the CAQ procedures.

c. General Issues

(1) TVA issues work statements to each contractor in the form of task packages. At the completion of each task package by the contractor, it was not clear as to how the acceptability of work is documented to the extent it can be audited.

(2) Procedural controls are not clear as to how contractor recommendations are documented, resolved and closed out.

(3) Procedural controls are not clear in how technical information, including conditions adverse to quality, e.g., undersized welds, generated by one contractor is communicated to another contractor when such information could impact on the design or technical scope of work of the other contractor.

d. Bechtel Gaithersburg Office

The QA specialist visited the Bechtel Co. Gaithersburg office on October 22, 1987, to perform additional inspection at the home office.

Bechtel has an ongoing training program for instructing employees on how they may express Watts Bar Safety concerns to Bechtel management using Bechtel procedure EDPI 7.10-37, "Employee Concerns and Exit Interviews".

(1) EDPI 7.10 - 37, item 4.4, excludes the Bechtel home office from performing employee interviews at the completion of assignment. The inspector believes this interview requirement is appropriate to off-site contractor's employees. Bechtel personnel indicated the procedure was going to be revised to correct this issue.

(2) The program for identifying and reporting deficiencies in Watts Bar work was reviewed by walking through Bechtel's procedure EDPI 4.90C-37, "Processing CAQR" with Bechtel personnel. The inspector was informed that while deficiencies may be identified by Bechtel in previous TVA design/calculation packages the deficiencies would not normally be reported on a CAQR. Bechtel would simply correct the design or calculation deficiencies without the CAQ process. These deficiencies should be reported and dispositioned by a process such that there is a documented record of the activity which could assist in future reviews and audits. Further, such deficiencies appear to meet the definition of a CAQ in item 1.1 of EDPI 4.90C-37 which would require they be reported and dispositioned by the CAQ process.

The inspector issues identified in the licensee's interface program as listed above will be carried as an IFI 390, 391/87-17-02, "Licensee's Interface Program With Engineering Shell Contractors".