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

Report Nos.: 50-390/86-21 and 50-391/86-21

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 21 - October 20, 1986

Inspectors: GK Hunegs for — Feb 12, 1987
M. W. Branch, Senior Resident Inspector — Date Signed
Operations

GK Hunegs for — Feb 12, 1987
G. A. Walton, Senior Resident Inspector — Date Signed
Construction

GK Hunegs for — Feb 12, 1987
P. G. Humphrey, Resident Inspector — Date Signed

GK Hunegs for — Feb 12, 1987
T. B. Powell, Resident Inspector — Date Signed

Approved by: S. A. Elrod — Feb 12, 1987
S. A. Elrod, Section Chief — Date Signed
Division of TVA Projects

SUMMARY

Scope: This routine inspection was conducted in the areas of licensee action on inspector identified items, followup of licensee identified items, fire prevention and fire protection, preoperational test (Preop) program implementation verification, testing of pipe support and restraint systems, EG&G weld inspection activities, structural welding inspection procedure, allegation followup, and electrical components record review.

Results: Three violations and three unresolved items were identified.

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REPORT DETAILS

1. Persons Contacted

Licensee Employees

G. Toto, Site Director
*D. M. Lake, Construction Project Manager
*W. R. Brown, Task Force Manager
R. A. Pedde, Unit 2 Nuclear Project Manager
*E. R. Ennis, Plant Manager
R. C. Parker, Site Quality Assurance Manager
*J. A. McDonald, Licensing Manager
R. C. Miles, Modifications Manager
*J. T. Lapoint, Site Directors Office
H. B. Bounds, Maintenance Superintendent
B. S. Willis, Operations and Engineering Superintendent
B. F. Painter, Construction, Deputy Project Manager
J. P. Mulkey, Quality Assurance Supervisor
*H. C. Johnson, Quality Assurance Supervisor
*R. Norman Jr., Operations Supervisor
R. D. Tolley, Design Services Manager
J. S. Woods, Instrument Maintenance Supervisor
J. L. Collins, Mechanical Maintenance Supervisor
*M. K. Jones, Engineering Group Supervisor
H. M. De Souza, Electrical Maintenance Supervisor
*R. R. Grau, Preoperational Test Section Supervisor
*L. E. Ottinger, Plant Compliance Staff, Nuclear Engineer
C. A. Borelli, Plant Compliance Staff, Nuclear Engineer
R. L. McKnight, Project Engineer, Design Services
*V. J. Kaminsky, Project Engineer
*L. D. Clift, Modifications Section Supervisor
*J. E. Gibbs, Department of Nuclear Engineering
*J. Adair, Weld Task Group Supervisor
*G. Owens, Nuclear Engineer
*J. E. Englehardt, Quality Assurance, Quality Control Supervisor

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 October 20, 1986, with those persons indicated by an asterisk in paragraph one above. The following new items were discussed:

- Violation 390/86-21-01; Failure to meet post-modification testing requirements (paragraph 3).

- Violation 391/86-21-01; Failure to control weld inspections (paragraph 13).

- Violation 390/86-21-02 and 391/86-21-02; Design control (paragraph 5).

- Inspector Followup Item (IFI) 390/86-21-03; Failure of Limitorque motor shaft (paragraph 6).

- IFI 390/86-21-04; Evaluation of upper head injection (UHI) removal on other plant systems (paragraph 10).

- Unresolved Item (URI) 390/86-21-05; Fillet weld adequacy (paragraph 11).

- URI 390/86-21-06 and 391/86-21-03; Adequacy of system for maintaining long term commitments (paragraph 12).

- URI 391/86-21-04; Control of qualified replacement parts (paragraph 14).

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. At no time during the inspection period did the inspectors provide written material to the licensee.

3. Licensee Action on Previous Enforcement Items (92702)

(Closed) URI 390/86-20-02; "Review of Post-Modification Testing." The inspector identified in Inspection Report 390/86-20 potential deficiencies in the post-modification testing program. A sample of 16 completed modification work packages were reviewed and the inspector determined that 10 did not adequately document post-modification testing. The licensee was requested to provide additional evidence of adequate testing for these modifications because the licensee felt that the testing requirements were satisfied by other programs apparently not documented in the modification work packages. This review produced additional documentation not provided in these work packages for all but four of the 10 work packages identified as deficient. These four are discussed below:

Work Package	Comments
2914	Unit 1 modification package no. 2914 implemented engineering change notice (ECN) 3179 to provide input to the plant computer to alarm any time that Residual Heat Removal (RHR) flow control valves, 1-FCV-74-8-A and 1-FCV-74-9-A, are not fully closed. The work package failed to reference or include a detailed retest procedure as required by Administrative Instructions (AI) 8.5, revisions 5 through 19, and AI-4.1.1. Post-modification testing was not performed.

2209	Unit 1 modification package no. 2209 implemented a wiring change to the Westinghouse Switches (model W-2) associated with various equipment in 10 different systems. Evidence was not found to verify any related post-modification testing was performed to meet the requirements of AI-8.5., revisions 5 through 19.
4186	Unit 1 modification package no. 4186 was implemented to rework conduit which involved termination wiring associated with 1-FCV-74-24B and 1-FCV-74-12A. Post-modification testing was determined to be insufficient, after reworking conduits and electrical cables, to verify proper functioning of local controls.
2008	Unit 1 modification package no. 2006 required the removal of electrical cables, conduit rework, and cable replacement associated with valves 1-FCV-1-103 and 1-FCV-1-114. Post-modification testing was determined to be insufficient to verify that valve position indicating lights represented the actual valve position.

Failure to properly conduct and/or document post-modification tests in accordance with the requirements as specified AI-8.5, revisions 5 through 19, is a violation of 10 CFR 50, Appendix B, Criterion XI, "Test Control," as implemented by TVA's Quality Assurance Topical Report, TVA TR75-1A, revisions 4 through 8, paragraph 17.2.3.3. This paragraph requires that testing of modifications to critical structures, systems, and components (CSSC) meet quality assurance standards at least equal to those of the original installation and that testing assure system integrity and provide for evaluation of performance before system operation. Administrative Instruction (AI) 8.5, "Control of Modification Work on Transferred Systems Before Unit Licensing", revisions 5 through 19, section 5.0, which implements the above, indicates that after transfer of a permanent plant feature to the Office of Nuclear Power (ONP), testing of modifications will meet quality assurance standards to ensure system integrity and provide for evaluation of performance. (390/86-21-01, Failure to meet post-modification testing requirements).

4. Unresolved Items

Unresolved items are matters about which more information is required to determine whether they are acceptable or may involve violations or deviations. Three new unresolved items were identified during this inspection and are discussed in paragraphs 11, 12 and 14.

5. Followup on Inspector Identified Items (92701)

(Open) URI 390/86-18-05; "Instrumentation Damage":
(Closed) URI 390/86-20-03; "Seismic Qualification Reports":
(Closed) URI 391/86-20-01; "Seismic Qualification Report":

During this inspection period, the inspector continued the inspection of valve and device installations to ascertain compliance with seismic qualification requirements. The area of inspection was expanded to include the methods used to mount instrument panel racks to the floor. Preliminary reviews in this area have been previously documented by the Unresolved Items noted above. Two of these Unresolved Items (390/86-20-03, 391/86-20-01) are being upgraded in this paragraph to a Violation and therefore are closed. Unresolved Item 390/86-18-05 will remain open pending resolution of instrumentation damage, a subject not addressed in this report.

The seismic qualification requirements are specified in Regulatory Guide 1.100, revision 1, "Seismic Qualification of Electrical Equipment for Nuclear Power Plants", which endorses IEEE Standard 344-1975, "IEEE Recommended Practices for Seismic Qualification of Class IE Equipment for Nuclear Power Generating Stations". IEEE standard 344-1975 specifies that the mounting during qualification shall be the same as that recommended for actual service and the mounting method shall use the recommended configuration.

The following conditions were observed:

a. (Open) Unresolved Item 390/86-18-05 identified valve, 1-FCV-43-2-B, that was installed, inspected, and accepted in Unit 1 but was not installed in accordance with the valve's seismic qualification requirements. The valve is attached to its support with a strap looped around the operator and connected to a unistrut. The hanger strap met the installation requirements shown on drawing 47A054-42 revision 2, "Mechanical Category Support Control Air Lines" but failed to properly maintain the valve in its required position. The licensee has completed their seismic evaluation for this installation per the above referenced drawing and has issued Problem Identification Report (PIR), PIRWBNCEB8684, which specifies the following: "Typical valve drawings 47A054-41 revision 3 & 47A054-42 revision 2 allow the support of a valve by means of an attachment to the upper part of the valve only. The bottom of the valve is unsupported which does not comply with the seismic qualification requirements of the valve." This is a generic issue that possibly affects the seismic adequacy of all valves installed in accordance with these drawings. The licensee had not identified this condition prior to the inspector opening the Unresolved Item.

b. Unresolved Item 390/86-20-03 and 391/86-20-01 identified a seismic concern regarding the seismic adequacy of mounting plates used for Foxboro, Model E 11DM transmitters as shown on drawing 47W600-19 revision 1, "Instruments and Controls". The mounting panel and rack were seismically qualified by Wyle Laboratories on August 26, 1974 with results submitted to the licensee in Test Report 42804-1, "Seismic Simulation Test Program on an Instrument Test Rack". The mounting plates used for the qualification were 1/8 inch thick and all mounting holes in the plate were utilized for attachment. Per Field Change Request (FCR) I-1567, construction requested and received authorization by Drawing Change 47W600-19 revision 1, Detail B19, to drill additional

mounting holes in the support bracket. After installation, six unused mounting holes in the support bracket caused it to be weakened. This allowed the transmitter to be supported by a different method than that which was seismically tested. The licensee did not provide additional documentation that engineering evaluations, calculations or requalification tests were performed to assure the seismic adequacy of the modified support bracket. This is a potentially generic issue and possibly affects all mounting plates used for model E 11DM and E 11GM Foxboro transmitters.

c. Unresolved item 390/86-20-03 and 391/86-20-01 also documented an additional seismic concern about the electrical/mechanical interface on Foxboro Series N-E10 Transmitters. Seismic Qualification Test Report 45592-4, "Qualification Test Report of N-E10 Series Transmitters for Class 1E Qualification" qualified the subject transmitters. The devices were initially qualified with the electrical cables routed through a 1/2 inch diameter flexible conduit with one end connected to an integral junction box on the transmitter and the other end of the flexible conduit supported by the instrument mounting bracket. During actual field inspection of the transmitter on PNL-2-L-596, it was noted that the wiring was routed through rigid conduit of 1-1/4 inch diameter and 15 inches long - which was connected to the transmitter. The weight of the rigid conduit exceeds the weight of the flexible conduit used during the initial seismic qualification test. The licensee did not provide any documentation that would indicate that the transmitter was seismically qualified in the as-installed condition. The licensee's engineering organization advised the inspector that a Quality Information Release (QIR) was being issued to establish acceptance criteria for installing items, such as the mechanical/electrical interface attachments noted above, on instrumentation devices. This QIR would limit the weight of such attachments to not exceed 24 inch-pounds torque on the fitting.

d. During the review of the above unresolved items, the inspector questioned the seismic adequacy of floor connections for locally mounted instrument racks. The racks were seismically qualified with a four bolt connection to the floor as shown on Wyle Laboratories Test Report 42804-1 and TVA drawing 47W600-14 revision 11, "Electrical Instruments and Controls". Another page of the drawing, 47W600-0-4 revision 28 (which contains notes), Note 3, allowed the floor connection to deviate from the qualified method when mounting two or more panels in series. Note 3 specified "use bolts in all four holes in the base legs. When installing multiple section panels, bolts are required in both outside legs and in only one leg of adjacent inside legs, with the restriction that there be no section without bolts in one leg". The licensee failed to produce evidence that an engineering evaluation and/or calculations or requalifications were performed to determine the seismic adequacy of the floor mounting when panels were mounted in series. This is a generic issue that possibly affects all instrument racks that are mounted in series.

The failure to ensure that vendor information (seismic qualification reports) are considered in the field installation as discussed in paragraphs 5a - d above, is a violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control" (390, 391/86-21-02).

Within this area inspected, one violation was identified.

6. Followup of Licensee Identified Items (92700)

a. During this reporting period the licensee identified motor shaft problems associated with Limitorque valve actuators 1-FCV-63-72A and 1-FCV-63-73B, RHR sump isolation valves. This condition was identified as a potential 10 CFR 50.55e issue, verbally reported to the NRC and internally documented by Nonconforming Condition Report (NCR) W-477-P revision 0, which indicated that the motor pinion gear key was found approximately 1/3 of the way out of its slot during a preventive maintenance grease changeout on 1-FCV-63-72A. Subsequent review revealed that the key was deformed and cracked and that the motor shaft had two large cracks initiating from the keyway slot. Inspection of the redundant train valve actuator, 1-FCV-63-73B, revealed the motor pinion gear key to be slightly deformed and surface cracking of the motor shaft. The NCR further stated that this condition was similar to that discovered during corrective action performed in 1982 resulting from IE Notice 81-08 and a Limitorque notice dated 6-03-81. These notices identified deficiencies with low strength material used for pinion keys in Limitorque SMB-3 and SMB-4 actuators with 150 ft/lb or greater motors. However, both failed actuators were Limitorque type SMB-3 actuators with 100 ft/lb motors and therefore fell outside the torque criteria identified in the 1981 Notice and were not subject to the required corrective action. The inspectors will followup on this condition to insure that the root cause is determined and that proper corrective actions are taken. (IFI 390/86-21-03, Failure of Limitorque motor shafts).

Within the area inspected, no violations or deviations were identified.

7. 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, "Torch Cutting, Welding, and Open Flame Work Permit", Standard Practice WB 12.6, "Fire Brigade Instructor's Guide and Fire Brigade Handbook", AI 1.8, "Plant Housekeeping" and WBNP Quality Control Instruction (QCI) 1.36, "Storage and Housekeeping" were being implemented with regards to fire prevention and protection.

Within this area inspected, no violations or deviations were identified.

8. Preoperational Test Program Implementation Verification - Unit 1 (71302)

The inspectors conducted routine tours of the facility to make an independent assessment of equipment conditions, plant conditions, security, and adherence to regulatory requirements. In addition, facility tours were conducted weekly with a Senior Reactor Operator (SRO). These tours included general observation of plant areas to determine if fire hazards existed and observation of other activities in progress (e.g., maintenance, preoperational testing, etc.) to determine if they were being conducted in accordance with approved procedures. In addition, other activities which could damage installed equipment or instrumentation were reviewed. The tours also 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.

9. 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.

10. Status of Plant Issues (92705)

The Inspector met with the licensee for the purpose of discussing the removal of the upper head injection (UHI) system from Unit 1. It was conveyed to the Inspector that the decision to remove the system was based on the advent of new computer codes, operational problems associated with UHI, and on the recently approved amendments to the facility license for the McGuire Nuclear Station which allowed full power operation without UHI (Amendment no. 57 for Unit no. 1 and Amendment no. 38 for Unit no. 2).

Justification for UHI removal relies on improved computer code technology developed from experimental work involving mechanical modeling of fluid response during loss of coolant accident (LOCA), injection, refill, and reflood. The licensee's contractor indicated that this improved computer code technology has demonstrated that UHI is not required for maintaining acceptable emergency core cooling during a large break LOCA.

The licensee issued Design Change Request (DCR) no. 591 in August of 1985 for the Department of Nuclear Engineering (DNE) to pursue the modification issue with the Westinghouse Company. Actual field work was started on October 4, 1986. The present internal schedule requires all work inside the containment to be completed by February 20, 1987 and all remaining work completed by July 1987. Favorable as-low-as-reasonably-achievable (ALARA)

radiation exposure benefits will be gained by removal of the system prior to fuel load, as problems associated with working in a contaminated area, radioactive waste and radioactive storage will be eliminated.

The licensee has discussed the removal of UHI with The Office of Nuclear Reactor Regulation (NRR). The removal details as well as Final Safety Analysis Report (FSAR) and other licensing-related material will be reviewed by the NRC. Although licensing of the UHI removal is the responsibility of NRR, the inspector will review the effects associated with related systems and equipment that could result from the UHI removal. Evaluation of UHI removal effects on other plant systems is identified as IFI (390/86-21-04).

Within this area, no violations or deviations were identified.

11. EG&G Weld Inspection Activities - Unit 1 (55185B)

The inspector reviewed the licensee's program, which included the EG&G reinspection effort, for evaluating weld adequacy. This weld inspection program is being performed to address numerous employees' concerns in the welding area.

The inspector reviewed the inspection techniques for fillet weld measurements on structural steel components. These components are governed by the American Welding Society (AWS) Code, AWS D1.1 and an EG&G inspection procedure. The AWS D1.1 code specifies that when two components are fit together (fitup), a maximum allowable gap of 3/16 inch (in parts 3 inches or less in thickness) is allowed. Furthermore, if the separation is 1/16 inch or greater, the leg of the fillet weld shall be increased by the amount of the separation. Based on the inspector's review, inspection and documentation of the fitup separation was not implemented in the QC procedures until June 11, 1986, when WBN-QCI-4.03 revision 8, "Process Control and Weld Procedure Assignment" was issued and required the weld foreman to document the fitup separation. Therefore, for fillet welds being evaluated by EG&G for weld size, fitup inspections stating the fitup separation were not previously documented. Fitup separation is needed to compensate for fillet weld leg length because the leg length is the method used to determine fillet weld size. When measuring fillet weld leg length, the separation (if greater than 1/16 inch) must be added to the fillet weld requirement to assure adequate weld size exists.

EG&G is performing the reinspection to procedure number WEP 3.2.3 dated September 25, 1986, titled "Visual Examination Methods and Acceptance Criteria". A review of this procedure found EG&G did not consider the requirement to increase the leg length by the amount of the gap (separation). Discussions held with EG&G personnel indicate this is being considered on welds that are not welded all around, i.e., when the drawing specifies "weld one side", the gap is measurable on the other side and can be factored into the weld measurement. In cases where the item is welded all around and the fitup gap is not visible, EG&G assumed the fitup was 0 inches and measured the existing leg size. The licensee and EG&G inspection

personnel acknowledged this deficiency and are presently assessing the adequacy of the method used to measure fillet weld size. EG&G committed to evaluate the data collected to date on fillet welds where access to the fitup was accessible and determine the degree of separation evident on these welds to make a determination if the fillet leg length was increased accordingly during welding. This data will be evaluated to determine if the methods being used to measure fillet weld size are acceptable. This item (390/86-21-05), "Fillet Weld Adequacy", is Unresolved pending the licensee's completion of their data review and further evaluations by the inspector.

12. Structural Welding General Inspection Procedure - Units 1 and 2 (55100)

An inspection was performed to verify the implementation of commitments made by letter, dated March 20, 1986, from TVA's Manager of Nuclear Power to the Office of Nuclear Reactor Regulation. This letter stated, "Concerns have been expressed concerning fitup inspection of structural welding. Inspections, including fitup inspections for structural welding in accordance with ANSI N45.2.5-1974 and AISC (AWS D1.1), are specified by the design engineer on the design drawing for each feature. Inspections applied are dependent upon the scope and nature of the work and the importance of the feature to safety. These inspections are performed and documented by certified QC inspection personnel. Inspections not made by QC inspectors are those made by a welder and/or foreman as part of the inprocess good workmanship activities. This process is surveilled by QC inspectors and documented on daily and weekly surveillance reports."

At the time the above commitment was made, the controlling instruction was QCI-4.03 Revision 6, (issued August 25, 1984) "Process Control and Weld Procedure Assignment." This instruction does not state requirements that would meet the commitments of the March 20, 1986 letter to perform fitup inspections. This procedural void was filled initially by verbal instruction followed by a memorandum from TVA's Director of Nuclear Quality Assurance issued on May 19, 1986 which stated, "In the absence of definitive requirements, on February 25, 1986, I gave verbal instructions that all safety-related (CSSC) structural items would receive a fitup inspection by QC inspectors...". By this action, the welding process procedure was, in effect, changed verbally. The commitments of the March 20, 1986 letter were, therefore, initially implemented by verbal instructions. The commitments were properly implemented by written documents on June 11, 1986 when QCI-4.03 revision 8, "Process Control, Welding Surveillance, and Weld Procedure Assignment" and QCP-4.03 revision 0, "Weld Surveillance" were issued.

It appears that the Structural Weld Fitup commitments of the March 20, 1986, letter from the TVA's Manager of Nuclear Power to the NRC were being satisfied for a period of time by verbal instructions until written implementing procedures were issued on June 11, 1986.

The inspector's review of the above issue identified a weakness in the licensee's program to control commitments to the NRC and possibly to other outside organizations. Specifically, section 5.1.3 of the TVA Nuclear

Quality Assurance Manual (NQAM) requires that a method be established to ensure long-term commitments implemented by procedures/instructions are not deleted by subsequent revisions. This NQAM requirement is implemented, for procedures generated by the plant operating organization, by Administrative Instruction (AI) 3.1 revision 12, "Plant Instructions - Control and Use". This AI requires, in section 5.2.2.5, that commitments be listed in the reference section of the implementing procedure. Additionally, AI 3.1 requires that changes to the implementing procedures do not delete implemented commitments unless the commitment is canceled.

The inspector could not locate a design or construction division program commitment control similar to the program discussed above. It should also be noted that the weld fitup commitment made to the NRC in the March 20, 1986, letter as implemented by QCP-4.03-1 revision 0 has the potential to be dropped as no reference to the commitment is made in the Quality Control Procedure (QCP).

The inspector requested that TVA provide the implementing procedure for ensuring design and construction commitments are maintained. Additionally, the use of verbal instruction to satisfy commitments to the NRC will be evaluated by the inspector. This item is identified as Unresolved Item (390/86-21-06 and 391/86-21-03) pending receipt and review of the implementing procedure and evaluation of the use of verbal instructions.

13. Allegations

a. (Closed) Allegation RII-86-A-0247: Quality Control Supervisor Overriding the Quality Control Evaluation Of a Hanger Weld.

Concern

The alleger stated that a fellow inspector had rejected a weld on hanger number 2062-A060-62-45 because the stringers on the weld were not tied in and the weld was not tied into base metal in certain places. The supervisor had another inspector review the weld and the second inspector said the weld was "sloppy", but he saw no reason to reject it. The alleger said the supervisor then signed off (accepted) the inspection card without ever seeing the weld. The alleger said that he was sure that the supervisor did not have a level II certification.

Discussion

This allegation was received by the resident inspector on September 8, 1986, in the resident inspectors' office. The review was conducted by the resident inspector and included reviews of quality control inspection reports, the Quality Training Program, Section III titled "Experience, Training, And Qualification Of Personnel Requiring Certification" and the personnel jacket of the supervisor discussed in the allegation. QC Inspection report number HWS-385 indicates weld 2062-A060-62-45 was inspected on August 29, 1986 by a qualified QC

inspector. The records indicate the weld was rejected because of stringers on welds not tied in and welds not tied into base metal in different places. The records indicate a reinspection was done on September 4, 1986, by a QC supervisor who accepted the referenced weld. Two other QC inspection reports in the files for this weld indicate the weld was inspected on September 4, 1986 by the QC supervisor in accordance with Revision 4 of WBNP-QCP-4.23-4 and accepted. Paragraph 2.1.a of the Quality Training Program contains an exception for supervisory personnel by specifying that supervisory personnel who direct the performance of inspections, examinations, and tests within their areas of responsibility may, on occasion, perform and document these activities if they are certified by a letter from management appointing them to the position of inspection supervisor.

By letter, dated September 6, 1986, from the Watts Bar Quality Manager, the supervisor who accepted the weld, was certified in the following manner: ". . . Since you have been appointed to a management position involved in the direction of inspection, testing, and examination of personnel, to perform and/or document these activities on an occasional basis, as defined in paragraph 2.1.a exception 1 of Section III, Revision 3, of the Quality Assurance Training Program Plan. Note that exception 1 does not apply to Non-destructive Examination (NDE) and other welding activities".

A review of the QC supervisor's Employee History Record (EHR) found the supervisor had received 92 hours of technical training in December, 1979, for "Basic Welding" (Hands On Welding), and 22 hours in June, 1975 for ASME Boiler and Pressure Vessel Code requirements. However, the documentation does not indicate any certification resulted from this training.

Conclusion

The allegation is substantiated. Weld 2062-A060-62-45 was accepted by a supervisor who was not certified as qualified to perform weld inspections. As stated in the supervisors certification, NDE and welding were not part of his certification.

Failure to control weld inspections is a violation of 10 CFR Part 50, Appendix B, Criterion IX "Control Of Special Processes" in that a supervisor, unqualified as a weld inspector, performed inspections he did not have the authority to perform. This violation is identified as 391/86-21-01, "Failure to control weld Inspections". Based on followup of the violation, Allegation RII-86-A-0247 is closed.

b. (Closed) Allegation RII-86-A-0139, Preop Test TVA-73C Contains Irregularities.

Concern

The alleger states that preop test TVA-73C Rev. 0, "Additional

Diesel Generator Qualification Test", contains numerous irregularities at the present time and that instruments have been removed from the fifth diesel engine and not reirstalled properly. The alleger suggests that a prompt inspection may be of interest to the NRC to reveal these testing concerns.

Discussion

This concern was received by the resident inspectors in a memorandum dated April 17, 1986, and was forwarded to the Region II office for processing. It was later returned to the resident inspectors for investigation and evaluation. During this reporting period, the inspectors reviewed the procedure, TVA 73C, and inspected the subject area. Inspection of the 5th Diesel Generator area revealed that temporary thermocouples, thermocouple wiring and instrument tubing were attached to the permanent equipment. These temporary modifications were installed in accordance with the test procedure, TVA-73C, section 5.1. The procedure further provides for their removal in section 5.19 which has not been completed. The inspectors found no evidence of testing activities on this preop since April, 1986. Discussions with the Test Engineer indicated that no further testing is planned until March, 1987.

A review of the documented performance of the test procedure did substantiate the allegation that irregularities in testing were prevalent. Both logic and intent changes were made to the procedure and these changes were treated as nonsignificant and therefore did not receive the proper review and approval

Conclusion

This allegation is substantiated. This further illustrates the concerns identified in Violation (390/86-30-01) "Failure to Properly Change PORC Approved Procedures". Based on this violation issued in the previous inspection report, Allegation RII-86-A-0139, "Preop test TVA-73C contains irregularities" is closed.

14. Electrical Components Record Review - Unit 2 (51055)

The inspectors reviewed construction work plan FA003RZ which incorporated Engineering Change Notice (ECN) 6026, requiring replacement of non-qualified internal wire in Limitorque valve operators with Class 1E wire. This effort identified the following concerns:

a. Quality Control Procedure, QCP-1.06 revision 20, "Receipt Inspection Of Safety-Related Items", requires that safety-related equipment received be inspected and documented on a Receiving Inspection Checklist (QCP-1.06 Attachment A). The licensee has not produced

receipt inspection documentation for purchase contract 838433 which procured the Class 1E wire used in upgrading Limitorque operators.

b. A broken torque switch in 2-FCV-3-179B-B and a broken terminal block in 2-FCV-3-116B-A were documented and replaced as revisions to the work plan. Construction work plans are not kept as permanent plant records and therefore do not meet the requirements of the TVA QA Topical Report TVA-TR75-1A revision 8, section 17.1.16.2. The QA Topical Report indicated that Conditions Adverse to Quality are dispositioned on an NCR. QCI-1.60 "Work Control" neither specifies how broken parts replacement will be documented nor does it require that discrepancies found while performing work be documented per the NCR instruction. These parts were subsequently replaced without a properly documented engineering disposition.

c. The part obtained to replace the terminal block in 2-FCV-3-116B-A was received on site as non-class 1E and was subsequently installed in the Class 1E operator of 2-FCV-3-116B-A. QCI-1.20 revision 10, "Site Control of Procurement" does not provide instructions for a documented engineering review of off-the-shelf items, or the use of equivalent parts-as required by TVA QA Topical Report, TVA-TR75-1A section 17.1.7.1.

The review of this construction work plan has identified potential problems with QCI-1.20 and QCI-1.60 in that, the inspector could not locate instructions as to how equipment repair/replacement is controlled during construction nor could the inspector locate a defined material substitution program. It remains to be determined whether the procedures and instructions, which control activities on safety related equipment, ensure that such activities do not invalidate standards to which the equipment was designed, built, and qualified. The inspector requested the licensee provide information as to how the above items are controlled during construction. This issue is URI 391/86-21-04, Control of Qualified Replacement Parts, pending review of the licensee's program.