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FEB 0 3 1995

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

Gentlemen:

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

WATTS BAR NUCLEAR PLANT (WBN) UNIT 1 - NRC INSPECTION REPORT 50-390/94-201 - REPLY ON ASSOCIATED CORRECTIVE ACTIONS - REPLACEMENT ITEMS PROGRAM (RIP) CORRECTIVE ACTION PROGRAM (CAP)

The purpose of this letter is to provide a reply to the results of NRC's team inspection of the RIP CAP at the 75 percent completion milestone. TVA has conducted a detailed review of the subject inspection report results. As indicated in NRC's inspection report cover letter, TVA agrees that in general, significant improvements have been made in the procurement and material control processes at WBN; however, some deficiencies regarding program implementation need further attention. Enclosure 1 provides TVA's response to the specific issues identified in the inspection report with additional steps taken by TVA to strengthen the results of the RIP CAP lookback effort and current procurement processes at WBN. Enclosure 2 provides the list of commitments made by TVA in this letter.

If you should have any questions, contact P. L. Pace at (615) 365-1824.

Sincerely,

Dwight E. Nunn
Vice President
New Plant Completion
Watts Bar Nuclear Plant

Enclosures
cc: See page 2

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ENCLOSURE 1

WATTS BAR NUCLEAR PLANT UNIT 1
REPLY TO 50-390/94-201
NRC DECEMBER 14, 1994, LETTER TO TVA

INTRODUCTORY NOTES

Independent Assessment of the RIP CAP

In December of 1994, an independent assessment of the RIP CAP was conducted to determine the status of progress made toward final implementation of the CAP. The results of that assessment indicated that TVA had evaluated nearly 180,000 items specified, procured, and accepted by WBN from about 1975 until the present. This population constitutes almost 70 percent of the items installed, either to construct or maintain the plant, and represents an unusually large sample. The evaluations were conducted in accordance with the CAP plan and included the Replacement Items Program (RIP), the Materials Improvement Program (MIP), and the Procurement Engineering Group (PEG).

The approach for evaluating the previously installed items and the scope of items to evaluate were both highly conservative because, unlike other utilities that have conducted evaluations of indeterminate installed items, WBN did not have an operating history to serve as a baseline. The scope of the assessment was formulated to be consistent with current regulatory guidance. The 70 percent sample, on the other hand, is much larger than the typical populations of installed items that have been evaluated at other nuclear facilities. At present TVA estimates that the collective WBN initiatives have greatly exceeded the number of evaluations originally envisioned by the RIP CAP.

Significantly, in no case were evaluations prompted by a known hardware nonconformance/deficiency. On the contrary, they were performed in order to determine the extent to which past procurement practices may have affected the quality of installed plant hardware. The results indicate that about 9 percent of past safety-related procurements (about 3 percent overall) were not specified correctly. About 8 percent of past procurements had inadequate documentation to properly accept commercial grade items and required additional testing/inspection to dedicate. However, less than 0.005 percent of the procured hardware was found to be non-conforming to design requirements. Thus, extremely high confidence that the installed material is adequate to perform its design function has been achieved. Further evaluations of previously procured items could add little, if any, additional confidence that the hardware is conforming and will perform its design functions.

The conclusions from the independent assessment of the RIP CAP, as summarized above, were discussed at a meeting between TVA and NRC in Atlanta on January 11, 1995. As indicated in that meeting, TVA will advise NRC of what actions, if any, TVA will take based on the results of the independent assessment. This will occur by March 24, 1995.

RIP CAP REVISION 5

Inspection report 50-390/94-201 indicated in several instances that the apparent exception to Generic Letter (GL) 91-05 expressed in footnote number two represented an obstacle to the NRC's acceptance of Revision 5 to the RIP CAP Plan. As was stated in the footnoted sentence of the CAP: "The Watts Bar program ... incorporates the latest inputs from the Electrical Power Research Institute (EPRI), the Nuclear Utility Management and Resources Committee (NUMARC), and Nuclear Regulatory Commission (NRC) Generic Letters 89-02 and 91-05 into the logic for the acceptance." This statement accurately reflects the bases upon which the program was constructed, is currently operating, and will be maintained. The inspection report further pointed out that the footnote was actually contradictory when compared to the procedural processes in place at WBN and further advised that the footnote be removed. TVA agrees. The RIP CAP has been revised (Revision 6) to remove this footnote and, thereby, eliminate the appearance of taking exception to GL 91-05. This change was approved on January 6, 1995, and transmitted to NRC by letter dated January 20, 1995.

CAP PROCEDURE

Site Standard Practice (SSP)-10.C, "Evaluation Of Installed Safety-Related Items," was developed to evaluate past procurements and to clearly distinguish and document both the adequacy of the technical evaluation per 10 CFR 50, Appendix B, Criterion IV, "Procurement Document Control," and the adequacy of the acceptance per Criterion VII, "Control of Purchased Material, Equipment, and Services." The procedure used a methodology consistent with the guidance in EPRI documents as well as NRC generic letters. It implemented that guidance as it applied to items already procured.

Appendix B of the procedure allowed for the proper documentation of the technical evaluation and provided assurance that an item was specified correctly at the time of procurement. This involved a confirmation of an item's safety classification as well as the adequacy of technical and quality procurement requirements communicated to the supplier in the purchase order.

The procedure also enabled the engineer to document the type of procurement that was made (i.e., a like-for-like procurement or an alternate item purchase). If the documentation available for review provided any indication that an alternate item was being specified at the time, objective evidence of a technical equivalency evaluation was required. In some cases this could not be found and the engineer documented an evaluation using the forms in SSP-10.C. Documenting the equivalency evaluation could not change how the item was originally specified nor could it affect the item as it was actually received. But, on the other hand, the evaluation could have demonstrated TVA's compliance with current industry and regulatory guidance for properly documenting the specification of a safety-related item.

The procedure also precluded any reliance on the equivalency evaluation as a means of lessening the degree of verification necessary for properly accepting/dedicating the item. Instead, the documentation of the equivalency evaluation enhanced the overall effort by enabling the engineer to identify

critical design characteristics based on the item's safety function which could later be verified during acceptance activities.

EPRI Training

Although most of the PEG and RIP engineers had received training in EPRI NP-5652 and NP-6406 before or during the early stages of RIP, TVA has scheduled additional training and broadened the organizational base of participants: Additional training will be provided in these areas to persons in PEG, Materials, Maintenance, Corporate Quality Assurance, Site Quality Assurance, and Technical Support. It is believed that this broader scope of participation will contribute significantly toward reinforcing the current philosophy for piece part procurements (as evidenced in GL 91-05 and the appropriate EPRI literature) in those who could most benefit from applying this philosophy. This training will be completed by March 31, 1995.

Procedure Review Team

Inspection report 390/94-201 identified several instances in which WBN processes and procedures controlling the testing and documenting of test results could be improved. In response to this observation, TVA has formed a process review team to evaluate the interface between the Materials/PEG processes and those Plant processes involved with testing. The team is made up of members from the following organizations: Technical Support, Replacement Items Program, Maintenance, Procurement Engineering Group, and Materials. They will specifically address issues dealing with the procedural process for breaker testing, although their charter has not been limited to this area alone.

INDIVIDUAL ITEMS

DEFICIENCY 94-201-D1 (Refer to IR 50-390/94-201, Page 12, Section 4.1)

Weaknesses in Corrective Action Program Implementation - PEG Package 9400018340

TVA RESPONSE

The governing PEG package PEG9400018340 stated that the requirements of another package (PEG920953) applied. PEG920953 required a detailed cause/failure analysis to be made and submitted to the System Engineering Supervisor and stated that the characteristics and specifications contained in another predecessor package (PEG8903107E) applied. PEG8903107E required that certain performance and weight data be evaluated by engineering prior to receipt inspection. Contrary to the above, the receipt inspector did not forward the data accompanying the motor to engineering prior to receipt inspection. Problem Evaluation Report (PER) WBPER940354 was written to document this failure in accordance with the WBN Corrective Action Program.

Analysis for the PER determined the cause to be a lack of experience on the part of the inspector and determined the incident to be isolated. Corrective actions required the test data to be forwarded to Nuclear Engineering (NE) for review and to caution receipt inspectors to be alert to the many possible sources of receiving inspection requirements. Review of test data was documented in supplemental PEG package PEG9400018340.

A review of the submitted documentation from Muscle Shoals Power Services Shop, shows that a "detailed cause/failure analysis" was not submitted. A comment in the description of work performed (that the motor was tested, had unacceptable vibration, was disassembled, balanced, and reassembled with new bearings) constituted the analysis. The failure of the motor was documented on a Work Request (WR) and corrective action for the specific failure was documented in the Work Order (WO). The subject motor failed twice, but each failure was different. The second failure was due to unbalance and not considered related to the earlier failure, hence an analysis for suitability of application was not performed.

An observation during the review for this report was that a contributing factor in the failure to forward the test data to engineering for review was that the specific requirements were not directly stated in the governing PEG package. To have recognized all requirements, the receipt inspector would have had to obtain, review, and compile requirements from three previous packages. To prevent recurrence, TVA revised SSP-10.05, "Technical Evaluation For Procurement of Materials and Services," to require the use of Appendix E, the Special Inspection Requirement Sheet, on occasions requiring special or unique tests or certification documentation and design submittals. This revision was signed on January 18, 1995. In addition, Quality Assurance Instruction (QAI)-10.04, "Material Issue Control and Return," will be revised by March 10, 1995, to also reflect these requirements.

DEFICIENCY 94-201-D2 (Refer to IR 50-390/94-201, Page 12, Section 4.1)

Inadequate Translation of Design Basis Requirements into Design Output Documents Which Resulted in an Inadequate Review for Suitability of Application for QA Level I Molded Case Circuit Breakers - PEG Package 9400002182.

TVA RESPONSE

TVA believes that the molded-case circuit breakers (MCCBs) are adequate for Class 1E service and meet the requirements of Appendix B to 10 CFR 50 based on the following discussion.

The test procedure called for shunt trip coils to be tested at 120 Vac. Some of the coils actually operate at 125 Vdc. In their letter of July 28, 1994, United Controls Incorporated (UCI) confirmed that the DC coils were actually tested at 125 Vdc, not 120 Vac. This was an oversight in the test procedure.

The WBN breakers having an active safety function to trip by means of the shunt coil are identified in calculation No. WBN-EEB-MS-TI11-0004. These breakers are used to shed load in the event of loss of off site power. They operate in the first three to five seconds when the 125 volt batteries are not in a degraded voltage condition as demonstrated in the battery voltage profile in calculation WBN-EEB-MS-TI11-0003. The calculation, using conservative methodology, shows that the shunt trips will have in excess of 103 volts due to worst case voltage drops at the time of loss of off site power considering the effects of battery degradation due to aging, low temperature, and use of all margin. According to the calculation, the coils will operate at 55 percent of nominal voltage (125 volts). This means that the coils are designed to trip the breakers at a minimum of 68.75 volts. Due to the margin between the worst case actual voltage and the design minimum operating voltage, showing that the shunt trip on the breaker will operate at its nominal voltage is adequate to provide reasonable assurance that the breaker will perform as required. Other testing supports this assurance in that it confirms that the breaker mechanism is free and operates as designed. Actual application of the breaker does not challenge the design limits of the equipment.

National Electrical Manufacturers Association (NEMA) AB-4 states that the hold-in test at rated current should have a duration of one hour for breakers rated up to 100 amps and longer for larger breakers. This is to allow the breaker temperature to stabilize. TVA does not apply its breakers at 100 percent of rated current. Design Standard (DS)-E25-ESC-154 recommends that breakers not be applied at more than 80 percent of rating. Calculation WBN-EEB-MS-TI08-0008 shows that the worst case loading allowed would be an electric heater load with the breaker rating between 115 percent and 140 percent of the heater load current. Other applications are more conservative for the breaker loading. This margin means that the breakers, under actual operating conditions, will not operate at maximum design temperature at which the breakers will hold in. TVA believes that the 30 minute test, in conjunction with post installation testing or the operation of equipment, provides reasonable assurance that the breaker will perform as required and will meet the design basis of not tripping thermally. In addition, other

functional testing provides assurance that the breaker is properly assembled and of the correct materials to perform as designed.

The instantaneous trip test for molded-case breakers confirms that the breaker has a functioning magnetic element. The breakers used for motor protection are applied at a minimum of 185 percent of motor locked rotor current. This is documented in calculation WBN-EEB-MS-TI08-0008. Experience has shown that this is sufficiently high to avoid nuisance trips due to motor starting. Normally functioning breakers do not give nuisance trips using this criteria. Additionally, post installation testing, pre-operation testing, and system operation prior to determination of system operability in accordance with the technical specifications support the conclusion that the breaker will not trip when picking up load. This is not intended to use the system to test the breakers or challenge equipment unnecessarily. Breaker testing ensures the existence of instantaneous trip protection while the application criteria eliminates false trips.

The instantaneous trip testing at 15 times the breaker rating does not confirm the exact published trip curves. Breaker sizing and protection are covered in the above calculation. The upstream switch gear backup breakers are Westinghouse type DS breakers with a short time trip setting of 3200 amps at a nominal 180 ms. The minimum trip time for this setting is 70 ms, although testing shows that the breakers do not trip that quickly. Based on this setting, the worst case for coordination would be a fault level of 3200 amps for 70 ms. The testing on molded-case breakers at 15 times rating demonstrates that the safety-related breakers will coordinate. The exception to this would be a 225 amp breaker that could be tested at 3375 amps with a 6 cycle acceptable trip time. The breakers at this rating are actually set with the instantaneous trip at 1500 amps which would give a maximum expected trip current typically 1.5 times the setting, or 2250 amps. This is sufficient margin to provide reasonable assurance of coordination based on testing done under the guidelines of Maintenance Instruction (MI)-57.27, "Initial Testing of Molded Case Circuit Breakers," Revision 11.

Cables are sized to meet ampacity requirements and are generally oversized. The damage curves for the cable show that the cables will be protected by the breakers in the instantaneous trip region.

Revision 12 to TVA test procedure MI-57.27 adds additional test requirements to specifically test for minimum trip currents and more closely approximate the breaker trip curves, although TVA does not attempt to duplicate the curves in field testing. The testing done under MI-57.27, Revision 11 provides assurance that the breakers will perform their design function in regard to the instantaneous trip function for short circuit protection and coordination.

Prior to contract initiation, TVA reviewed plant technical data for suitability of application and selected characteristics were specified to ensure correct items were specified and the proper design requirements were communicated to the supplier. The MCCBs selected are standard industry grade repetitively manufactured items.

Seismic Design Criteria (WB-DC-40-31.2), environmental requirements (Standard Specification (SS)-E18.10.01), and functional testing (MI-57.27) were specified. The seismic and environmental elements were documented in the vendor's qualification reports (NQR-1816 and NQR-2647) which were reviewed and

approved by TVA. Functional testing was performed and the results also reviewed and approved by TVA.

Prior to contract award, vendor audit report No. 93V-38 was conducted at UCI specifically to address their acceptability for supplying Class 1E MCCBs. UCI was determined to be an acceptable supplier. On receipt of the MCCBs, a TVA receipt inspection (QAI-10.04) was performed to ensure compliance with the specification, including a special inspection to ensure the received items were not fraudulently misrepresented products. MCCBs were made available for issue based upon successful receipt inspection and evidence of approved documentation.

Thus, the above provides reasonable assurance that the MCCBs are adequate for Class 1E service.

DEFICIENCY 94-201-D3 (Refer to IR 50-390/94-201, Page 14, Section 4.1)

Failure to Ensure that QA Level I Molded Case Circuit Breakers Meet Procurement Requirements - PEG Package 9400002182

TVA RESPONSE

TVA considers that the testing done in conjunction with correctly specifying the MCCBs, provides reasonable assurance that the equipment will perform as required to meet their design basis. The testing, audit results, receipt inspection, as well as documentation that the breakers were obtained directly from the manufacturer provide assurance that the material provided meets specified requirements based on the following discussion:

The approved test procedure requires that each breaker have a nameplate and that certain data be recorded on the nameplate or elsewhere on the breaker. There is no specific requirement that the data be recorded on the test form. Some of the information such as presence of "on" and "off" markings could only be recorded by indication that it exists. The presence of this information is useful in identifying the correct breaker. Much of this data is checked by TVA during receipt inspection and at the time of installation. Reviewing this information is also an aid in detecting fraudulent or misrepresented breakers. These breakers were shipped to the vendor directly from the manufacturer which gives assurance that the breakers are not fraudulent. Recording the nameplate data is not essential to ensuring that the breakers are quality material capable of performing their design function.

The UCI test procedure is technically incorrect in using the term Underwriters Laboratory (UL) "rating" rather than UL "label" or "symbol" to confirm that the breakers are identified as being UL listed. Confirmation that the breakers are identified as being UL listed is not, in and of itself, a critical characteristic. However, UL listing does add assurance of the quality of the breaker and that the items received meet specified requirements.

The UCI test procedure does state that insulation resistance readings be recorded. This was not done. The test form simply indicates whether the resistance reading exceeds 1 megaohm. The 1 megaohm value is in agreement with NEMA AB-4 and recording a pass/fail or yes/no is in agreement with TVA's

own practice when testing a breaker. At this time, WBN does not trend this data and the actual values are, therefore, not needed. The UCI test form which shows a yes/no logic was approved as a part of the test procedure. The UCI test form does contain an error in the use of frequency (cycles per second or hertz) for a time duration rather than cycles. This is an obvious error and it is clear that the information recorded is actually in cycles, not cycles per second.

The UCI test forms show a "min amps" under the magnetic trip test. This value was based on an interpretation of MI-57.27 and the approved procedure. This is the minimum test current to be used to test the breaker instantaneous trip function. There are no maximum values established. The intent was to provide a value for a minimum test current that would assure a magnetic trip to confirm that the magnetic trip element functions. The test data shows that magnetic trips were obtained at speeds that showed coordination with upstream breakers typically set to trip at 3200 amps in 180 ms (70 ms minimum).

The test values are much higher than actually needed. MI-57.27 has been revised and future testing will not be at these high levels. Future testing will be more in agreement with actual breaker curves, although WBN does not attempt to duplicate the published curves in field testing.

Thus, the above provides reasonable assurance that the breakers will perform their intended safety function to meet their design basis.

DEFICIENCY 94-201-D4 (Refer to IR 50-390/94-201, Page 21, Section 5.2)

Inadequate Review for Suitability of Application and Failure to Verify Compliance to the Procurement Requirements for General Electric (GE) 125-Vdc Trip Coils for Magne-Blast Circuit Breakers used in Class 1E 6900V Shutdown Boards - PPSP 27732

TVA RESPONSE

WR-C152374 was written on August 5, 1994, for field testing to verify the critical characteristics necessary to adequately dedicate the coil installed in breaker S/N 256A4605-013. Field testing was completed on September 9, 1994, in accordance with MI-57.001. The WO 94-18123-00 was closed on December 22, 1994. The coil operated between 45.2 volts and 220 volts, which envelopes the acceptance criteria of 70 to 140 voltage range. The megger test of the insulation was satisfactory.

The trip coil installed in breaker UNID 2-BKR-211-ERCW/D-A (S/N 256A4605-015) is still in use. The trip coil in this breaker will be tested by April 14, 1995.

ADDITIONAL INFORMATION

There appears to be some confusion over the correct part number for this trip/closing coil. Per telephone calls with GE, it has been determined that the correct part number is: Q6174582G1. There are places in this number where zeros may be added to fill a computer database field, i.e., between the "Q" and the "6" and again between the "G" and the "1".

DEFICIENCY 94-201-D5 (Refer to IR 50-390/94-201, Page 23, Section 5.2)

Failure to Verify the Procurement Requirements of Telemecanique Starters Evaluated Under PPSP 27739

TVA RESPONSE

Based on the information available at the time of the inspection, it is understandable why the inspector had concerns regarding this procurement. Additional documentation received since that time, however, clearly demonstrates that Farewell & Hendricks' (F&H) qualification of the starters enveloped the WBN design basis, their acceptance of the items for safety-related use was appropriate based on the WBN end use application, and that TVA can maintain a high level of confidence that the installed items are conforming to design requirements and will perform their design functions.

The specific issues cited in the inspection report are addressed by the following:

PPSP 27739 Closure

The first issue is the specific installation found in the Release Tracking Log (RTL) at line entry number 2272. The package was entered into the RIP program as a QA II item because that was its "classification" at the time. But RIP did not do a dedication of the motor starters involved because SCAR WBP890634SCA was in place to track and replace the AJP795T motor starters already installed in the plant. The RIP engineer noted this and ceased his evaluation. Thus the resultant concerns and comments are not applicable to PPSP 27739.

F&H Qualification and Acceptance of Telemecanique Starters

The second issue is the concern about the replacement starters procured by PEG in 1991 from Farwell & Hendricks (F&H) on contract 42765C. This contract purchased 8 motor starters from F&H. Contract 42765C was issued to F&H as a QA I contract and is so noted on the contract. 10 CFR Part 21 was applicable at the time. A January 17, 1995, letter from F&H provided the following information: "In 1991, Farwell & Hendricks, Inc. had audited, purchased, and currently maintains the qualification, design, and dedication documentation along with the original test components from Telemecanique. These documents were transferred to Farwell & Hendricks, Inc. in Cincinnati, Ohio from Telemecanique in Westminster, Maryland. Subsequent orders were consistent with prior Class 1E purchases directly from Telemecanique and met the contractual procurement agreement between Farwell & Hendricks, Inc. and Telemecanique. As such, Tennessee Valley Authority was ordering by part number and original contract number, both of which define the designated qualification parameters and original operating parameters by Tennessee Valley Authority. Since these were defined, Tennessee Valley Authority did not have to provide their specific plant conditions. Plant specific design conditions are incorporated into the original qualification documentation."

The question as to whether TVA had reviewed F&H data package 80056.1 is addressed on Page 2 of the F&H letter, where F&H indicates that a review of all data packages is not standard practice "at any utility."

The remaining questions asked by the inspector during the inspection are addressed individually on Pages 3 and 4 of the F&H letter. Regarding F&H dedication of the items, the letter states: "Since Farwell & Hendricks, Inc. has the original equipment manufacturers (OEM) documentation for these components, component parameters are available through reference of a part number and contract/order number. Through this documentation, Farwell & Hendricks, Inc. can duplicate the appropriate testing performed by Telemecanique for the specific utility on the prototypes or previous supplied components. In addition to the original design, qualification, and dedication documentation, Farwell & Hendricks, Inc. also receives through contractual agreement with Telemecanique all engineering change notices (ECN) each time a design change is implemented and component modification reviews (CMR) which provide Farwell & Hendricks, Inc. with Telemecanique qualification justifications for changes that were made. Farwell & Hendricks, Inc. also has audited Telemecanique (internal audit No. 90-07) which provided manufacturer test control data which included characteristic verification of all devices supplied from Telemecanique. With this data Farwell & Hendricks, Inc. can state the supplied items are to the original requirements."

Regarding F&H demonstration of similarity, the letter goes on to state: "Farwell & Hendricks, Inc. controls the qualification and dedication documentation and receives Telemecanique ECNs and CMRs for any changes that occur for these pre-qualified components. Any changes that occur are both reviewed by Telemecanique and Farwell & Hendricks, Inc. to determine if qualification of these components would be affected or invalidated. In addition to documentation, original prototype qualification samples are controlled by Farwell & Hendricks, Inc. for evaluation purposes if needed. Farwell & Hendricks, Inc. also schedules re-verification tests (seismic tests) of pre-qualified components as additional justification."

Regarding the control voltage data, the letter states: "Farwell & Hendricks, Inc. did provide the control voltage data for these starters. All data was reviewed by Tennessee Valley Authority and found to be within the acceptable ranges."

The letter concludes: "Since Farwell & Hendricks, Inc. purchased (from Telemecanique) and maintained the Tennessee Valley Authority's site specific original qualification and specification documentation, had audited Telemecanique's manufacturing process, design documentation, test criteria, and 10CFR50 Appendix B program, and received and maintained design documentation change notices for each Telemecanique component, Farwell & Hendricks, Inc. is considered the OEM for the Telemecanique product line rather than a Third-Party supplier."

TVA subscribed to the Nuclear Procurement Issues Committee (NUPIC) audit, and its supplement, of the F&H QA Program (previously given to the NRC). Thus, the replacement item purchased to replace the unverified motor starters is a basic component procured from a vendor on the TVA Approved Suppliers List (ASL) with an audited and approved QA program. The QA Level I procurement was appropriate. TVA received a valid Certificate of Conformance (COC) from F&H for this QA I procurement. The design characteristics required to envelope the WBN plant were provided in the original plant design basis. There have been no design changes to these motor starters. Thus the original design parameters are still effective.

The 8 motor starters procured on contract 42765C were purchased as TIIC AJP795T. But in January of 1991, it was noted in Materials Management System (MAMS) per document B26901215756, to "assign a new TIIC QA I for material being ordered on 42765C." On March 29, 1991, 8 AJP795T motor starters were entered into MAMS. On April 30, 1991, by transfer code 62-91-166, all 8 of the AJP795T motor starters from contract 42765C were transferred to new TIIC BPG949P.

Surplused Stock

The third issue is the stock surplused by the MIP Sanitization (SAN) package from the earlier contract that was not verified to be acceptable to the Institute of Electrical & Electronic Engineers (IEEE)-344 standard requirements. The RIP engineer originally proposed that it would be to TVA's benefit not to surplus the ones on hand, but to have them requalified and accepted for use. As of the present, this requalification has not been conducted and there are no plans to perform such a requalification. F&H responded to TVA's inquiry about this by indicating that it would be possible if TVA could supply documented history of the storage of the motor starters in TVA warehousing.

Because of past identified problems, it is not likely that TVA could provide adequate documentation regarding the storage history for these items. The four original motor (AJP795T) starters addressed by the SAN package have been transferred to the Construction Warehouse account (6230) as QA Level 0.

In summary, TVA replaced the motor starters that had not been specifically procured to IEEE-344. TVA procured the replacement motor starters as basic components from a vendor (F&H) with an audited and approved QA program, who was on the TVA ASL and who accepted responsibility for Part 21 reporting. A COC attesting to compliance with the requirements was received.

DEFICIENCY 94-201-D6 (Refer to IR 50-390/94-201, Page 26, Section 5.3)

Inadequate Commercial Grade Dedication of a GE Magne-Blast Circuit Breaker Spring Charging Motor - PPSP 27724

TVA RESPONSE

The question that underlies this concern is: why were these motors downgraded from QA II to QA III (by PEG pkg 90-2728 [RIMS #B26 910530 756]) and then upgraded to QA II again at a later date?

Apparently there was an error in the reclassification which was further exacerbated because of a change in the TIIC number. The following sequence of events involving TIIC AFT403B will help to explain why PPSP Package 27724 was prepared and issued as QA III:

PEG package 90-2728 downgraded the motors from QA II to QA III using the following bases for justification:

1. Motors do not impact automatic function of breaker.
2. Motors are isolated by a fuse.
3. Springs may be charged manually. Failure would not affect function of host device.

The package also created a new TIIC (BPL195W) for the QA III motors. This was the basis on which RIP package PPSP 27724 was issued as QA III. The PEG Supplement to 90-2728 issued on June 9, 1992, was in response to Incident Investigation Report II-W-92-008 and upgraded the motors back to QA II. This supplement did a dedication of the motors. The Incident Investigation Report was prepared for a review of QA III items issued between June 5, 1991 to November 7, 1991. The motors were included in the Incident Report as TIIC BPL195W. Only two issues of the motors fell within the time frame of the review performed for II-W-92-008, both as TIIC BPL195W. This supplement reestablished the old TIIC (AFT403B).

Why all the issued motors were not included in the dedication in this supplement is not clear. The Incident Investigation only dealt with the time of June to November 1991. But all the motors issued to the plant should have been included.

Subsequent training of the PEG and RIP engineers addressed the problem identified in this finding - evaluating the component's system/safety functions rather than its isolated operation. During 1992, the RIP program presented several in-depth training programs for the engineers. The major training program that addressed this issue was the one developed around EPRI documents NP-5652 and NP-6406 and was presented at WBN several times by Mike Tulay of Gilbert/Commonwealth (a co-author of NP-5652, NP-7218, and TR-102260).

The reason the PPSP 27724 was left unresolved was the result of not having good communication between the RIP evaluation of past procurements and PEG. The Incident Investigation apparently focused PEG's attention on a very small time frame. As a general rule, RIP dedications were required to look for all installations. This appears to be an isolated case of parts installed in the plant being overlooked by a RIP dedication. PPSP 27724 has been superseded by PEG EPG920013.

DEFICIENCY 94-201-D7 (Refer to IR 50-390/94-201, Page 27, Section 5.3)

Inadequate Commercial Grade Dedication of a Westinghouse Direct Trip Actuator for a 480-Vac Air Circuit Breaker Evaluated Under PPSP 28973

TVA RESPONSE

PPSP 28973 was revised to classify the item as a safety-related device and document the acceptance/dedication as appropriate.

WR C152372 was issued to do the field testing necessary to complete the dedication. Electrical Maintenance, however, had scheduled a routine inspection of the breaker (Serial No. 010) under WO 94-16506-00 dated July 27, 1994. WR-C152372 was subsequently superseded by the work order.

A new work request (WR-C236780) has been prepared to ensure the appropriate tests are carried out. The results from these tests will be analyzed and added to the dedication package by March 31, 1995.

With respect to the inspector comments dealing with the WR and the dedication package, commencing on Page 27:

- Revision 15 to MI-57.002, "480-Volt Circuit Breaker Routine Maintenance, Inspection and Testing," completed in April of 1990, was left in the back of the package because it documents other tests that also verify the critical characteristics and provide additional assurance the item meets specified requirements.

- The current Maintenance Instruction is MI-57.002, Revision 21.

- The forms from Revision 21 have been filled out by the Maintenance people who performed the inspection. MI-57.002 (Revision 21) documenting the testing of breaker part No. P/N 010 will be added to the PPSP package.

- Section 6.10 of MI-57.002 is part of the new format developed in Revision 21.

- With respect to Page 5, the critical characteristics listed are appropriate to demonstrate that the item was specified correctly and adequate technical requirements were communicated to the supplier.

DEFICIENCY 94-201-D8 (Refer to IR 50-390/94-201, Page 40, Section 7.1.2)

Failure to Follow TVA Procedures for Previously Installed Items Not Captured in the RIP Data Base - SANE 2953

TVA RESPONSE

Some of the sanitization packages that specified engineering review for disposition were not forwarded to RIP as specified by procedure. This occurred because of a lack of self checking and procedures were not followed by the responsible individuals. This procedure required that any indeterminate packages involving previously installed items be forwarded to engineering for further disposition.

ACTIONS TAKEN

TVA initiated corrective action document WBPER940351 to address the deficiency. The scope of this effort encompassed all 18,346 sanitized TIICs as well as a reassessment of the Materials Improvement Project (MIP). The review of the 18,346 sanitization TIICs performed by the MIP project revealed that the total population of TIICs requiring an engineering evaluation was 1,464. Further review of these items determined that 416 were not properly forwarded for engineering evaluation. TVA has verified that the 416 items have now been sent to engineering for further disposition.

In addition, TVA has performed an assessment of the procedural requirements involving the Material Improvement Program. The current evaluations performed of indeterminate material at WBN were also assessed for compliance with RIP evaluations. This assessment revealed no additional negative findings. TVA strengthened the current processes by revising SSP-10.05 to detail the RIP evaluation process and the self-verification of that process. However, it

should be noted that neither the people involved, nor the process they were using, remain at WBN. The process of transferring packages between organizations for further disposition has been eliminated since PEG now performs both functions (i.e., review of warehouse items and evaluation of previously procured installed items.)

DEFICIENCY 94-201-D9 (Refer to IR 50-390/94-201, Pages 12, 19, 21, and 28; Section 4.1, 5.2, and 5.3)

Inadequate TVA Procedures Associated With the Evaluation of PEG Package 9400002182, PPSP 27975, PPSP 27732 and PPSP 28973

TVA RESPONSE

TVA considers the various referenced procedures utilized in support of testing were effective in ensuring that the functions they governed were adequately carried out and that no revision to the procedures are necessary. However, because Inspection Report 50-390/94-201 posed several questions about the methodology of some of the procedures, particularly in the area of breaker testing, TVA has formed a review group to evaluate areas for possible improvement. This proactive step will help ensure that current programs are even more effective in the future. The committee was formed January 16, 1995. It is composed of members from the Replacement Items Program, Materials, Maintenance, Technical Support, and the Procurement Engineering Group and is chartered to review the various procedures cited in the report (although they are not limited to these alone), determine the best programmatic methods for current and future work control, revise any affected procedures, and then to implement identified changes. This improvement activity will be completed prior to CAP closure.

INSPECTOR FOLLOW-UP ITEM 94-201-I1 (Refer to IR 50-390/94-201, Page 8, Section 4.1)

Several Issues Requiring Amendment to PEG Package 9400018459 for Amphenol Connectors

TVA RESPONSE

Although the PEG Package 9400018459 does not contain a clear dedication methodology for the subject Amphenol connectors, TVA considers that the connectors are adequate for their intended application. The PEG package has been supplemented as shown below, to adequately justify dedication of the connectors.

TVA has further researched the part number discrepancy by reviewing Amphenol catalog literature and also contacting Amphenol to verify TVA's conclusions. TVA has concluded that Amphenol part numbers 973106A-14S-7S and MS31 06A-14S-7S are essentially identical in form, fit and function. The "MS" prefix connectors are Amphenol's military standard connector which are tested and verified to meet the latest performance requirements of Military Standard (MIL)-C-5015. The "97" prefix connectors are Amphenol's standard commercial connectors which are not tested as stringently as the "MS" connectors. Also, specially made connectors are manufactured under the "MS" prefix to provide

adequate controls during processing. Per Amphenol's catalogue literature, both the "MS" standard and the "97" standard connectors (the subject connector for 1-SM-046-0057B-S is a standard connector, per Al Seweig of Woodward Governor Company) contain silver plated contacts and shell components fabricated from aluminum alloy with a cadmium plated finish. The "MS" connectors contain resilient neoprene inserts and the "97" connectors contain diallyl phthalate inserts. Both inserts offer high arc and insulation resistance, with the neoprene being more resistant to vibration and the diallyl phthalate being resistant to humidity and thermal stress. TVA concludes that either connector would be adequate for the use specified in PEG package 9400018459 (Unique Identification (UNID) 1-SM-046-0057B-S) which, due to location, is not subject to extremes of vibration or environmental conditions.

The function of the subject connector was specified as "provide signal" in PEG package 9400018459. To further elaborate, the function of the connector is to provide a physical connection for the control circuit between the EGM (Woodward Governor controller) and the EGR (Woodward Governor actuator) for the turbine driven auxiliary feed water pump. The control signal between the EGM and EGR is a DC voltage of approximately 8 to 9 volts, as verified with Al Seweig of Woodward Governor and review of TVA vendor manual WBN-VTM-DR04-0240. During calibration of the EGR, the control circuit is verified by setting the null voltage between the EGM and the EGR output. The calibration of the subject control circuit will zero out any circuit deviations (i.e., wire resistance, connector resistance, etc.). Therefore, a check of resistance of the connector pins (as specified in PEG package 9400018459) will verify that the connector provides a clear signal path and a check of insulation integrity provides adequate verification against a connector short. As an additional method of verification, after installation of the connector the EGR is calibrated per TVA Instrument Maintenance Instruction (IMI)-46.001 "Calibration of Turbine Driven Auxiliary Feedwater Pump 1A-S Governor Controls," which ensures proper operation of the control circuit between the EGM and EGR. TVA has reviewed work order 94-04514-00, which shows proper calibration of the subject control circuit per IMI-46.001 and provides evidence that TVA's dedication of the subject Amphenol connector per PEG package 9400018459 is adequate to provide reasonable assurance that the connector met specified requirements and would perform its intended function.

<u>INSPECTOR FOLLOW-UP ITEM 94-201-I2</u> (Refer to IR 50-390/94-201, Page 5.2, Section 20)

Documentation Contained in PPSP 27975 for a GEMAC Power Supply Did Not Contain Explanations of the Technical Concerns Identified by TVA

<u>TVA RESPONSE</u>

With respect to the seismic equivalency in PPSP 27975, it should be noted that the RIP engineer would not do a seismic equivalency analysis within the PPSP package. There were no provisions in SSP-10.C for RIP personnel to do seismic evaluations and analysis. Seismic determinations, evaluations, and analysis were to be performed by the Equipment Seismic Qualification (ESQ) group working under the ESQ CAP.

Per SSP-10.C, Attachment 1, Section 3.0 INTERFACES, (at page 44 of 61 of that procedure) the RIP evaluator was trained to make the following interface:

SEQ (sic, = ESQ) Group - If replacement items a determined to fall within the seismically sensitive electrically active (SSEA) classification (electromagnetic relays, reed relays, motor starters, circuit breakers, and electromagnetic contactors), the RIP engineer will request assistance from the seismic equipment qualification group.

In actuality the interface was much broader in that anything that mentioned seismic was interfaced to the ESQ group.

Critical characteristics listed in the PPSP are considered seismic design requirements and the RIP engineer interfaced with the ESQ people. Inputs to the PPSP package regarding appropriate critical characteristics and acceptance criteria came from the ESQ group.

With regard to the specific package referenced by the inspector, PPSP 27975, the specific contract and piece part, the seismic requirements and analysis were contained in the original Indefinite Quantity Term (IQT) contract 72C3-92799 and made part of the later contract 87PLC-468387 by reference. The original contract contained Appendix C, "Guide for Qualification of Seismic Class I and Seismic Class II Mechanical and Electrical Equipment." This document was in the front part of the PPSP package.

The engineer referenced a review of the original contract requirements on Appendix B, Sheet 3 of 5. That was the major use of this sheet, to help the engineers document where they had located reference material.

With regard to Appendix B, Page 3 of 5, please see the introductory remarks under the section for SSP-10.C.

The concern expressed by the NRC's example (at page 19), "...if the replacement part has any loose parts or weak connections or solder joints, or the circuit board plug-in socket is not tight enough," is an installation issue that is outside the scope of the procurement process or acceptance/dedication activities.

<u>INSPECTOR FOLLOW-UP ITEM 94-201-I3</u> (Refer to IR 50-390/94-201, Page 25, Section 5.3)

Failure to Perform an Adequate Technical Evaluation for Lockwire Used in Certain Limitorque Operators - PPSP 28039

<u>TVA RESPONSE</u>

TVA's safety classification should have used Limitorque's critical components list as input and then determined the plant-specific safety classification of the item based on the item's functions and consideration of the effects of credible failures. Although TVA's classification of "non-safety" agrees with Limitorque's classification, the process was not correct.

Procurement Engineering Group (PEG) package No. 28039-1 has been prepared to supplement the previous engineering package (28039) by evaluating the specific function of the lockwire in Limitorque valve operators in safety-related applications. That evaluation concluded that failure of the lockwire does not adversely impact the host equipment in the performance of its safety function.

PEG package No. 28039-2 has evaluated the acceptability of installed lockwire in Limitorque valve operators. That evaluation concluded that the previous use of TIIC AXR685K is acceptable. However, as an added precaution, the engineering package now recommends TIIC ATH791G (0.047 inch diameter, American Society for Testing & Materials (ASTM) A580, type 304 lockwire) for future Limitorque applications.

This problem and evidence of the above resolution are documented in the closure package for Problem Evaluation Report WBPER940337.

INSPECTOR FOLLOW-UP ITEM 94-201-I4 (Refer to IR 50-390/94-201, Page 29, Section 5.5)

Questions Concerning TVA's Process Specification 4. M.1.1 and PF Material Purchase Specifications Regarding Control of Contaminants

TVA RESPONSE

American National Standard Institute (ANSI) N45.2.13, section 10.2(f) states the following as one of several criteria that must be met when certificates of conformance are used: "Means should be provided to verify the validity of Supplier certificates and the effectiveness of the certification system, such as during the performance of audits of the Supplier or independent inspection or test of the items. Such verifications should be conducted by the Purchaser at intervals commensurate with the Supplier's past quality performance." Regulatory Guide 1.123, in Section C, Regulatory Position, specifically calls out these steps as having "sufficient safety importance to be treated the same as the requirements of the standard."

Historically, the purchase specifications (PFs) associated with Engineering Specification G-29 had contained restrictions on the procurements of QA Level III commodities. Recently, however, the PF Specifications were revised and these restrictions were removed. As a consequence, QA Level III replacement parts procurements under the 1000 series PF Specifications (except 1057) were conducted without verification of the validity of non-ASL supplier's certificates and the effectiveness of their certification systems.

The PF Specifications were revised in early 1994 to remove the requirements for verifying compliance to COC requirements on QA Level III replacement part procurements from non-ASL suppliers. Because QA Level III procurements are non-safety related, the requirements for source verifications and or independent inspections or tests were considered unnecessary.

The 1000 series PF Specifications (specifically PF-1042, PF-1043, PF-1044, PF-1047, PF-1048, PF-1049, PF-1050, PF-1051, PF-1052, PF- 1053, PF-1058, PF-1059, PF-1060, PF-1061, PF-1064, PF-1065, PF-1066, PF-1067, PF-1068, PF-1069, PF-1070, PF-1072, PF-1073, PF-1075, PF-1076, PF-1077, PF-1078, PF-1079, and PF-1080) are involved. These specifications will be revised by April 14, 1995. Since neither ANSI N45.2.13 nor Regulatory Guide 1.123 contain specific timetables for conducting verifications, revising the above PF Specifications is considered sufficient.

INSPECTOR FOLLOW-UP ITEM 94-201-I5 (Refer to IR 50-390/94-201, Page 38, Section 6)

Questions Concerning the Evaluation of Replacement Items Installed by Previous Construction Activities (RIP)

TVA RESPONSE

The basis for the sampling plan was MIL STD 105.E and Watts Bar Engineering Procedure (WBEP)-3.15, Reverification/Reinspection Sampling (superseded by Engineering Administrative Instruction (EAI)-8.04). A 95/95 acceptable quality level was necessary. In the Construction Replacement Items Project (CRIP) Report, Section 3.4.4.1, "Purpose," the report says: "In addition, the assessment evaluated the potential for the current NC warehouse inventory to serve as a representative sample of the installed material."

The CRIP Report indicates (Section 3.4.4.4.1) that the review of structural steel procurements found that the A36 shapes, plates, etc., and the A500 and A501 tubing had been procured under 323 purchase contracts and there had been approximately 8714 heat codes delivered for those contracts.

In Section 3.4.4.4.2, the report explains that the remaining structural steel in the warehouse yard area . . . was purchased under 81 [of the 323 total] contracts and contained 450 [of the approximately 8714] different heat codes. Thus the sampling was of the remaining inventory in the warehouse yard, not a gathered sample.

The 450 heat numbers from the yard were tested - chemical and mechanical - and all samples were found to comply with the respective ASTM specifications.

From Section 3.4.4.4.2, the sample lot obtained by using the remaining inventory represented approximately 25.1 percent of the total number of contracts and 5.2 percent of the heat codes. Using the statistical data from WBEP-3.15 (in effect at the time of that review) the results produced a "95/95 sampling program to resolve the conditions adverse to quality." (This might be better stated as producing a 95 percent confidence level that no more than five percent are suspect.)

UNRESOLVED ITEM 94-201-U1 (Refer to IR 50-390/94-201, Page 16, Section 4.1)

QA Level II PEG EPEG 920013 for GE 125-Vdc Closing Spring Charging Motors That Must Operate More Than Once to Perform Their Safety Function

TVA RESPONSE

The 14 motors received against TIIC No. AFT403B have been accounted for when compared with issuances against AFT403B and BPL195W.

PEG Package EPEG920013 states that the motors in stock under TIIC BPL195W (which were transferred from AFT403B) to be dedicated were found to be traceable to their purchase contracts. EPEG920013 uses UNID 1-BKR-211-A/5-A to be consistent with the Nuclear Stores requisition (TVA form 575N) No. 305606, which is the input for EPEG920013, as a typical application with a generic safety function of supplying Class 1E power during a Design Basis Event (DBE), and evaluates the spring charging motor function for a worst case scenario of multiple trip/reset of the host breaker. EPEG920013 provided dedication methodology for the motors in stock in BPL195W and the issuance by 575N No. 305606. At the time of issuance of EPEG920013, there were five motors that were found in stock under BPL195W and dedicated by work order 92-05903-00. An additional three motors were discovered (two by Quality Control (QC) receipt at the time of issue of EPG920013 and one later by the comprehensive inventory effort. PEG was contacted by QC receipt for disposition or possible dedication of the two motors discovered by QC. PEG concluded that dedication of the two motors by the method in EPEG920013 was not desirable, unless an immediate need was identified, due to time and cost considerations. In lieu of surplusing at the time of discovery of the additional motors, QC placed the motors on hold for possible sanitization at a later date.

The two motors discovered by QC remained on hold until the final closure of WBN-SWEC-R92-2330 when PEG verbally recommended the surplus of the two motors. Surplus of the two motors was accomplished by an on-hand inventory adjustment form, document No. 62-94-169. PEG surplused the one motor found during the inventory effort in PEG package 9500023492.

A review of the previous issues of AFT403B and BPL195W, as performed above, showed that there were motors released for installation (575N Nos. 263609, 221400, and A118749) in safety-related breakers (two were also released for non-safety applications). The removal of these unqualified motors has been initiated by work requests C116834, C116835, and C116836. In the interim, for the purposes of accountability, they have been added to WBP900537SCA and will be removed by March 31, 1995.

UNRESOLVED ITEM 94-201-U2 (Refer to IR 50-390/94-201, Page 20, Section 5.2)

Questions Relating to Dedication Testing of Limitorque Motors Evaluated Under PPSP 20406

TVA RESPONSE

The stroke test performed on this motor was to check to see if the operator would open or close within the stroke time required by the design. During the stroke test the current was also measured as a correlation of the pressure.

These operators are tested periodically. The latest test data sheets were reviewed to verify that the motors are still performing within their required design parameters.

For both operators (1-MVOP-63-7A and 1-MVOP-63-26A) in which motors were replaced by PPSP 20406, the "required stroke time" was "10 seconds (maximum)."

A. For valve 1-FCV-63-7 (1-MVOP-63-7A):

1. Static Motor Current and Stroke Time Verification:

Closing Stroke = 5.6 seconds [< 10 seconds (maximum)]
Opening Stroke = 5.6 seconds [< 10 seconds (maximum)]

2. Dynamic Motor Current and Stroke Time Verification:

Opening Stroke = 5.6 seconds [< 10 seconds (maximum)]
Closing Stroke = 5.7 seconds [< 10 seconds (maximum)]

B. For valve 1-FCV-63-26 (1-MVOP-63-26):

1. Static Motor Current and Stroke Time Verification:

Closing Stroke = 9.1 seconds [< 10 seconds (maximum)]
Opening Stroke = 8.8 seconds [< 10 seconds (maximum)]

2. Dynamic Motor Current and Stroke Time Verification:

Opening Stroke = 8.745 seconds [< 10 seconds (maximum)]
Closing Stroke = 9.321 seconds [< 10 seconds (maximum)]

UNRESOLVED ITEM 94-201-U3 (Refer to IR 50-390/94-201, Page 42, Section 7.1.2)

Questions Concerning QA Level I Dunham-Bush Motor Starters Evaluated Under SANE 3845

TVA RESPONSE

Contract 90NLK-85122B Schedule II provided three starters for Watts Bar Nuclear Plant. One starter was issued on Nuclear Stores requisition (TVA form 575N) No. 254779 for installation on Maintenance Request (MR) A-622245. After installation, it was discovered that the starter was defective and PER WBPER910075 was initiated. This PER states that the defective starter is in warehouse storage hold bin OF21-15 with directions to surplus if a replacement starter cannot be arranged. PPSP 35545 documents that the rejected motor starter was placed in the RIP Hold Hut and then surplused (surplus record No. 62-92-357). This PPSP package changed the statement "Failed SAN" to read "Eng Eval- SANE3845 - Rejected by MR 622245." This documents that the defective motor starter was surplused. A second motor starter was issued on 575N No. 245741 to repair the chiller oil pump on MR A-665829. The PPSP also stated that SANE 3845 is in process and will approve one starter for Seismic/Class 1E, QA Level I service. This is the third and remaining motor starter (S/N 00385-1-03) which remains in indeterminate material status. An additional PEG evaluation will be required before this material can be released.

Southern Testing Services (STS) was contacted to determine the additional critical characteristics that were verified to accept the items for safety-related use. STS provided receipt inspection (RI) No. S254-RI-02,

Revision 0, which was typically not included in their qualification reports in 1990. Per TVA letter from W. H. Lehman to STS dated January 4, 1995, TVA has reviewed the additional critical characteristics which STS verified and found them appropriate based on the safety-related function of the item. STS Dedication Procedure S100-DP-01 was reviewed and approved by TVA during vendor audit No. 91V-39. An STS COC for these devices certifies that the equipment meets or exceeds the contract requirements (critical characteristics) specified by TVA. The correct specification, the dedication activities, and TVA receipt inspection provide reasonable assurance that the motor starters are of good quality and will perform their intended design functions.

The similarity analysis methodology used by STS was acceptable to the inspector. However, the analysis did not address an anomaly noted in RI S254-RP-01. TVA's review and approval did not address this anomaly as it pertains to WBN. STS noted that the motor starter's normally closed auxiliary contact experienced intermittent contact chatter within the frequency range of 2-6 hertz and was determined to be 10-12 milliseconds in duration. PEG'S qualification report approval package documents that the report was reviewed and approved by TVA's Corporate Electrical Central Staff on October 16, 1990. In order to reverify that the contact chatter is not a problem, PEG contacted the electrical engineering discipline of Nuclear Engineering for an additional review. The motor starter was provided on Dunham Bush contract 75K35-83119-2 and is documented on schematic wiring diagram C5-DGM1405(X1526)A/B Revision 3. The normally closed auxiliary contact on the starter is used for the white light indicator. The white light indicator is used to indicate oil pressure failure. The contact chatter above will not affect the illumination of the light except for flicker and will not affect any Class 1E function. Therefore, the 10-12 millisecond contact chatter is acceptable for this application.

ENCLOSURE 2

- Although most of the Procurement Engineering Group (PEG) and RIP engineers had received training in EPRI NP-5652 and NP-6406 before or during the early stages of RIP, TVA has scheduled additional training and broadened the base for participants. Additional training will be provided in these areas to persons in PEG, Materials, Maintenance, Corporate Quality Assurance, Site Quality Assurance, and Technical Support. This training will be completed by March 31, 1995.

- Quality Assurance Instruction (QAI)-10.04 will be revised by March 10, 1995, to also reflect these requirements (above).

- The trip coil installed in breaker UNID 2-BKR-211-ERCW/D-A (S/N 256A4605-015) is still in use. The trip coil in this breaker will be tested by April 14, 1995.

- A new work request (WR-C236780) has been prepared to ensure the appropriate tests are carried out. The results from these tests will be analyzed and added to the dedication package by March 31, 1995.

- TVA has formed a review group to evaluate areas for possible improvement. This proactive step will help ensure that current programs are even more effective in the future. The committee was formed January 16, 1995. It is composed of members from the Replacement Items Program, Materials, Maintenance, Technical Support, and the Procurement Engineering Group and is chartered to review the various procedures cited in the report (although they are not limited to these alone), determine the best programmatic methods for current and future work control, revise any affected procedures, and then to implement identified changes. This improvement activity will be completed prior to CAP closure.

- The 1000 series PF Specifications (specifically PF-1042, PF-1043, PF-1044, PF-1047, PF-1048, PF-1049, PF-1050, PF-1051, PF-1052, PF-1053, PF-1058, PF-1059, PF-1060, PF-1061, PF-1064, PF-1065, PF-1066, PF-1067, PF-1068, PF-1069, PF-1070, PF-1072, PF-1073, PF-1075, PF-1076, PF-1077, PF-1078, PF-1079, and PF-1080) are involved. These specifications will be revised by April 14, 1995.

- The removal of these unqualified motors has been initiated by work requests C116834, C116835, and C116836. In the interim, for the purposes of accountability, they have been added to WBP900537SCA and will be removed by March 31, 1995.