



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF SPECIAL PROJECTS  
EMPLOYEE CONCERN ELEMENT REPORT CO 11305-SQN, REVISION 8  
"ANCHORS CUT OFF AS RELATED TO CONSTRUCTION"  
TENNESSEE VALLEY AUTHORITY  
SEQUOYAH NUCLEAR POWER PLANT, UNITS 1 AND 2  
DOCKET NOS. 50-327 AND 50-328

I. SUBJECT

Category: Construction (10000)  
Sub Category: Anchorages (11300)  
Element: Anchors Cut Off As Related To Construction (11305)  
Concerns: HI-85-020-N02, HI-85-073-N04, HI-85-113-N02, IN-85-020-001  
IN-85-037-001, IN-85-246-003, IN-85-285-001, IN-85-625-002  
IN-85-664-001, IN-85-982-001, IN-86-140-002, IN-86-177-001  
IN-86-221-001, IN-86-294-002, PH-85-002-026, PH-85-035-007  
PH-85-054-N03, BNPQCP-10.35-8-23, SQP-5-005-001,  
SQP-5-005-002, SQP-5-005-003, SQP-5-005-004, SQP-5-005-005,  
SQP-5-005-006, SQP-5-005-007, WI-85-011-001, XX-85-010-001

The basis for element report CO 11305, Revision 8 dated July 7, 1987 are the 27 Employee Concerns listed above which question the adequacy of anchor installations by TVA.

II. SUMMARY OF ISSUES

The Employee Concerns Task Group (ECTG) report identified the following four issues from the employee concerns:

- a. Shell-Self-Drilling (SSD) type anchors were cutoff when rebar was encountered; nuts were welded to the back of baseplates.
- b. SSD type anchors have been improperly installed and are subject to pulling out of the wall.
- c. Abandoned SSD holes with the shells installed were not filled with grout.
- d. Baseplate holes have been made oversize and anchors installed outside of perpendicularity criterion.

III. EVALUATION

A technical review of Employee Concerns Element Report CO 11305-SQN, Revision 8 was performed by an NRC contractor under NRC Contract No. 05-86-156. The results of this review are summarized in the attached contractor technical

evaluation report dated January 21, 1988 on Employee Concerns Element Report CO 11305-SQN, Revision 8.

Element Report CO 11305-SQN, Revision 8 found that the concern with abandoned anchors holes was verified as being true, however, based on field review, no violations of TVA's General Construction Specification C-32 were identified. The element report also found that the other three issues were not verified as true based on the results of sample reviews. In addition to the four specific issues the element report also stated that, based on reviews and evaluations, no deficiencies were identified which would lead to a condition adverse to quality. The element report identified six corrective actions. These corrective actions included closure of NSRS reports, revision of drawings and review of procedures. The resolution of these corrective actions were not considered restart items in the ECTG report. However, TVA completed one corrective action associated with drawing revisions. The contractor review of Element Report CO-11305-SQN, Revision 8 and found that four of the employee concerns had not been directly addressed by the report. The contractor evaluation recommended these areas be for the reviewed as a post restart effort. The contractor evaluation of the potential effects of these four concerns determined that based on sampling programs performed for IE Bulletin 79-02 adequate margins would exist in the anchor bolts to meet the anchor bolt restart criteria. The staff concurs with the conclusions presented in the contractor technical evaluation report.

#### IV. CONCLUSIONS

Based on the review of Employee Concerns Element Report CO-11305-SQN, Revision 8 the staff concludes that the twenty-seven employee concerns listed in Section I of this evaluation have been adequately addressed for Sequoyah restart. The staff will perform additional review of TVA's resolution of the employee concerns to assure all concerns have been adequately addressed as part of the final resolution of the post restart design criteria.

SEQUOYAH NUCLEAR POWER PLANT, UNITS #1 & 2  
TECHNICAL EVALUATION REPORT FOR EMPLOYEE  
CONCERNS ELEMENT REPORT CO 11306-SON  
"ANCHORS CUT OFF AS RELATED TO CONSTRUCTION"

1. Subject

Construction: 10000  
Sub Category: Anchorages 11300  
Element: Anchors cut off as related to construction  
Concerns: HI-85-020-N02, HI-85-073-N04, HI-85-113-N02,  
IN-85-020-001, IN-85-037-001, IN-85-246-003,  
IN-85-285-001, IN-85-625-002, IN-85-664-001,  
IN-85-982-001, IN-86-140-002, IN-86-177-001  
IN-86-221-001, IN-86-294-002, PH-85-002-026,  
PH-85-035-007, PH-85-054-N03, BNPQCP-10.35-8-23,  
SQP-5-005-001, SQP-5-005-002, SQP-5-005-003,  
SQP-5-005-004, SQP-5-005-005, P-5-005-006,  
SQP-5-005-007, WI-85-011-001, XX-85-010-001

The basis for element report CO 11305 Rev #8 dated 7/9/87  
are the following concerns:

o HI-85-020-N02

"NRC IDENTIFIED THE FOLLOWING CONCERN FROM REVIEW OF  
THE QTC FILE: "QUALITY READ ANCHOR INSTALLATIONS."  
PER REVIEW OF THE FILE, THIS CONCERN APPEARS TO DEAL  
WITH CRAFTSMEN CUTTING LEAD ANCHORS IN HALF WHEN THEY  
HIT REBAR AND MAKING THEM APPEAR THAT THEY ARE WEDGED  
IN THE HOLE."

- o HI-85-073-N04

NRC IDENTIFIED THE FOLLOWING CONCERN FROM REVIEW OF THE QTC FILE: "PER REVIEW OF THE EXCERPT THE CONCERN APPEARS TO BE THAT SOME ANCHORS WERE FOUND TO BE WELDED TO THE REBAR REINFORCEMENT IN THE CONCRETE. BOLTS WHICH HAD BEEN CUT TO THE DEPTH OF THE PLATE THEY WENT THROUGH AND THEN SPOT WELDED THE BACK SIDE, NOT EVEN ENTERING THE CONCRETE."

- o HI-85-113-N02

NRC IDENTIFIED THE FOLLOWING CONCERN FROM REVIEW OF THE QTC FILE: "INCORRECT LUBRICANT FOR CABLE PULLS."  
"IMPROPER INSTALLATION OF BOLTS, PLATES, AND ANCHORS IN THE AUXILIARY BUILDING." "WIRE SPLICED IN TRAYS AND CONDUITS."

- o IN-85-020-001

UNIT 2, REACTOR BLDG, ELEV. 713 ANNULUS AREA, 5/8" PHILLIPS "RED HEAD" WEDGE ANCHORS IN DUCT SUPPORTS #1582, 1583 WERE IMPROPERLY INSTALLED. THIS WAS CAUSED BY DRILLING THE HOLES TOO DEEP OR NOT DEEP ENOUGH. THE "RED HEADS" THAT DID NOT MEET MINIMUM EMBEDMENT LENGTHS WERE CUT OFF FLUSH WITH THE WALL. ALSO, SOME "RED HEADS" WERE DETERIORATED AND RUSTED.

- o IN-85-037-001

IN SOME CASES WHERE CONCRETE ANCHORS HIT REBAR, THE ANCHORS WERE CUT OFF AND A BOLT-HEAD WAS WELDED TO BASE PLATE.

- o IN-85-246-003

SEVERAL INSTANCES WERE IDENTIFIED THAT WHILE REMOVING VOIDED HANGERS OR RED HEAD ANCHORS, ANCHORS WERE OBSERVED TO BE GROUNDED ON, CUT-OFF OR OTHERWISE MODIFIED. CI CONCERNED THAT THIS CONDITION COULD EXIST FOR HANGERS STILL INSTALLED. CI COULD NOT PROVIDE SPECIFIC NUMBERS OF VOIDED HANGERS. CI STATED THIS OCCURRED IN UNIT 2 SIDE AUXILIARY BUILDING, ELEV. 692' ON CEILING COLUMN A13-T LINE. CONSTRUCTION DEPT. CONCERN, NO FOLLOW UP REQUIRED.

o IN-85-246-003

SEVERAL INSTANCES WERE IDENTIFIED THAT WHILE REMOVING VOIDED HANGERS OF RED-HEAD ANCHORS, ANCHORS WERE OBSERVED TO BE GROUNDED ON, CUT-OFF OR OTHERWISE MODIFIED. CI CONCERNED THAT THIS CONDITION COULD EXIST FOR HANGERS STILL INSTALLED. CI COULD NOT PROVIDE SPECIFIC NUMBERS OF VOIDED HANGERS. CI STATED THIS OCCURRED IN UNIT 2 SIDE AUXILIARY BUILDING, ELEV. 692' ON CEILING COLUMN A13-T LINE. CONSTRUCTION DEPT. CONCERN, NO FOLLOW UP REQUIRED.

o IN-85-295-001

HANGER BASE PLATES INSTALLED IMPROPERLY. REBARS DRILLED THROUGH AND RED HEADS CUT OFF SHORT. BOLT AND HEADS CUT OFF AND WELDED TO BASE PLATE. ALL CRAFTS DID THIS. EXAMPLES ARE DUCT SUPPORTS-CEILING OF CONTROL ROOM (SPREAD ROOMS) 708' ELEV. - 5/8" RED HEADS. VARIOUS SIZE PLATES. 5-6 BOLTS CUT CLOSE TO COLUMNS AT EAST WALL. CI HAS NO FURTHER INFORMATION. CONST. DEPT. CONCERN. NO FOLLOW UP REQUIRED.

o IN-85-625-002

ABANDONED REDHEAD HOLES ARE REPAIRED WITH THE REDHEADS STILL EMBEDDED IN CONCRETE. IT IS IMPOSSIBLE TO DETERMINE IF REBAR DAMAGE HAS OCCURRED. THE ABANDONED/REPAIRED REDHEADS ARE LOCATED SITE WIDE.

o IN-85-664-001

POSSIBLE ANCHOR VIOLATIONS IN KEYWAY AREA UNDER REACTOR UNIT 1. SOME ANCHORS WHICH NOT USED SHOULD BE PULLED AND PATCHED. THE CI OBSERVED THESE IN 1983.

o IN-85-982-001

REBAR LOCATORS NOT USED. REBAR OF TEN HIT DURING RED HEAD DRILLING. MANY RED-HEAD INSERTS HAVE BEEN CUT OFF AND ARE SHORTER THAN SPECIFIED LENGTH, AND OFTEN PULL OUT WHEN TESTED. THREAD ENGAGEMENT IS ALSO TOO SHORT. ONLY EXAMPLE KNOWN AS BEEN REWORKED (UNIT 2 GO UP LADDER INTO ACCUMULATOR ROOM, GO FORWARD, 3-5 PANELS AT LEFT.) CI HAS NO MORE INFORMATION. NO FOLLOW UP REQUIRED.

o IN-86-177-001

DURING REWORK, CI IDENTIFIED NON QA HANGER THAT 4 RED HEAD ANCHORS HAD BEEN CUT OFF. THIS OCCURRED IN THE TURBINE BLDG. ELEV. 685. CI HAS NO FURTHER INFORMATION.. CONSTR. DEPT. CONCERN. NO FOLLOW UP REQUIRED.

o IN-86-221-001

AUX BLDG. (UNIT 1 SIDE), ANNULUS, EL. 755' TO CEILING-"RED HEADS" WERE LEFT IN WALL (AFTER REMOVAL OF CONDUIT) AND GROUNDED OVER WITHOUT REMOVING "RED HEADS" NUCPWR DEPT. CONCERN. CI HAS NO ADDITIONAL INFORMATION. NO FOLLOW UP REQUIRED.

o IN-86-294-002

IN 1981 THE FIRE PROTECTION SYSTEM IN THE VAULT IN UNIT 2 HAD A BASE PLATED WITH AN ANCHOR BOLT CUT OFF AND TACK WELDED TO THE BACK OF THE BASE PLATE. THE BASE PLATE IS LOCATED INSIDE THE ACCESS DOOR TO THE VAULT AND ON THE CEILING. CI HAS NO ADDITIONAL INFORMATION. CI'S CONCERN IS IN OTHER APPLICATIONS IN THE PLANT. CONSTR. DEPT. CONCERN. NO FOLLOW UP REQUIRED.

o PH-85-035-007

REDHEAD CONCRETE ANCHORS HAVE BEEN IMPROPERLY INSTALLED THROUGH WBNP. CONSTRUCTION DEPT. CONCERN. CI HAS NO FURTHER INFORMATION. NO FOLLOW UP REQUIRED.

o PH-85-035-007

CI IS CONCERNED ABOUT USING 3/8" RED HEADS INSTEAD OF 3/4" IN SYSTEM 68 DRAIN, REACTOR I at elevation 720 OR 72, NEAR RC PUMP 2. CONSTRUCTION DEPT. CONCERN. CI HAS NO FURTHER INFORMATION.

o PH-85-054-N03

NRC IDENTIFIED THE FOLLOWING CONCERN FROM REVIEW OF QTC FILE. "BOLT HEADS WERE WELDED TO A PLATE TO RESEMBLE A BOLT IN PLACE. CI HAD NO SPECIFIC LOCATION."

o BNPQCP -10.35-8-23

OLD SSD'S USED IN PIPE SUPPORTS THAT WERE INSTALLED WHEN RANGES WERE FIRST INSTALLED.

o SQP-5-005-001

SEQUOYAH: IN 1976-77, AUX BLDG, ELEVATION 749, of unit 1, THE CONDUIT AND CABLE TRAY SUPPORTS IN THE MOV BOARD ROOM, 1A, BETWEEN COLUMN LINES A-2 to A-8 AND "R" LINE WERE INCORRECTLY INSTALLED. A CUTTING TORCH WAS USED TO ENLARGE THE HOLES ON THE BACK SIDE OF THE SUPPORT PLATES. THE HOLES WERE BEVELED TO ALLOW THE ANCHOR BOLTS TO FIT THROUGH THE HOLES DETAILS KNOWN TO QTC, WITHHELD TO MAINTAIN CONFIDENTIALITY. NO FURTHER INFORMATION MAY BE RELEASED. CI HAS NO ADDITIONAL INFORMATION. CONST. DEPT CONCERN. NO FURTHER INFORMATION MAY BE RELEASED. NO FOLLOW-UP REQUIRED.

o SQP-5-005-002

SEQUOYAH; IN 1976-77, AUX BLDG, ELEVATION 749, OF UNIT 1, IN THE MOV BOARD ROOM 1A, BETWEEN COLUMN LINES A-2 TO A-8 AND "R" LINE HOLES WERE LEFT IN THE CEILING UNDER THE CONDUIT AND CABLE TRAY SUPPORTS. REBAR WAS HIT WHILE DRILLING THE HOLES, SO THE HOLE LOCATION WAS MOVED, AND THE OLD HOLES WERE LEFT WITH THE SHELLS INSTALLED AND THE HOLES NOT FILLED WITH GROUT. DETAILS KNOWN TO QIC WITHHELD TO MAINTAIN CONFIDENTIALITY. NO FURTHER INFORMATION MAY BE RELEASED. CI HAS NO ADDITIONAL INFORMATION. CONST. DEPT. CONCERN. NO FURTHER INFORMATION MAY BE RELEASED. NO FOLLOW-UP REQUIRED.

o SQP-5-005-003

SEQUPYAH: IN 1976-77, AUX BLDG. ELEVATION 749, OF UNIT 1, IN THE MOV BOARD ROOM 1A, BETWEEN COLUMN LINES A-2 TO A-8 AND "R" LINE THE ANCHOR SHELLS WERE CUT OFF AND INSTALLED WHEN THEY HIT REBAR DURING INSTALLATION. THE SHELLS WERE CUT OFF TO FACILITATE INSTALLATION OF CONDUIT AND CABLE TRAY SUPPORTS TO THE CEILING. DETAILS KNOWN TO QTC AND WITHHELD TO MAINTAIN CONFIDENTIALITY. NUCLEAR POWER CONCERN NO FURTHER INFORMATION MAY BE RELEASED. CI HAS NO FURTHER INFORMATION. NO FOLLOW UP REQUIRED.

o SQP-5-005-004

SEQUOYAH: IN 1976-77, AUX BLDG. ELEVATION 749, of UNIT 1, IN THE MOV BOARD ROOM 1A, BETWEEN COLUMN LINES A-2 to A-8 AND "R" LINE THE CONCRETE ANCHORS WERE INSTALLED AT AN ANGLE SO GREAT THAT THE HOLES IN THE SUPPORT PLATE HAD TO BE BEVELED ON THE BACK SIDE TO ENABLE THE ANCHOR BOLT TO FIT THROUGH THE PLATE. THESE ANCHORS WERE INSTALLED FOR CONDUIT AND CABLE TRAY SUPPORTS IN THE CEILING. DETAILS KNOWN TO QTC WITHHELD TO MAINTAIN CONFIDENTIALITY. NOR FURTHER INFORMATION MAY BE RELEASED. CI HAS NO ADDITIONAL INFORMATION. COST. DEPT. CONCERN. NO FURTHER INFORMATION MAY BE RELEASED. NO FOLLOW-UP REQUIRED.

o SQP-5-005-005

SEQUOYAH: IN 1976-77, AUX BUILDING ELEVATION 749, OF UNIT 1, IN THE MOV BOARD ROOM 1A BETWEEN COLUMN LINES A-2 to A-8 AND "R" LINE NONCONFORMING CONDITIONS WITH THE INSTALLATION OF CONDUIT AND CABLE TRAY SUPPORTS SUCH AS, CUT OFF ANCHOR SHELLS, INCORRECTLY INSTALLED ANCHOR SHELLS, WRONG SIZE ANCHORS, CUT REBAR, MODIFIED SUPPORT PLATES, AND ANCHOR HOLES NOT FILLED WERE IDENTIFIED. HOWEVER THESE NONCONFORMING CONDITIONS WERE NOT DOCUMENTED.

o SQP-5-005-006

SEQUOYAH: IN 1976-77, AUX BUILDING, ELEVATION 749 OF UNIT 1, IN THE MOV BOARD ROOM A, BETWEEN COLUMN LINES A2 to A8 and "R" LINE, CONCRETE ANCHORS WERE DRILLED INTO THE CEILING, MANY OF WHICH HIT REBAR. THIS MAY NOT HAVE BEEN REPORTED TO ENGINEERING SO THAT ENGINEERING COULD EVALUATE ANY DAMAGE. THE HOLES WERE RELOCATED AND REDRILLED, AND THE CONDUIT AND CABLE SUPPORTS WERE INSTALLED IN THE CEILING. DETAILS KNOWN TO QTC, WITHHELD TO MAINTAIN CONFIDENTIALITY. NO FURTHER INFORMATION MAY BE RELEASED. CI HAS NO ADDITIONAL INFORMATION. CONST. DEPT. CONCERN. NO FOLLOW-UP REQUIRED.



o SQP-5-005-007

SEQUOYAH: IN 1976-77, IN THE AUX BLDG., ELEVATION 749 OF UNIT 1, ANCHOR BOLTS IN THE CEILING OF THE MOV BOARD ROOM 1A BETWEEN COLUMN LINES A-2 TO A-8, and "R" LINE WERE VERIFIED TO BE THE WRONG SIZE. THESE ANCHOR BOLTS ARE UTILIZED TO SUPPORT CONDUIT AND CABLE TRAY. DETAILS ARE KNOWN TO QTC WITHHELD TO MAINTAIN CONFIDENTIALITY NO FURTHER INFORMATION MAY BE RELEASED. CONSTRUCTION DEPT. CONCERN. NO FOLLOW UP REQUIRED.

o W1-85-011-001

SOME ELECTRICAL HANGERS IN THE TURBINE AND CONTROL BUILDINGS HAD ANCHOR BOLTS WELDED TO THE EMBED WHERE REBAR INTERFERED WITH THE INSTALLATION. (SPECIFIC LOCATIONS NOT KNOWN).

o XX-85-010-001

SEQUOYAH - WHEN REMOVING VOIDED HANGERS, CI DISCOVERED SEVERAL INSTANCES OF NUTS WELDED TO BACK OF BASE PLATES WITH THE CONCRETE CHIPPED AWAY TO ACCEPT NUT. ANCHOR BOLTS WOULD ACCEPT TORQUE BUT WOULD NOT SUPPORT BASE PLATES. PER C1, THIS SITUATION COULD EXIST FOR THE INSTALLED HANGERS. EXAMPLE: CVC SYSTEM REACTOR BUILDING, ACCUMULATOR ROOM 4. THIS WAS ABOUT 4 YEARS AGO AT SEQUOYAH IN UNITS 1 & 2."

## II. Summary of Issues

The problem as defined by TVA is as follows:

- A. Shell-Self-Drilling (SSD) type anchors were cutoff when rebar was encountered; nuts were welded to the back of backplates.
- B. SSD type anchors have been improperly installed and are subject to pulling out of the wall.
- C. Abandoned SSD holes with the shells installed were not filled with grout.
- D. Baseplate holes have been made oversize and anchors installed outside of perpendicularity criterion.

These concerns were evaluated by TVA to be potentially nuclear safety related and safety significant.

## III. Evaluation

The TVA employee concern Task Group (ECTG) evaluator reviewed the applicable documents and interviewed cognizant sequoyah engineer personnel to determine if the above concerns are valid.

Concerns SQP-5-005-001 thru SQP-5-006-007 are specific to SQN. A summary of these concerns is as follows:

- o Base plate holes enlarged to accommodate anchors which are not perpendicular and anchors installed out of plum.
- o Abandoned holes which are not filled with grout
- o Cut off shells or insufficient cone expander depth.
- o Wrong size anchors
- o Cut rebar

TVA addressed the concern that the base plates were modified to accommodate anchors which were out of plum with a sampling program. The sample included over 100 base plates and no base plates were found where the plates had been modified and no anchors were found where the anchors exceeded the perpendicular criteria. Based on the above sample TVA concluded that these concerns are not substantiated.

This reviewer agrees that the sampling approach provides reasonable evidence that these concerns are not significant at SQN.

The TVA procedures do not require that abandoned anchor holes be filled with grout. Also the sampling program indicated that most of the abandoned anchor holes had been grouted and those that were not grouted, did not violate the spacing criteria. Based on the above TVA concluded that these concerns are not substantiated.

This reviewer agrees that the sampling program provides reasonable assurance that these concerns are not significant at SQN.

The third concern deals with cut-off shells and insufficient plug depth. This element report did not address the concern that the shells had been cut off. The WR 114789 sampling program determined that 16 anchors had plug depths outside of the G-32 criteria and that 3 anchors had questionable plug depths. The ECTG evaluation states that the reduction if the factor of safety will be small and will be "substantially above the factor of safety for operation". The anchors not meeting the plug depth criteria will be proof tested. The TVA evaluation states that "each of these instances require review and in some cases on engineering evaluation, we see no programatic breakdown or generic implication"

This reviewer considers the evaluation to be lacking. The evaluation should address directly the concern that the shells were cut. Also the evaluation should state the size of the sample in which it plug depth were found to be outside the criteria.

The fourth concerns deals with wrong size anchors being installed. As part of the sampling program performed by TVA, only one anchor was discovered to be smaller than required. A 5/16  $\phi$  anchor was installed instead of the 3/8"  $\phi$  shown on the drawing. This will be evaluated by TVA as part of ECN L6744.

This reviewer agrees that the sampling program provides reasonable assurances that this concern is not significant at SQN.

The fifth concern deals with the damage or cutting of reinforcing steel during expansion anchor installation. The sample program of WR 114 789 used a ground fault indicator to determine if the anchor shell was in contact with the reinforcing steel. Three anchors were found to be in contact with reinforcing steel. Further review and reinspection using a geophysical survey systems instrument indicated that no rebar had been cut TVA evaluation states that although it can be shown that no rebar was cut by the anchors sampled, TVA should recreate the color coded sketches which show areas where rebar could be cut. The inability to locate these sketches may be in violation of 10 CFR, Appendix B, Criterion XVII.

This reviewer agrees with TVA's evaluation.

The subject of concern XX-85-010-001 was that nuts were welded to back of base plate and it appears that no expansion anchor was installed. The TVA evaluation does not address this condition but addresses the use of leveling nuts.

My review finds this evaluation to be lacking. TVA should evaluate the employee concern as stated.

The remaining 19 concerns apply directly to WBN and BLN and generically apply to SQN. A summary of these concerns as follows:

- o Cut rebar
- o Wrong size anchors installed
- o Cutting of anchors shells
- o Thread engagement is too short
- o Anchors welded to rebar
- o Bolts welded to back of plate
- o Abandoned holes repaired with red heads left in place

The first three item were previously addressed as responses to concerns SQP-S-005-001 thru SQP-S-005-007.

The fourth item, insufficient thread engagement, was evaluated using a sampling program. Only 3 bolts out of 439 bolts were found to have insufficient thread engagement.

This reviewer agrees that the sampling program provides reasonable assurance that this concern is not significant at SQN.

The last three items were not addressed as part of this report.

#### IV. Conclusion

In general, TVA evaluations of these concerns was found to be acceptable with the following exception. TVA's evaluation of the concerns previously listed below was not complete either, they were not adequately addressed or not addressed at all. These concerns are summarized below:

- o Cut off shells or insufficient plug depth
- o Anchors welded to rebar
- o Nuts welded to the back of base plates
- o Abandoned holes grouted with red head left in place

The 79-02 sampling program and the sampling programs performed after 79-02 provide reasonable assurance that the above concerns are not restart issues but should be addressed by TVA to close these concerns.