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EXECUTIVE SUMMARY

This special, announced team inspection was directed primarily to examination and assessment of actions taken by the licensee in resolving adverse conditions that had been previously identified in relation to QA records. Particular attention was directed to conditions addressed by Unit 1 Significant Corrective Action Report (SCAR) WBP870036SCA and to the process whereby it became a collector of adverse conditions from various sources. Current records retrievability and control of design documents were also briefly examined.

In regard to the resolution of adverse conditions, the team concluded that the licensee's resolution process had not been adequate. The corrective action program had not been conducted in accordance with regulatory requirements. This was supported by a number of examples of inadequate corrective action identified by the team, which are reported below as an apparent violation.

No significant concerns were identified in the limited inspection of records retrievability and design document control. It was noted that the current status of some hardware installations was not reflected in the current database which is still being implemented. These are areas that will be addressed in greater detail in subsequent NRC inspections.

The significant findings of this inspection are as follows:

Apparent Violation:

Examples of inadequate corrective action identified by the team are designated as Apparent Violation 390, 391/92-29-01, Inadequate Corrective Action. The examples fall into three categories, with the first appearing the more significant:

- (1) Conditions adverse to quality (CAQs) applicable to Unit 1 and Common items were assigned to Unit 2 reports for resolution. As a consequence, they are in a "hold status" and not required to be resolved for operation of Unit 1.
[Report Sections 4.1 and 4.2]
- (2) Previously identified CAQs or portions of CAQs were omitted in a "rollover" process of transferring CAQs from one CAQ reporting document to another.
[Report Sections 3.1, 3.1.4, 3.1.5, 3.1.6, and 3.1.8]
- (3) Incorrect transfers of CAQs found by QA monitoring were not promptly identified on CAQ reporting documents.
[Report Section 3.2]

Conditions similar to those identified in (1) above have been previously cited in NRC Violation 91-03-05. Additionally, the licensee had previously identified conditions similar to those in (2) in Significant Corrective Action Report (SCAR) WBP890481SCA. Both the previous violation and the licensee's SCAR have been closed on the basis that their corrective actions and actions to preclude recurrence were complete. The actions do not appear to have been fully effective.

Significant Weakness:

The team found that the licensee had a continuing large backlog of Significant Corrective Action Reports (SCARs) that identified "significant" adverse conditions. They were not being corrected in a timely manner. A particular example reviewed in the current inspection was SCAR WBP870036SCA, originally opened over 5 years ago. A recent licensee report indicated that between October 1991 and August 1992 there had been little or no progress in reducing the backlog of SCARs open more than one year. Approximately 230 were shown to be currently open and the average age was 4 years.
[Report Section 7.2]

Unresolved Items:

Three unresolved items (URIs) were identified involving deficiencies related to the development of proposed resolutions for CAQs identified in SCAR WBP870036SCA. The adequacy of the licensee's actions in completing correction of the SCAR will be examined in subsequent NRC inspections to determine if the concerns identified in these three unresolved items are properly addressed.

[URI 390, 391/92-29-02, S&L and TVA Followup Reviews of Open Records Problems May Be Inadequate, Report Sections 2.3.1, 2.3.3, 2.3.5, and 2.3.6]

[URI 390, 391/92-29-03, TVA Construction Engineering Evaluations Of Missing Records, Report Section 2.3.4]

[URI 390, 391/92-29-04, Adequacy of Sampling, Report Section 3.1.9]

A fourth unresolved item was identified to evaluate the licensee's determination that a deficiency identified for the Unit 2 HVAC was not programmatic and, therefore, potentially also existing in Unit 1. Licensee personnel stated that additional information in support of the determination would be provided for NRC review in a future inspection.

[URI 390, 391/92-29-05, Applicability of Unit 2 HVAC Missing Vanes to Unit 1, Report Section 4.3]

Inspector Followup Item:

Because of design weaknesses, the licensee dispositioned three Unit 2 bellows type containment penetrations to be reinspected in the event of a safe shutdown earthquake or a LOCA. The team questioned how this reinspection would be assured and were informed that this action item would be implemented through Open Item Status Log Item U1001. This was identified for NRC verification in a subsequent inspection.

[Inspector Followup Item 391/92-29-06, Penetration Reevaluation Following SSE or LOCA, Report Section 4.4]

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1.0 INTRODUCTION

This inspection was performed by a team consisting of six Region II personnel, including two Watts Bar Resident inspectors. The primary objective of the inspection was to examine and assess the actions taken by the licensee in resolving adverse conditions that had been previously identified in relation to QA records. Particular attention was directed to conditions addressed by Unit 1 Significant Corrective Action Report (SCAR) WBP870036SCA and to the process whereby it became a collector of adverse conditions from various sources. The team examined a Sargent and Lundy QA/QC Records Task, transfers of adverse conditions, and extent of condition and hold status reviews in assessing the licensee's resolution actions. In a separate assessment, the team briefly examined current records retrievability and control of design documents.

The inspection was conducted mainly through reviews of documentation and interviews with licensee personnel. The principal criteria used in performing the assessment were those of 10CFR50, Appendix B, and ANSI Standard N45.2.9-1974 (Requirements for Collection, Storage, and Maintenance of Quality Assurance Records for Nuclear Power Plants). The various procedures, reports and other documentation reviewed by the team are identified in the text below.

Two licensee programs were paramount in resolution of records related adverse conditions, the program for identification and correction of adverse conditions and the QA Records Corrective Action Program (CAP). Background information on these programs that may be useful in understanding terminology and processes referred to in this inspection report is provided below.

Program for Identification and Correction of Adverse Conditions

Over the course of construction of Watts Bar, TVA has made a number of revisions in its program to report and correct conditions adverse to quality (CAQs). CAQs have been referred to variously by the analogous terms nonconformances, deficiencies, discrepancies, adverse conditions, etc.; these terms are reflected in the naming of the documents used by the licensee to identify and correct CAQs. This inspection addresses TVA reports of CAQs identified for correction on Nonconforming Condition Reports (NCRs), Significant Condition Reports (SCRs), Condition Adverse to Quality Reports (CAQRs), and Significant Corrective Action Reports (SCARs). A simplified chronological description indicating the use of these reports is as follows:

- | | |
|------------|--|
| Pre 1987 | NCRs were used. If CAQs in an NCR were judged "significant" an SCR was issued covering the CAQs with the same number designation and an S added at the end. For example, NCR 6722 became SCR 6722-S. Both the SCR and NCR remained open until both were closed. (Note: During this time a number of other types of reports for CAQs also existed.) |
| March 1987 | A new program provided for identification of all CAQs on CAQRs, eliminating identification on any other type of report. CAQRs were designated significant if appropriate, but report number did not change to indicate this. Previously open NCRs and SCRs were permitted to remain open. |

- August 1988 Additional means were designated for reporting and dispositioning some types of CAQs. The threshold for reporting a newly identified CAQ on a CAQR was raised. Previously opened NCRs, SCR, and CAQRs could remain open without any change in designation.
- February 1991 The program was revised with all NCRs, SCR, and CAQRs receiving revised designators. The more significant were designated SCARs. For example, CAQR WBP870036 became a SCAR designated SCAR WBP870036SCA.

QA Records CAP

Watts Bar has had a history of problems with QA records. Formally identified examples dating back to at least 1984 remain to be fully resolved (e.g., from NCRs 5384 and 5764, as noted in Section 3 of this report). QA surveillances performed in 1987 highlighted some of the deficiencies that existed, resulting in issuance of several Condition Adverse to Quality Reports. The most prominent of these is Unit 1 CAQR WBP870036, which collected many of the previously identified records deficiencies. (Note: CAQR WBP870036 was converted to SCAR WBP870036SCA in 1991 in accordance with the licensee's latest Program for documenting and dispositioning deficiencies.) In 1988 TVA developed a QA Records Corrective Action Program (CAP) to address the Unit 1 records problems. The Program has continued to evolve. The current QA Records CAP (Rev. 5), was approved by the NRC in a letter dated June 9, 1992. The NRC stated that, when properly implemented, the CAP will provide reasonable assurance of the availability of sufficient QA records for issuance of an operating license.

The current QA Records CAP consists of two parts. The first is to resolve issues identified prior to January 1989, such as the issues identified in CAQR WBP870036. The second addresses the overall adequacy of QA records through statistical sampling of all required QA records types. It is performed as an "Additional Systematic Records Review" (ASRR) and includes a comparison of installation records with completed hardware and with engineering requirements. The licensee's commitment for collection, storage, and maintenance of QA records was to the requirements of American National Standard ANSI N45.2.9-1974. The ASRR is to cover all of the applicable record types specified by ANSI N45.2.9, Appendix A. The QA Records CAP is scheduled to be completed in March 1993.

2.0 SARGENT AND LUNDY QA/QC RECORDS TASK

The team assessed the application of the Sargent and Lundy (S&L) QA/QC Records Task in resolving records concerns both in general and in regard to specific examples documented in Unit 1 Condition Adverse to Quality Report (CAQR) WBP870036 Rev. 3 (Note: Revision 5 of this CAQR became SCAR WBP870036SCA). The team based the assessment on a review of information in the Task Final Report and on a review of documentation associated with proposed resolutions developed by the Task for CAQs identified in CAQR WBP870036, Rev. 3. A discussion of the team's assessment and findings is given below preceded by background information on a S&L "Vertical Slice Review" (which identified some of the records CAQs addressed in the Records Task), on the Records Task itself, and on a subsequent TVA review of resolutions from the Records Task.

From its review, the team concluded that the Records Task had not provided fully satisfactory resolutions of the records concerns. The Task scope was limited and some proposed resolutions appeared flawed. Also, errors identified by S&L in the CAQR remain uncorrected years after they were identified. TVA "Quality Assurance Record Team" followup reviews on the resolutions proposed by S&L were found to have identified possible deficiencies in some of the resolutions. These remain unaddressed. Licensee personnel indicated that concerns such as these were to be corrected through the final review and closure process for SCAR WBP870036SCA. The team identified this matter for followup as Unresolved Item 390/92-29-02, S&L and TVA Followup Reviews of Open Records Problems May Be Inadequate. The followup will be performed after TVA's completion of disposition and closure of SCAR WBP870036SCA. Examples which led to identification of this item are described in 2.3.1, 2.3.3, 2.3.5, and 2.3.6 below. These examples appear to be individually of minor safety significance.

In addition to the unresolved item noted above, the team identified another for followup. Apparent inadequacies were found in engineering evaluations which the TVA Construction Engineering organization used to disposition missing records deficiencies. This is identified in 2.3.4 below as Unresolved Item 390/92-29-03, TVA Construction Engineering Evaluations Of Missing Records. As for the unresolved item in the above paragraph, this item is to be examined further following TVA's closure of SCAR WBP870036SCA.

2.1 Background

The team obtained the background information described below from discussion with the Project Manager for the current TVA QA Records Project.

In the summer of 1988, S&L performed a selective "Vertical Slice Review" (VSR) of Watts Bar engineering, construction, and records. The purpose of this review was to identify any significant types of problems that existed and to confirm that TVA had programs in place for their correction. The VSR identified a number of records discrepancies, which were provided to TVA for disposition on S&L Discrepancy Reports (DRs). TVA responded to each DR with a proposed resolution described in a Resolution Report (RR), which was provided to S&L. S&L evaluated the proposed resolutions and issued Completion Reports (CRs) back to TVA indicating the adequacy of the resolution. In some instances the CR specified the need for additional or revised actions.

Following the VSR, TVA contracted S&L to perform the QA/QC Records Task, as the principal part of the original Watts Bar QA Records Corrective Action Program (CAP). The Records Task involved development of resolutions for QA record deficiencies documented on various open Condition Adverse to Quality (CAQ) documents and on its own VSR DRs.

Subsequent to the S&L Records Task, the TVA Quality Assurance Records Team (QART) reviewed and evaluated the resolutions proposed by S&L in response to Employee Concerns regarding the adequacy of the review. The QART had originally been formed to develop the TVA QA Records CAP and it was reconvened for the resolution evaluations. The QART divided the resolutions proposed by the S&L Task among its members for individual review. Each member identified any resolutions considered questionable and these were then evaluated by the entire QART. Although the QART

evaluations were not considered to require formal controls, the individual evaluations were documented. The QART either accepted the proposed resolution or specified other required actions. Each QART member's position was documented, including any disagreement.

2.2 Review of The Sargent and Lundy QA/QC Record Task Report

The team reviewed the S&L QA Records Final Report, dated November 13, 1989. It stated that the S&L Task initially screened 1737 open CAQ documents. This included Condition Adverse to Quality Reports (CAQRs), Corrective Action Tracking Documents (CATDs), Nonconforming Condition Reports (NCRs), Significant Condition Reports (SCRs), Problem Identification Reports, etc. The CAQ documents were classified by S&L as records CAP related or non-records CAP related (normally referred to in the review as records related or non-records related). Non-records related CAQ documents were not included in the S&L review. The S&L final report noted that, in many cases, deficiencies or issues identified in the CAQ documents affected or potentially affected QA records. However, unless the record itself was identified as the issue (not its storage, retrievability, or quality), the CAQ document was classified as "non-records" related (ref. pg 5 of S&L report). As an example, the team observed that SCR 6723-S was designated non-records related. Deficient conditions stated in this SCR included records which did not include a required reference to an associated NCR. This had apparently not been considered a record data omission, but as a failure to comply with procedure requirements to record the NCR number. Further, as discussed in Section 3.1.1 below, there was a missing records issue that S&L failed to note.

The S&L final report indicated that, based on the initial screening, 294 of the 1737 open CAQ documents were designated potentially records related. These 294 CAQ documents, along with 118 VSR DRs, were broken down into 1411 problem units (PUs), for assessment. Each PU identified a different quality issue (with a quality issue defined as an incomplete, technically and/or administratively deficient safety related record). The 1411 PUs involved 14,899 components (valves, cable, instruments, etc.). Further review by S&L determined that 11,065 of these components were outside the scope of the S&L task for one of the following reasons:

The issue was within the scope of a different existing TVA CAP (452 components involved)

The issue was determined to be a records storage/retrievability issue, to be evaluated by TVA (10,195 components involved)

The issue was determined to be non-records issue upon further assessment (418 components involved)

This resulted in records quality issues for 3834 components (from 102 CAQ documents representing 1132 PUs) being considered potentially within the scope of the task. From further assessment, S&L determined:

The record deficiencies for 3,246 components were acceptable in that no quality issues were observed, and the cited concerns were found to be inconsequential to the quality of the involved components

The record deficiencies for 386 components could be resolved from other inspection data or documentation

For deficiencies involving 202 components, reinspection was needed to effect resolution.

The reported conclusion of the Records Task was that there were very few quality issue concerns that described substantial deviations from requirements. The report further stated that, as only approximately 1 percent of the potential quality issue concerns were found to require reinspection, this suggested there was no pervasive problem with Watts Bar QA/QC records.

The team noted that the scope of the S&L review was very limited in that: only open CAQ documents had been considered, many issues that could involve record problems were eliminated from the review as non-record related, items associated with other existing CAPs were eliminated, and records storage/retrievability issues were omitted.

2.3 Review of Documentation Associated with CAQR WBP870036

The team assessed S&L resolutions proposed for deficiencies documented in CAQR WBP870036 through a review of the associated documentation. Prior to this inspection, the team had anticipated that disposition of the CAQR would be complete and that the resolutions actually employed by TVA could be evaluated rather than just the proposed resolutions. CAQR WBP870036 had been initiated five years previously and NRC concerns regarding its prompt resolution had been expressed before in the 1990 Unresolved Item 390, 391/90-08-08, Prompt Corrective Action (See Section 7.2). The team found that no apparent action had been taken to close the CAQR since 1990.

The documentation reviewed by the team included S&L Records Concern Review Forms for selected PUs; Watts Bar procedures related to the involved construction records; examples of the discrepant record documents; S&L VSR DRs, RRs, and CRs; TVA QART Recommended Problem Unit Disposition Forms; disagreement summaries from QART members that did not concur with the QART majority decision on an issue; meeting reports generated by the QART; and CAQR WBP870036.

The specific PUs reviewed and the team's findings are described below.

2.3.1 PU 207 (VSR DR 24)

S&L VSR DR 24 identified that a QC inspector apparently used the wrong revision of a QC procedure for a conduit support inspection. The inspection of conduit support 0-CSP-292-2167/Z was documented as having been performed using QCP-3.3, Rev. 1. However, Rev. 5 was in effect at the time of the inspection and should have been used. The DR also noted that the inspector who performed the QCP was not qualified to Rev. 5.

The TVA RR in response to this DR stated CAQR WBP870036, Rev. 2, would be revised to include the subject discrepancy as well as any additional discrepancies identified during the review for extent of condition. S&L considered the DR resolved based on this proposed resolution.

The team reviewed the TVA VSR closure package for DR 24, including Appendix I form to SSP-4.A titled "Disposition Of Vertical Slice Review Team Information Request, Discrepancies, and Adverse Trends". The VSR Corrective Action Completion Form (Appendix I) for DR 24 indicates the CAQR WBP870036 was revised to include the discrepancies cited.

From a review of CAQR WBP870036, Revs. 2 through 5, the team found that the DR 24 discrepant condition involving use of the wrong procedure revision had not been added. The DR was apparently closed without the reviewer reading the DR package and noting the additional discrepant condition regarding the unqualified inspector. This is identified as the first example of Unresolved Item 390/92-29-02, S&L and TVA Followup Reviews of Open Records Problems May Be Inadequate.

2.3.2 PUs 63 and 64

Problem Units 63 and 64 were evaluated by S&L and found acceptable. The team review of forms for these PUs found the S&L identification of the "Problem Unit Basis" did not describe the record problem being reviewed. The only statement regarding the basis for the PUs entered on the form was the words "same problem", with no further explanation. The team subsequently found the descriptions of these PUs were denoted in CAQR WBP870036, Revs. 2 through 5 (e.g., on pg 60 and 61 Of Rev. 5). The team did not identify any concern regarding the resolution proposed.

2.3.3 PU 180

The team reviewed the S&L Records Concern Review Form for PU 180 and found that it involved the lack of a 55A test record for instrument line 1-070-L108A-007 (Component Cooling System). An engineering evaluation was used as the basis for acceptance. The team found that this evaluation stated, as a basis for acceptance, that the 007 line test was included in the test for the 006 line. The S&L Records Concern Review Form for the PU indicated the concern could be closed out based on the documentation reviewed. A TVA QART Recommended Problem Unit Disposition Form filed with the PU form stated "Note: PU180; the qualification of the individual signing the TEST 55A is in question". All QART members signed the form acknowledging the question. The team questioned TVA regarding this statement and TVA provided information to the team that when the individual in question signed the engineering evaluation form as an Engineer he was not assigned to the engineering organization. He was the supervisor of the Document Control Unit and apparently was not authorized to act for the engineering organization. The QART form was completed on September 21, 1989, and three years later the licensee had apparently not reviewed the QART forms for potential nonconforming conditions identified by the QART reviews. This is identified as a second example of Unresolved Item 390/92-29-02, S&L and TVA Followup Reviews of Open Records Problems May Be Inadequate.

2.3.4 PUs 182 And 202

The team reviewed PUs 182 and 202 and found they documented apparent discrepancies in performing engineering evaluations of component acceptability

when required records are missing. In accordance with the applicable Quality Assurance Records procedure, QCI-1.08, Rev. 10, the following requirements applied to these evaluations:

- The missing record was to be documented and dispositioned through a Nonconforming Condition Report (NCR) prepared per QCI-1.02, Control of Nonconforming Conditions.
- Subsequent evaluation was to be documented on an Engineering Evaluation form, Attachment D of QCI-1.08.
- The NCR was to be referenced on the Engineering Evaluation form.

The S&L Records Concern Review Form for PU 182 indicated the discrepant condition had been an inadequate engineering evaluation and stated it would have to be corrected as part of the corrective action for CAQR WBP870036. The team found that the discrepant condition was not described in CAQR WBP870036. Only the Quality Assurance Surveillance Report (QWB-S-87-0091) which identified the condition and the identifier for the involved component were given for this PU number. The team's review of the discrepant engineering evaluation form indicated the discrepancy was a failure to reference an NCR on the evaluation. This could imply that there was no NCR issued for documenting and dispositioning the missing records.

PU 202 described an engineering evaluation for a missing polar crane test record as inadequate because it did not provide reference to an NCR. In this instance, S&L determined that the involved evaluation was acceptable and no resolution action was required. The stated basis was as follows:

"The test for which the evaluation was done was not required at the time the equipment was placed in service. The purpose of the evaluation was to assure that the equipment met the requirements. The evaluation references documentation that assures and documents the adequacy of the crane for this test. Although the record does not conform to the procedural requirements, the adequacy of the component is not in question. If an NCR had been written, no additional test or documents would have been required to resolve this concern. The evaluation provided all necessary information to assure the quality of the component and the records".

The team did not agree that the PU 202 engineering evaluation was acceptable. Without an NCR, the evaluation relied on a single engineer to determine the disposition of the record concern. The independent review which is required by QCI-1.02, Control of Nonconforming Items, would not be provided.

The significance of the engineering evaluation deficiencies described above will be further evaluated by the NRC as Unresolved Item 390/92-29-03, TVA Construction Engineering Evaluations of Missing Records.

2.3.5 PUs 214 Through 224 (VSR DRs 357, 399, 400, 404, 405, 408, 409, 412, 433, 434, and 439)

The team reviewed the resolutions proposed by S&L for the above PUs and found that they involved QC inspectors performing inspections to later revisions of electrical QC procedures than they were certified to be qualified for at the times of the inspections. S&L determined that the procedure revisions did not involve changes that would require inspector recertification. Further, S&L stated that certification records to demonstrate the qualifications were adequate would not be required as "Per ANSI N45.2.9 and NCIG-08, Inspector Certification records are considered non-permanent records". The team noted that this statement appears inappropriate, since TVA has not requested NRC approval for use of NCIG-08, "Guidelines for the Content of Records to Support Nuclear Power Plant Operations, Maintenance and Modification". Further, the statement appears contradictory to the NRC approved TVA QA Records CAP, which states that TVA "redispositioned all PUs so that there were no items dispositioned as nonessential records or data. Therefore, there is no longer any reliance on NCIG-08 in performing the ASRR scope of the CAP". TVA is committed to the 1974 revision of ANSI N45.2.9, which states that "Certification of Inspection and Test Personnel Qualification" record types are non-permanent records with 0 years retention period. However, 0 years retention is defined as allowing dispositioning of the record on the day following the date of commercial operation. Therefore, non-permanent records are required until the plant is licensed. The S&L resolution is not consistent with the requirements contained in the ANSI N45.2.9 standard.

The team also reviewed TVA QART Recommended Problem Unit Disposition Forms for PUs 214 and 215. The QART reviewed the S&L recommended disposition for these two PUs based on a concern that memos used in support of inspectors' qualifications applied to the wrong inspectors and inspection procedures. The QART majority recommended disposition recorded on the QART forms supported the adequacy of the determination that QC inspectors were satisfactorily qualified. The forms provided signature spaces for all QART members to either "concur with disposition" or "do not concur with disposition". While the majority concurred with the above disposition, two members dissented. The form had a note at the bottom of the page with the statement: "NOTE: members or reviewers not concurring with recommended disposition will provide summary of disagreement to be placed with this form". No summary of disagreement statement was included with the forms. Subsequently, licensee personnel that were involved in the S&L effort did produce copies of the summary of disagreement sheets for the two selected QART reviews. The team reviewed the two disagreement forms. In each instance reasons were given for considering S&L's disposition incorrect. The team requested, but did not receive any documentation showing the disagreements for the two PUs were ever resolved.

The continued use of NCIG-08 in the proposed resolutions and TVA's failure to resolve the QART member disagreements are further indication of inadequacies in S&L's reviews and TVA's followup reviews for the Records Task. This is identified as a third example of Unresolved Item 390/92-29-02, S&L and TVA Followup Reviews of Open Records Problems May Be Inadequate.

2.3.6 PU 240 (DR 527)

This PU identifies another inspector certification deficiency. The inspector was found not qualified to the current revisions of three tests which he had

performed. These were test 6-62 performed on December 1, 1978, and tests 6-36 and 6-29 performed on March 27, 1979. The related S&L Records Concern Review Form stated that the date shown on CAQR WBP870036 for PU 240 test 6-29 was incorrect. The date shown should have been March 27, 1978. Also, for test 6-36 the test procedure revision level, Rev. 6, reportedly should have been Rev. 9. The S&L form stated that the CAQR should be revised to reflect the correct date and revision. A "close-out" of the PU 240 concern was signed by S&L on the Review Form on June 2, 1989.

The team reviewed the latest revision of CAQR WBP870036 (Rev. 5) to determine if the errors noted above had been corrected for PU 240. The team found that the apparent date and revision errors had not been corrected. This is considered a fourth example of Unresolved Item 390/92-29-02, S&L and TVA Followup Reviews of Open Records Problems May Be Inadequate.

2.3.7 PU 241 (DR 528)

The concern covered by this PU is similar to that for the PUs discussed in 2.3.5 and 2.3.6 above. A QC inspector was not qualified to the current revision of a test procedure he performed. He was qualified to QCP-3.6, Rev. 4, but was found to have performed a test, test 6-25, when Rev. 5 was applicable. The resolution proposed by S&L was based on two TVA memorandums from QC (identified as RIMS W860630K0277 and W860630K0615). The referenced memorandums contained in the PU file did not address the qualification of inspectors for the test number 6-25 which the inspector had performed. Subsequently, the team was provided with copies of the subject letters that included additional pages that did address the applicable qualification. No significant concerns were identified by the team in reviewing this PU.

3.0 TRANSFERS OF CAQS

3.1 NRC Review of Transfers

In the past, TVA allowed numerous and sometimes complex transfers of records-related conditions adverse to quality (CAQs) from one CAQ reporting document to another. The NRC team reviewed examples of these transfers to verify that the identities of the conditions had been maintained for disposition. The transfers were commonly referred to as "rollovers", as they were intended to be transfers without changing the original condition descriptions. Generally, the CAQ report from which a CAQ was rolled over was closed and superseded by the report to which the CAQ was transferred or "rolled".

As is described in the following subsections, the NRC team found that some of the CAQs had been omitted in the transfer or "rollover" process. Similar cases were identified and addressed by the licensee in resolution of SCAR WBP890481SCA, Rev. 2, which was closed in July 1991. The licensee had determined that SCAR WBP890481SCA was a "significant" condition adverse to quality, having as its root cause personnel carelessness in performing rollovers. The additional examples identified by the team indicate that the licensee's program failed to provide corrective action to preclude recurrence for SCAR WBP890481SCA. This and other

examples of inadequate corrective action identified in Sections 3 and 4 of this report are identified as Apparent Violation 390, 391/92-29-01, Inadequate Corrective Action.

In addition to the apparent violation mentioned above, the team identified inadequately specified sampling in the proposed disposition for SCAR WBP870036SCA. It is the team's understanding that the disposition of this SCAR will be reexamined by the licensee in the closure process. To verify the sampling is adequately specified, the matter will be reinspected by the NRC following the closure of the SCAR and is designated as Unresolved Item 390, 391/92-29-04, Adequacy of Sampling (see Section 3.1.9).

The subsections below describe the circumstances of the CAQ reports (NCRs, SCRs, and CAQRs) reviewed by the team and the team's findings as to the adequacy of the related CAQ transfers.

3.1.1 Transfer of CAQs From NCRs 5384 and 5764 to NCR 6722

NCRs 5384 and 5764 identified records problems involving missing QA records for component inspections and tests. The NCRs were closed on July 30 and August 26, 1984, respectively. Subsequent licensee review found that these NCRs had been closed without completion of all required actions. NCRs 6722 and 6723 were opened in March 1986 identifying the improper closures of NCRs 5384 and 5764. NCR 6722 was to identify the conditions applicable to Unit 1 and NCR 6723 those for Unit 2.

The team found that insufficient detail was provided in 6722 and 6723 to fully determine all actions that had not been completed for 5384 and 5764; however, the proposed corrective actions were broad enough to ensure adequate coverage. An example of an inadequately completed action that was described in sufficient detail was that a review of potentially deficient past engineering evaluations used in lieu of missing test records had not been properly completed. A specific deficiency mentioned with regard to the engineering evaluations was that some had no NCR number recorded on them. Instruction QCI-1.02 required that an NCR be written to specify the performance of the engineering evaluations and that the NCR number be recorded on the evaluations. By implication, evaluations not identified with an NCR number may have been done without the additional verification of adequacy provided through the NCR process. The team observed that there also still appeared to be a concern that some missing test records had not either been located or addressed by engineering evaluations.

NCRs 6722 and 6723 were determined to contain "significant" conditions and were upgraded to SCRs 6722-S and 6723-S.

The team's further review found that NCRs 6722 and 6723 had been addressed in the S&L Records Task described in Section 2.1. S&L determined initially that the problems in the NCRs were limited to failure to reference NCRs on applicable QA records. They did not consider this a records related problem but, instead, "deficiencies in processing NCRs (Engineering) rather than deficiencies in specific QA records." In a subsequent review of the S&L evaluation for NCR 6722, TVA's QART noted that S&L failed to address the issue in 6722 of missing records.

Corrective actions were not completed for NCR 6722. The team found that in September 1989, NCR 6722 and SCR 6722-S were superseded by CAQR WBP890481, Rev. 0. NCR/SCR 6723 is discussed further in Section 3.1.5.

3.1.2 Transfer of CAQs From NCR and SCR 6722 to CAQR WBP890481, Rev. 0

CAQR WBP890481, Rev. 0, was initiated on September 25, 1989, to supersede NCR 6722 and SCR 6722-S. This was apparently done to transfer the conditions from the NCR and SCR into the licensee's newer CAQR program. The team found that CAQR WBP890481 included all of the conditions identified in the NCR and SCR except that the list of missing documentation was shorter. It appears that this was the result of having located some items, deletion of non-QA items, and moving other items into NCR 6723.

CAQR WBP890481 was revised, to Rev. 1, on October 31, 1989. The description of condition for this revision included all of the conditions identified in Rev. 0. However, it divided the resolution of the identified problems for disposition through different CAQRs. Rev. 1 of CAQR WBP890481 was to address the programmatic problem of improperly closing NCRs, while the specific Unit 1 conditions remaining to be corrected from NCRs 5384 and 5764 were to be addressed by CAQR WBP870036.

CAQR WBP890481, Rev. 1, was closed on December 13, 1989. The licensee determined the CAQR was not programmatic because only 3 related NCRs (5384, 5764, and 6722) were involved. The apparent cause was determined to be a failure to follow approved procedures in the handling of CAQs and inspection records. Four people were involved in the improper closure of the NCRs. Three of the individuals were no longer onsite and the fourth was counseled.

3.1.3 Improper Transfer of CAQs From CAQR WBP890481, Rev. 1 to CAQR WBP870036, as Identified in CAQR WBQ900069

CAQR WBQ900069, Rev. 0, was initiated on February 5, 1990, to identify CAQs which had been invalidated and/or closed improperly. One of the examples given in the description of condition was that several of the conditions identified in CAQR WBP890481, Rev. 1, were not rolled (transferred) into CAQR WBP870036 as required. In addition, the following "Note" was documented in CAQR WBQ900069:

"The Determination of Programmatic Deficiency for CAQR WBP890481 indicated that the problem of improperly closed CAQs is not a QA programmatic deficiency in that only a small number of NCRs were involved. In addition to NCR 5384, 5764, and the CAQs identified above, the following CAQs have been previously identified as being improperly closed. This appears to indicate a broader problem than was initially described.

1. CAQR WBP870528 for units 0 and 1 and WBP870529 for unit 2, identified that NCR 5737 was improperly closed. The NCR was closed without properly inspecting or documenting results of a walkdown of cable tray supports.

2. CAQR WBP890277 was signed by Nuclear Construction (NC) as complete although one item is still pending. WBP890277 documented that QA records were being stored in engineering files outside the DCRM vault. Corrective action included removing all QA records from the file cabinets and transmitting them to DCU."

3.1.4 Transfer of CAQs From CAQR WBQ900069 to Reopened CAQR WBP890481, Rev. 2

On February 28, 1990, CAQR WBQ900069 was superseded and closed by reopening CAQR WBP890481 as Rev. 2, including all improper closures of CAQs in CAQR WBP890481, and revising CAQR WBP870036, Rev. 4, to include all problems with records. The description of condition included the following:

"This CAQ partially superseded NCR 6722 and SCR 6722-S.

NCR/SCR WBN 6722-S describes the inadequacy in documenting the dispositioning and closure of NCRs 5384 and 5764. This CAQ (890481) addresses the shortcomings of the problem of improper NCR dispositioning and improper closure of CAQs ..."

The licensee determined that Rev. 2 of CAQR WBP890481 described a programmatic deficiency due to widespread failure to implement NCR procedure requirements. The extent of condition review, dated May 3, 1990, stated that the root cause was personnel carelessness causing improper rollover. As preventative action, the licensee reviewed 12 randomly selected rollover CAQRs and identified no deficiencies.

CAQR WBP890481 was rolled into Significant Corrective Action Report (SCAR) WBP890481SCA, Rev. 2, on February 13, 1991. The SCAR was subsequently closed on July 17, 1991.

From a review of the involved CAQRs, the team determined that the improper closure of CAQR WBP890481, Rev. 1, identified by CAQR WBQ900069 and the broader problem of improperly closed CAQs identified in the CAQR WBQ900069 "Note", were not included in the description of condition for CAQR WBP890481, Rev. 2. The team concluded that the failure to "rollover" the improper closure of CAQR WBP890481, Rev. 1 and the "Note", from CAQR WBQ900069 to CAQR WBP890481, Rev. 2, represented inadequate identification and correction of actions previously recognized and documented as being deficient. This is considered a violation of 10CFR50, Appendix B, Criterion XVI. It is identified as Apparent Violation 390, 391/92-29-01, Inadequate Corrective Action. Additional examples of this violation of corrective action requirements are described in subsequent sections of this report. The team concluded that the example described in this paragraph individually has limited safety significance but contributes to a more significant concern when viewed with additional examples described in other sections of the report.

The team reviewed CAQR WBP870036 to determine if it had received the transfers of NCR 5384 and 5764 CAQs specified by CAQR WBP890481, Rev. 2, as discussed in 3.1.6 below.

3.1.5 Transfer of CAQs From NCRs 5384 and 5764 to NCR 6723 and SCR 6723-S

The original identification of NCR 6723 is described in 3.1.1 above. It was to receive the Unit 2 CAQs from the improperly closed NCRs 5384 and 5764 and had been determined significant and upgraded to an SCR.

The team compared the list of items from NCR 5384, Rev. 2, that were designated for transfer to Unit 2, to the list of items identified in NCR 6723, entitled NCR 5384 List for Unit 2. The latter list of items was rolled over to SCAR SCRWBN6723SCA when NCR and SCR 6723 were redesignated as a SCAR in April 1991. The team found that the following unique identifiers and associated test numbers could not be located in the SCAR:

<u>Component No.</u>	<u>Test Nos.</u>
Unit 1: 1-PNL-99-R3	25B, 61C, 62A
1-PNL-99-R4	25B, 61D, 62A
1-PNL-99-R5	25B, 61D, 62A
1-PNL-99-R12	25A, 25B, 61C, 62A
1-PNL-99-R11	25B, 61D, 62A
1-PNL-99-R13-G	61A
1-PNL-99-R28	25A, 61C, 62A
Unit 2: 2-3T-292-3500	35A
2-5PP-67-675-A	57A
2-3PP-67-689-A	57A
2-4PL-30-3868-B	64A
Common: 0-CSP-292-3742/2	01A

The team concluded that SCR 6723-S and NCR 6723, Rev. 1, did not capture all of NCR 5384 Unit 2 missing records as shown in TVA's internal memo to files dated July 30, 1984. Thus, there was an improper rollover of NCR 5384 items into SCAR SCRWBN6723SCA. This is another example of Apparent Violation 390, 391/92-29-01, Inadequate Corrective Action. The licensee acknowledged that certain items could not be located in SCAR SCRWBN6723SCA.

3.1.6 Transfer of CAQs From NCRs 5384 and 5764 to CAQR WBP870036

As described in 3.1.1 through 3.1.4 above there were several transfers or rollovers of CAQs originally identified in NCRs 5384 and 5764. The team found that the last of these transfers was described in SCAR WBP890481SCA, Rev. 2, page 31, which stated that "the Unit 1 missing documentation identified in NCRs 5384 R2 and 5764 R0 was included in WBP870036SCA R5 as Problem Unit 772." The latter statement was dated May 1, 1991. SCAR WBP890481SCA, Rev. 2, was closed as complete in July 1991.

The team reviewed CAQR WBP870036, Rev.5 (now designated a SCAR), and found that the list of missing records had been included. The list contained both Unit 1 and Unit 2 component test identifiers. It was annotated, designating some of the identifiers to "Unit 2, NCR 6723". The team observed that a number of the

identifiers designated for the Unit 2 NCR were for Unit 1 and Common Unit components. Concern was expressed to the licensee that this resulted in Unit 1 CAQs being incorrectly transferred to a Unit 2 NCR. The explanation offered was that this would be reviewed in the process of closing out CAQR WBP870036, and any errors found would be corrected. The team did not consider this to be a satisfactory explanation in view of the licensee's history of deficient transfers of CAQs. The inadequacies in the transfer of the Unit 1 items to Unit 2 hold status were considered a further example of inadequate corrective action that is being identified as Violation 390, 391/92-29-01, Inadequate Corrective Action. It represents not only inadequate action to preclude recurrence of rollover deficiencies, but inadequate action to preclude recurrence of inappropriate transfers of Unit 1 CAQs to Unit 2 hold status, as discussed in Section 4.

3.1.7 Transfer of CAQs From NCR 7237 to CAQR WBP870036

NCR 7237, Rev. 0, issued in March 1987, identified the CAQ of test numbers being deleted from the licensee's Records Accountability Program (RAP) by the Quality Assurance Records Unit per verbal request from the Construction Engineering organization. The RAP was used to determine the status of installation inspections and tests. Deletion of tests based on a verbal request was contrary to requirements in instruction QCI-1.08, Quality Assurance Records, Rev. 12, section 6.6.1. The team determined that section 6.6.1 of QCI-1.08 allowed deletion of a test number, but it had to be performed in a written manner and forwarded to the QARU supervisor with reason/instruction given.

NCR 7237 was upgraded to SCR 7237-S and then invalidated on September 4, 1987. The basis recorded for the invalidation was that it was superseded by CAQRs WBP870036 for Unit 1 items and WBP870037 for Unit 2. The team found that the problem was not promptly rolled over into either of these CAQRs. CAQRs WBP870036 and WBP870037, Revs. 0 and 1, initiated in March 1987, referenced NCR 7237, but its CAQ was not included in the description of condition sections of these CAQRs. Revs. 2, 3, and 4 of CAQR WBP870036 and Rev. 2 of WBP870037, which were issued after April 29, 1988, no longer referenced NCR 7237. The CAQ of NCR 7237 was not rolled over to these CAQRs.

On February 5, 1990, Unit 1 CAQR WBQ900069 documented that SCR 7237-S had been improperly closed in that, although it was invalidated based on having been superseded by CAQRs WBP870036 and WBP870037, the specific problem identified in SCR 7237-S had not been transferred. With the subsequent invalidation of WBQ900069, the improper closure of NCR/SCR 7237 was reported in the reopened Unit 1 CAQR WBP890481, Rev. 2. The team verified that the NCR/SCR 7237 condition was later added to CAQR WBP870036 prior to closure of CAQR WBP890481, Rev. 2. However, correction of the Unit 2 CAQR WBP870037 did not occur until several months after closure of the Unit 1 CAQR WBP890481, Rev. 2 (subsequently identified SCAR WBP890481). Inadequacies in the identification and disposition of the failure to transfer the NCR/SCR 7237 condition to CAQR WBP870037 are discussed further in 3.2(3) below.

The team found that the RAP is being replaced and will not be needed either to document status or as a record. See Section 5.1 for additional discussion.

3.1.8 Transfer of CAQs From SCR 7209-S to CAQR WBP870036

SCR 7209-S, Rev. 0, was initiated on February 27, 1987, identifying that inaccurate engineering evaluations had been performed to justify missing test records. This SCR contained five examples of engineering evaluations, performed in accordance with QCI-1.08 Attachment D, that were described as unsatisfactory. They had no NCR number as required by QCI-1.08, section 6.5.5, and had apparently been performed without the required NCR identification and disposition.

SCR (and the associated NCR) 7209 were invalidated on August 12, 1987. The team found that the specified reason was that it was superseded by CAQR WBP870036.

With the exception of one of the evaluations, referenced to Corrective Action Tracking Document No. 80516-WBN-02 and believed to be originally done in error and then properly dispositioned by NCR 7209, Rev. 1, the team found that the reportedly deficient engineering evaluations were not rolled over to CAQR WBP870036 for disposition. The team concluded that NCR/SCR 7209 was improperly closed. Failure to roll over all of the NCR/SCR 7209 items into CAQR WBP870036 is another example of Apparent Violation 390, 391/92-29-01, Inadequate Corrective Action.

The team noted that most of the conditions referred to in CAQR WBP870036 were from the electrical discipline. The deficient engineering evaluations in NCR 7209 were from other disciplines.

3.1.9 Transfer of CAQs From NCR 7214 and 7215 to CAQR WBP870036

NCRs 7214 (Unit 1) and 7215 (Unit 2) were initiated in March 1987. Adverse conditions identified included:

- (1) NCRs were not identified on engineering evaluations performed for missing records. (When there was no existing record available which could be used to satisfy a requirement, acceptance based on a written engineering evaluation was permitted by QCI-1.08. In such cases, QCI-1.08 required the missing record to be identified and dispositioned on an NCR. It also specified that the evaluation form given as its Attachment D be used for the evaluation and that the NCR number be recorded on the form.)
- (2) Per QCI-1.08, a % (percent) sign was to be used in the RAP to identify missing test records that had been accepted on the basis of an engineering evaluation. However, some records statused with a % in the RAP had not actually been evaluated. The acceptance was based on statements that the inspection/test had been performed, indicating it would be performed in the future, or simply that the individual writing the evaluation states acceptance.
- (3) The % sign was sometimes used incorrectly in the RAP in place of a + or a \$ sign. (QCI-1.08 specified the use of a + sign to designate that a previous document satisfied the record requirement. It

specified use of the \$ sign to designate that a record requirement was satisfied through use of a former record that did not meet current QC requirements but met licensing requirements.)

NCRs 7214 and 7215 were revised to Rev. 1 and then upgraded to SCRs 7214-S and 7215-S. NCR/SCR 7214 was invalidated August 1987 on the basis of its CAQs being transferred to superseding CAQR WBP870280. All of conditions were rolled over into WBP870280. CAQR WBP870036, Rev. 2, subsequently canceled WBP870280 on the basis that it captured the description of condition of WBP870280.

The team reviewed CAQR WBP870036 Revs. 2 through 5, and determined that not until the issuance of Rev. 5 were all of the description of nonconformance items from NCR 7214 rolled into CAQR WBP870036. Approximately twenty months passed before the concern about use of the % designator in place of a + or \$ was incorporated into CAQR WBP870036 as condition G,e.

The proposed corrective action for CAQR WBP870036 condition C, which included condition G,e by reference, was to perform a sample review of engineering evaluations of inspections and tests statused with a % sign but not covered by an NCR. The sampling was to be performed according to procedure QMI 818.2. The team found that this procedure provides instructions for the preparation of sampling plans only. The confidence level to be used was not specified by either the procedure or the CAQR. Furthermore, the corrective action did not specify criteria for evaluation of the sampled data. This was identified as Unresolved Item 390, 391/92-29-04, Adequacy of Sampling. It will be evaluated further by NRC Region II following the licensee's closeout of SCAR WBP870036SCA.

In reviewing licensee monitoring reports, the team found that the licensee had identified the concern of improper invalidation of CAQR WBP870280 in early February 1990. Monitoring report QWB-M-90-0014 indicated that the description of the problem in CAQR WBP870036 did not fully address the original condition of CAQR WBP870280. Section 3.2 (2) below refers to this finding.

3.2 QA Monitoring of Transfers

The team reviewed seven reports of QA monitoring of the actions that had been taken in closing and resolving records related issues through CAQRs, NCRs, and SCRs: Monitoring Reports QMB-M-90-0008, -0014, -0027, -0039, -0047, -0050, and -0055. All of the monitoring described in these reports was performed in January 1990 and the reports were issued during January and February 1990. They addressed inadequate closures of the involved CAQRs, NCRs, and SCRs. The closure process for these CAQ reports involved transfer or rollover of conditions to superseding CAQ reports.

The purpose of the team's review was to assess the effectiveness of the QA organization in providing timely identification of any deficiencies in the transfer actions. Several of the monitorings had been performed to investigate employee concerns that CAQ reports had been closed without all CAQs being resolved or transferred to the superseding CAQ reports.

The team found that QA appeared effective in discovering inadequacies in actions to resolve records issues in the examples they monitored, and the inadequacies

were well documented in the monitoring reports. However, formal identification of these inadequacies for correction was untimely. Three instances were noted where deficiencies were described in QA monitoring reports but not promptly identified on CAQRs for correction in accordance with the applicable procedures:

- (1) Monitoring report QWB-M-90-0008, conducted on January 8, 1990, identified the improper closure of CAQR WBP890481, Rev. 1.

This adverse condition was not identified on a CAQR for 28 days until CAQR WBQ900069 was initiated on February 5, 1990.

- (2) Monitoring report QWB-M-90-0014, conducted on January 9, 1990, identified the improper invalidation and closure of CAQR WBP870280.

This adverse condition was not identified on a CAQR for 27 days until CAQR WBQ900069 was initiated on February 5, 1990.

- (3) Monitoring report QWB-M-90-0047, conducted on January 26, 1990, identified the improper closure of SCR 7237-S. Specifically, SCR 7237-S was closed because the condition identified was to be resolved on CAQR WBP870036 (Unit 1) and CAQR WBP870037 (Unit 2); however, the monitoring report concluded that the specific condition from SCR 7237-S was not included in either of the CAQRs. Subsequently, on February 5, 1990, CAQR WBQ900069 was issued identifying improper closure of SCR 7237-S. This addressed the failure to describe the SCR 7237-S condition in CAQR WBP870036. However, this CAQR only applied to Unit 1 and Common Unit items and no Unit 2 CAQR was issued to address the failure to place 7237-S Unit 2 conditions in CAQR WBP870037 for disposition.

The team could not identify any Unit 2 CAQR which documented the failure to include the specific condition from SCR 7237-S in CAQR WBP870037.

In addition, the team determined that the specific condition identified in SCR 7237-S was not added to CAQR WBP870037 until October 24, 1991, when it was added to Rev. 3 of SCAR WBP870037SCA. This action was taken more than a year after monitoring report QWB-M-90-0047 identified the improper closure of SCR 7237-S.

The TVA procedure applicable to correction of the improper CAQR closures disclosed in the above monitoring was AI 2.8.14, Rev. 2, Corrective Action. This procedure requires prompt identification and correction. The above instances of deficiencies, which were disclosed by the licensee's monitoring but not promptly identified for correction, represent a violation of 10CFR50, Appendix B, Criterion XVI. This is identified as an additional example of Apparent Violation 390, 391/92-29-01, Inadequate Corrective Action.

4.0 EXTENT OF CONDITION AND UNIT 2 HOLD STATUS REVIEWS

The team evaluated the adequacy of the licensee's extent of condition reviews, and the unit 2 hold status or inactive status reviews for CAQ reports. The procedures governing these reviews were:

- AI-7.11, Evaluation for Unit 2 Hold Status
- AI-2.8.14, Corrective Action
- AI-2.8.15, Corrective Action
- SSP-3.04, Corrective Action Program

NRC Violation 390, 391/91-03-05 identified that CAQRs had been placed in the Unit 2 hold status without determining that the condition either did not apply to Unit 1 or that the condition had been already documented for Unit 1. To correct the problem TVA initiated SCAR WBSCA910169, that required the review of all CAQs in the Unit 2 hold status. Out of over 700 CAQs in this status, 25 were found to have been improperly classified and should have been in the Unit 1 active status. The corrective actions were reviewed by the NRC and the violation was closed in NRC Inspection Report 390, 391/91-31. During this inspection the team identified apparently inadequate reviews that were done on NCRs 7010 and 7029 as part of the corrective action for Violation 91-03-05. The team also found that some issues on SCAR SCRWB6723SSCA had not been corrected. These are discussed below.

During this inspection the team reviewed corrective action document files to evaluate whether they were being dispositioned in accordance with the above referenced procedures. In addition, related information contained in the following documents was reviewed:

- CAQR WBP890141
- SCAR SCRWB6557SSCA
- PER WBP910069PER
- WBPER 910378, Rev. 0
- WBPER 910078, Rev. 0
- WBPER 910285, Rev. 0
- WBPER 910371
- SCAR SCRWB6479SSCA
- WBSCA 910279
- WBSCA 910232
- WBSCA 910196

The team's findings for the files are described in the subsections that follow.

4.1 SCAR SCRWB6723SSCA

This SCAR documented that NCRs were being closed without adequate documentation and was for Unit 2. It listed items that primarily had Unit 2 identifier numbers, had some common unit identifiers, and had three items with Unit 1 identifiers. A Unit 2 hold status evaluation was completed on September 18, 1989, which would indicate that the items had no impact on Unit 1 startup and operation. The team asked TVA for their justification that the following three

Unit 1 items and three randomly selected Common Unit identifiers had no impact on Unit 1 startup:

- 1 STR-46-56A-S Test 25A
(Main Feed and Auxiliary Feedwater turbine control)
- 1 PNL-99-R12-G Tests 25B, 25A, 61C, 62A
(Reactor Protection System)
- 1 PNL-99-R13-G Tests 25B, 67C, 62A
(Reactor Protection System)
- 0-ARB-39-22A Test 25A
(Carbon Dioxide System)
- 0-MTR-31-49/3-B Tests 25A, 62A
(HVAC System)
- 0-CTSP-299-2086 Test 0A
(Yard conduit and cable tray)

TVA's response was that all of these items were required for Unit 1 operation, but that they were also listed on NCR 6722 for Unit 1 and had been incorporated into CAQR WBP870036 which was still open for Unit 1. The team reviewed WBP870036 and found that each of the items with the above identifiers were included but had been lined out with a note that they were transferred to NCR 6723 (now designated SCAR SCRWB6723SSCA) returning them to Unit 2 Hold Status. This is considered to be in violation of 10CFR50, Appendix B, Criterion XVI and the TVA corrective action program procedure AI 7.11, Appendix A, that specifies that no items required for Unit 1 operation be placed in Unit 2 Hold Status, and is another example of Apparent Violation 390, 391/92-29-01, Inadequate Corrective Action.

4.2 NCR 7010

This NCR was initiated on September 25, 1986, identifying that two cables (1PM933F and 2PM5165D) from Belden Contract 74C7-85259 were installed inside Unit 2 containment that did not meet Class 1E environmental qualifications. The cause was identified as an insufficient method to control use of material by construction. The corrective action was to replace the two cables by Workplan FRO68I. The NCR was identified as not significant on September 29, 1986. The Unit 2 Hold Status Evaluation, performed September 30, 1988, stated that this item did not involve a programmatic deficiency for a Unit 2 process/program, even though the NCR stated the issue was caused by an inadequate method to control use of material by construction. The Hold Status was again reviewed by the licensee's Management Review Committee on April 21, 1991, who again concluded that the NCR did not represent a programmatic problem. Therefore, the NCR was not reviewed for Unit 1 applicability and it was rolled over to a lower level CAQ reporting document because it was considered not significant. Based on the above, the team asked the licensee the following questions:

How could the condition be considered not significant, especially since it occurred due to the inadequacy of an important program to control the use of construction materials?

How did TVA determine that no cable of this type had been used in Unit 1?

Licensee personnel responded that the NCR was considered nonsignificant because it had been reviewed in accordance with AI-2.8.15, Rev.1, Appendix B, and the Management Review Committee determined that it did not meet the SCAR criteria. They stated that, since NCR 7010 is on Unit 2 Hold, the cause (not the root cause) and associated corrective actions will be reviewed prior to closure which probably will not occur until some time after Unit 2 construction restart. The team concluded that the NCR does meet the requirements for a SCAR according to AI-2.8.15, Appendix B, Condition 5, "Conditions which impact the plant's ability to mitigate design basis accidents;" and that the licensee's reviews erroneously concluded that the issue did not represent a programmatic problem. The licensee determination resulted in the issue not being reviewed for Unit 1 applicability. The failure to identify the cause of NCR 7010 as a programmatic problem, potentially applicable to Unit 1, is considered to be another example of a violation of 10CFR50, Appendix B, Criterion XVI, as implemented by TVA procedure AI-7.1.1. This has been identified as an example of Apparent Violation 391/92-29-01, Inadequate Corrective Action.

4.3 NCR 7029

This Unit 2 NCR identified that turning vanes had not been installed in an HVAC duct as required by TVA drawing 47W910-1, Note 1A. Both TVA Engineering and QC had failed to recognize the absence of the turning vanes. The NCR referenced a memorandum from the Watts Bar Acting Project Engineer to the Project Manager, dated November 13, 1986, that stated that the disposition should be rework and that, "Since these Unit 2 duct segments have not been flow-tested, have proved to be borderline in performance on Unit 1 and are accessible for rework. I see no justification for further evaluation to use-as-is ." The NCR did not show rework as the Correction Method, and identified the problem as nonsignificant on October 8, 1986, more than one month before the engineering evaluation was complete on November 13, 1986. On April 21, 1991, the NCR was reviewed by the Management Review Committee who concluded that the NCR was appropriately placed in Unit 2 Hold Status, making no mention of checking Unit 1 to determine if the turning vanes were in place; and the NCR was rolled over to a lower level CAQ reporting document in accordance with AI-2.8.15, Att. 1, since it was considered to be nonsignificant.

The team questioned the identification of the NCR as nonsignificant, in light of the engineering evaluation that stated that Unit 1 experience had already identified the design to be borderline. The team also questioned what TVA had done to ensure that the turning vanes were installed in Unit 1, especially in those instances where the design was borderline. In rolling over NCR 7029 to Unit 2 Hold Status, no root cause and no extent of condition analyses would be done, and the re-review for closure would not be done until some time in the future, after construction restart on Unit 2.

Based on the information available, the team concluded that NCR 7029 appeared to meet the criterion for a SCAR in accordance with AI-2.8.15, Appendix B, Criterion 5, "Conditions which impact the plant's ability to mitigate design basis accidents". No evidence was produced by TVA to indicate that Unit 1 ducts had been inspected to verify that the turning vanes were in place. Licensee personnel indicated that additional data could be provided to support the adequacy. This issue is considered unresolved pending NRC evaluation of any

information from TVA concerning their Unit 1 applicability evaluation. It is identified as Unresolved Item 390, 391/92-29-05, Applicability of Unit 2 HVAC Missing Vanes to Unit 1.

4.4 NCR 6173

This Unit 2 NCR identified several bellows type containment penetrations that were found to be out of specification dimensionally. An engineering analysis dispositioned all of these "use-as-is". However, for three (Mark Nos. 2x-20A, 2x-20B and 2x-21) the disposition stated that following a Safe Shutdown Earthquake (SSE) or a LOCA these three would need to be reinspected. The team questioned the wisdom of dispositioning in this manner and asked if TVA had a system for identifying dispositions of this type to make sure that the required action could be carried out should such events occur. Licensee personnel responded that their engineering analysis indicated that these penetrations would have torsional movements that are moderately in excess of the allowable values and that following a SSE or LOCA the torsional limits could be exceeded. They stated the penetrations will be leak tight but may be moderately distorted. They further stated that this action item is tied to Open Item Status Log Item U1001 which provides adequate followup. This is identified as an inspector followup item to make certain that placing this item on the Open Item Status Log will result in the proper reviews following a SSE or LOCA. This matter is designated Inspector Followup Item 391/92-29-06, Penetration Reevaluation Following SSE or LOCA.

4.5 SCAR WBP890277SCA

Originally this was a CAQR that identified problems with QA records and record storage. It had been closed in December 1989. QA review concluded that it had been closed improperly. Among other things, QA concluded that the extent of condition review was not done. In February 1991 it was rolled over into a SCAR and the extent of condition review was subsequently done as documented in memoranda in the file dated April 25, 1991 and May 7, 1992. The team did not identify any continuing concern with regard to this SCAR, which remains open.

5.0 RECORDS RETRIEVAL

The team evaluated the licensee's capability to retrieve QA onsite records. The evaluation was partly based on observations of the ability of licensee personnel to provide records requested for the other topics covered by this inspection and partly on their ability to retrieve specific installation and engineering records. In the check for installation records, it was found that the licensee's latest database was still being implemented and did not contain some modification work. Also, the team identified minor concerns regarding difficulties exhibited by licensee personnel in retrieving a missing portion of an open SCAR and in the inability of records personnel to retrieve past Engineering Change Notices without assistance from Engineering personnel. Details of the team's evaluation and findings are described below preceded by related background information obtained in discussions with plant personnel.

5.1 Historical Background on Programs Used to Determine the Status of Required QA Records and for Record Retrieval

The principal means of determining the status of test records at Watts Bar in past construction work was the Records Accountability Program (RAP). This is indicated by the frequent referrals to the RAP in the records-related CAQs which were the main subject of this inspection. The RAP was developed at the beginning of Watts Bar construction by the TVA Nuclear Construction (NC) and Nuclear Engineering (NE) organizations to provide the following information:

Unique identification of plant systems, structures, and components.

Identify fabrication, installation, and testing requirements of the above.

Track the status of the above requirements at item and/or activity level.

Provide additional information such as drawing number, location, transfer boundary, contract number, and other information requested by NC and NE.

The licensee stopped updating the Unit 1 RAP around March 1985. This change occurred when the site anticipated Unit 1 would be operational within a short period of time and plant systems were transferred to the Modifications group which was a part of the Operations organization for the plant. Modifications worked to different programs and procedures than had been used by Construction and it implemented tracking by workplans and maintenance requests. An Outstanding Work Items List was used. Except for certain limited applications needed during the current "hold" period, Unit 2 RAP updating was stopped around October 1988.

The team found that the RAP was not considered nor controlled as a QA record. It apparently contained some incorrect data that was recognized by the licensee and identified on CAQ reports. However, it was never corrected because it was inactive.

The RAP will no longer be needed when the licensee completes implementation of the present program, the RMS (Records Management System). The RMS is now operational and, when completed will provide the status of items by unique identifiers. The RMS will contain the construction data, CAP data if applicable, engineering evaluation data done under the CAPs, and workplans data by workplan number. The licensee indicated this program would be completed, with all the required data entered, by August 1993. In discussing the status of the present RMS program, the team determined that workplans generated since the transfer of systems to Modifications had not yet been entered into the system.

5.2 Evaluation of Retrievability of Records

5.2.1 Installation Records

To assess the retrievability of installation records, the team selected pipe support number 1071-464-2-2-3 and requested that the RMS retrieve all data associated with this support. The data provided indicated the support was installed and inspected on September 8, 1981. The records also indicated the support was constructed to a support variance sheet and found acceptable. Other data was also retrieved such as the typical drawing (47A053-150 R1), NCR 4164, that dealt with the pipe support span, and Records CAP activity that identified

a problem with support identification number changes (reference SCAR WBSA910227). All data from the RMS appeared to show the support was installed and acceptable. However, a team member knew from a previous inspection (Inspection Report 390/92-09, paragraph 4.b) that the support had been removed by Modifications Workplan D-15380-06. The workplan was issued on November 16, 1991, and was closed with the support deleted and removed on March 24, 1992. The team found that this type of data will not be available in the RMS until the specific Modifications workplans are entered into the program, presently scheduled for completion by August 1993. The team determined that the use of the RMS for finding the complete data associated with installation of a specific item was not yet fully functional, in that modifications data had not been combined with the construction data for specific item identifiers.

5.2.2 Engineering Change Records

In addition to the above check for specific installation records, the team also asked licensee personnel to retrieve a sample of engineering records. The following Engineering Change Notices (ECNs) and Field Change Requests (FCRs) were requested:

<u>Number</u>	<u>Subject</u>
ECN 2529	HPFP Hanger Modification
ECN 2945	Cutting of Boron Injection Line
ECN 3389	Additional HPFP Hose Cabinets
ECN 4645	Interference Removal
ECN 3008	ERCW Locking Devices
FCR FS-250	Breaker Size Change, Setpoint, RX Vent 1A-A
FCR NP-704	Allow for Removal of ERCW Pumps
FCR 011	DG Air Start Piping/Hanger Modification

The licensee was able to provide the above documents from controlled microfilm records only after a great deal of difficulty and several days had past. Retrieval occurred only when a licensee NE representative went to records management and operated the system. Regular records clerks were not able to perform the retrieval of complete copies. Once the NE representative was able to produce the documents from microfilm the team compared the information with that found in the original documents to verify that it was complete. The team determined that the licensee could produce complete documents but a noticeable weakness existed in retrievability. The original copies of the ECNs and FCRs were not stored in a controlled or qualified fire rated storage facility. This makes retrievability of these records from microfilm important.

5.2.3 Records Requested for Other Areas of This Inspection

The team further evaluated the adequacy of the records retrievability process based on the documentation provided in response to the various information requested by the team for the inspection. It was found that all data requested by a Record Information Management System (RIMS) number were retrievable in a timely manner. Except in the case of records associated with still open SCAR WBP870036, the team did not note any records that were not readily retrievable. In the case of WBP870036, a missing "Attachment C" referenced from Corrective

Action 1, was not included with the SCAR. Initially, licensee personnel incorrectly identified Attachment C as being a Sargent and Lundy Report or a portion of the report. However, following additional questioning from the team, they identified the missing attachment as a list of Problem Units and proposed dispositions. A copy was provided to the team with the explanation that it had been filed in a separate folder behind WBP870036, and had not originally been recognized as part of that document.

6.0 DESIGN DOCUMENT CONTROL

6.1 Design Changes

The team reviewed and assessed the licensee's program for controlling design changes. Particular attention was directed to the measures taken by the licensee to ensure that configuration was not affected by concurrent design work performed by two or more design engineers working independent of each other. Specifically, measures must exist to ensure that information on existing configuration, drawing changes and unimplemented design changes is available to design engineers. This is especially important considering that there are separate groups (TVA and EBASCO) doing design work on site at Watts Bar. The team held discussions with management personnel from the Watts Bar Nuclear Engineering (NE) and Document Control Records Management (DCRM) organizations. All the procedures which control the existing design process and for the period of 1988 - 1991 were reviewed.

During this review the team determined that two separate processes had been used at Watts Bar to control design activities. Prior to 1987 the design change process was controlled by use of Engineering Change Notices (ECNs) and Field Change Requests (FCRs). After 1987 the process was controlled by use of Design Change Notices (DCNs) and Field Design Change Notices (FDCNs). During both periods workplans were the controlling documents for actual implementation of hardware modifications in the field.

When used, ECNs were not considered by the licensee as an actual design output document but more as a design scoping document which identified the required design outputs. An ECN was closed after the required drawing changes occurred, although the workplan might not yet be implemented. The later DCN was of a much broader scope and was considered a design output document which contained the applicable Drawing Change Authorizations (DCAs) for the affected drawings. The newer DCNs can not be closed until the affected drawings are changed and field work completed. FCRs were generally used to revise an ECN from the field whenever a problem was identified during the work. However, an FCR could in some cases be used to directly implement a change without a parent ECN. Prior to 1987 workplans could also result directly from problem identifying documents such as NCRs and no parent ECN would exist. After 1987 FDCNs were used to revise a parent DCN from the field. During the period 1987 to 1990 unimplemented ECNs for Unit 1 were rolled into DCNs unless a significant amount of work had been started, in which case the ECN was completed as an ECN. The team was informed that work associated with all Unit 1 ECNs was now either completed or the ECN was rolled into a DCN.

Starting in 1987 with the newer DCN process the licensee used a database called Design Change Document Tracking System (DCDTS). This database was employed by design engineers to identify all applicable closed or in-process changes for a particular drawing. This database was later improved and renamed Document Control/Change Management (DCCM). It currently remains in use.

The team reviewed EAI-3.05, Design Change Notices, Rev. 8, which provides the current procedural controls for the DCN process. Step 5.1.7 requires that the Task Engineer query the DCCM and screen for any changes that are posted in DCCM against the affected drawing and consider any changes that are not yet incorporated. The team noted that this step did not specify a timeliness requirement for this query of the DCCM. The team discussed this potential problem with licensee NE personnel. The team was then shown the EBASCO DCN Preparation Instructions (referred to as the cookbook), which reportedly used by all TVA and EBASCO design personnel in addition to EAI-3.05 when performing design activities. A review of this instruction revealed that it included specific steps for design activities. These steps included a query of the DCCM at the beginning of the activity to ensure that all outstanding designs were considered and again during the DCA checking process to ensure that all prerequisites were identified and considered. The team selected several DCNs recently issued and found none that involved excessive time frames.

The team reviewed WBEP-5.03, Design Change Notices, Rev. 3, which specified the procedural controls for the DCN process in early 1989. Step 5.2.7 gave the responsibilities of the Responsible Engineer. In developing a DCN the he was required to check the affected As Constructed and As Designed drawings against both unincorporated changes posted in the DCDTS and against any posted change documents (ECNs, FCRs). The team was informed that the latter check was necessary during that time frame due to the existence of ECNs and FCRs which had not yet been loaded into DCDTS. After 1991 the DCCM which replaced the DCDTS contained information on all Unit 1 ECNs and FCRs and this was no longer required.

The team also held discussions with management personnel from the Site Quality Organization concerning completed quality audits in this area. The team was provided Audit Report Nos. WBA89923 and WBA89007. These reports documented reviews performed by the TVA Technical Audit Group from Chattanooga for the periods July 3 - August 3, 1989 and February 5 - March 9, 1990. The audits covered Watts Bar activities in the areas of Design Basis Verification Program, design change control and implementation of the DCDTS. The team noted that during the performance of Audit WBA89923 a review of configuration control was performed. During this review several ECNs and DCNs were reviewed and a query of DCDTS was performed by the licensee auditor to obtain information necessary to verify the adequacy of the design control measures. Although no significant problems were identified for the ECNs and DCNs reviewed, the licensee auditor did identify that the DCDTS had not been fully loaded with Unit 1 ECNs and that several DCAs associated with DCN 0-01280-B had not been entered into DCDTS. The team found that these problems have been since corrected.

The team determined that the existing design control process appeared adequate to prevent problems associated with concurrent design activities. Additionally, the team noted that EAI-3.09, Incorporation of Change Documents Into Drawings,

now requires incorporation of change documents into the important "primary" and "critical" drawings within 15 days of work completion. This requirement should ensure that a loss of configuration does not occur due to multiple unimplemented drawing changes. The current DCN process appeared a significant improvement over the previous ECN process.

6.2 Control and Availability of Drawings, Including Availability of Previous Revisions

The team performed a limited assessment of the availability and control of drawings. Availability and use of controlled drawings was verified in the design work area. Retrievability of superseded revisions was verified by having licensee personnel retrieve examples selected both from current revisions of drawings and from completed workplans. No deficiencies were identified by the team in regard to either control or retrievability, as described below.

The team observed that NE had a complete set of aperture cards containing the controlled drawings for Watts Bar. This set was one of four at the site. It provided the design engineers a readily available source of controlled drawings at Watts Bar.

The team noted that a set of controlled drawings (actual drawings which were stamped as controlled rather than aperture cards) was available in the EBASCO trailer for use by those contractor design personnel. Examples of these drawings had been checked by a team and compared with the most current drawings from DCRM during a previous inspection period. The team did not identify any out-of-date drawings at this location.

The team selected 10 superseded revisions of drawings based on information obtained from current revisions of the drawings along with 10 superseded revisions of drawings based on information contained in completed workplans located in the records storage vault. DCRM personnel were asked to provide the superseded drawings from the site records storage facility. The licensee personnel were able to provide 15 of the 20 requested drawings within a very short time period. The remaining 5 were produced within 24 hours from aperture cards located in TVA's Knoxville office. The drawings requested by the team were as follows:

47W862-2, Rev. G	47W611-3-4, Rev. 3
47W862-2, Rev. D	47W611-61-1, Rev. 3
47W865-7, Rev. L	47W611-62-6, Rev. 2
47W865-7, Rev. K	47W611-65-2, Rev. 4
47W865-7, Rev. F	47W611-67-2, Rev. 3
47W605-2, Rev. 16	47W611-62-3, Rev. 4
47W845-2, Rev. 21	45B1773-2B, Rev. 3
37W206-8, Rev. 21	45W760-67-14, Rev. 7
37W206-8, Rev. 3	45W1653-1, Rev. 7
15W810-21, Rev. 7	47W605-21, Rev. 13

7.0 Actions on Previous Inspection Findings (92701)

7.1 (Closed) Unresolved Item 390/90-06-02, Improper Closure of CAQRs.

The issue of inappropriate CAQ closures was identified in NCR 6722 and SCR 6722-S (both Unit 1), and in NCR 6723 (Unit 2). Reviews conducted in NRC Inspection 90-06 identified that inappropriate closure of CAQRs was still occurring. Item 390/90-06-02 was opened to follow-up on the continuing problem.

Additional examples of inadequate CAQ closures were documented in Inspection Reports 90-19 (Violation 90-19-01), 90-27 (Violation 90-27-01), 90-31 (Apparent Violation 90-31-01), and 91-24 (licensee identified findings). The reasons for the inadequate closures included: (1) corrective actions which had not been completed, (2) corrective actions which did not address the specific problems identified in the CAQs, (3) implemented corrective actions which were ineffective in preventing recurrence, and (4) failures to perform proper root cause analyses. As part of the response to Violation 90-27-01, the licensee implemented changes to the corrective action program to ensure the proper disposition of future CAQs and conducted a statistical sampling of closed corrective action reports to address closure adequacy in old program CAQs. This sampling examined 60 CAQRs and 60 PRDs (Problem Reporting Documents used for less significant CAQs) and was termed a 60/60 review. It determined that no hardware was affected. The NRC inspected and closed 90-27-01 in inspection 91-29, but did not concur that the sampling demonstrated that old program CAQs had been adequately corrected. It indicated that program corrections were considered effective in assuring subsequent closures would be satisfactory, but that the adequacy of past closures was still in question and would continue to be followed as item 90-06-02.

The adequacy of the new CAQ program was further addressed in NRC Inspection Report 92-09. A sampling review (12-6-3 review) being utilized by the licensee to ensure adequate CAQ closures was examined in the inspection and no concerns were identified.

During the current inspection, the team determined that inadequate closures of past CAQs had not been identified and corrected. This is demonstrated in the examples identified as Apparent Violation 92-29-01 in Section 2.1 of this report.

The adequacy of the new CAQ program was verified in Inspection 92-09. The remaining concern of inadequate closure of CAQRs under the old CAQ program will be evaluated during the follow-up for Apparent Violation 390, 391/92-29-01, Inadequate Corrective Action. Unresolved Item 390/90-06-02 is closed.

7.2 (Open) Unresolved Item 390, 391/90-08-08, Prompt Corrective Action.

This item identified NRC inspectors' concern that prompt corrective actions were not being taken to resolve CAQRs WBP870036 and WBP871002, which had been initiated in March and October of 1987, respectively. The inspectors noted that these CAQRs had already been open about 3 years at the time of Inspection 90-08 and that new examples of record deficiencies were being added to them without resolution. It appeared that prompt resolution was not being accomplished.

In the current inspection the team found that these CAQRs remain open and are now identified as SCARs in accordance with the licensee's most recent corrective action program. The licensee indicated plans to complete disposition of these

CAQ documents by about March 1993. When the team requested the schedule for this completion for WBP870036, they were first provided with a schedule that indicated completion December 1993 instead of the March date. The schedule giving this date was identified as the Tracking and Reporting of Open Items schedule. When this was questioned by the team, licensee personnel stated that another schedule governed the completion, the Project/2 schedule. The team reviewed this latter schedule and found that it indicated an early finish date of February 1993 and a late finish date of April 1993.

The team questioned whether the licensee was continuing to allow excessive delays in correction significant CAQs. A previous external QA audit conducted in 1991 reported a large backlog of unresolved deficiencies with some deficiencies open for years (Ref. 1991 Cooperative Management Audit Program Audit of TVA transmitted via letter dated July 11, 1991). The team observed that WBP870036 and WBP871002 had been open about 5 years. The team found that the licensee had developed a performance indicator in response to the audit finding that indicated progress in closing Significant Corrective Action Reports (SCARs) open more than one year. A report provided to the team covering performance between October 1991 and August 1992 revealed there had been little or no progress in reducing the backlog of SCARs open more than one year. Approximately 230 were shown to be currently open and the average age was 4 years. The team expressed concern to licensee management regarding the apparent lack of progress in reducing the backlog of SCARs, such as WBP870036 and WBP871002.

Continuing concern in regard to this matter will be tracked in regard to item 90-08-08, which remains open. It is anticipated that this matter will be reexamined shortly after the expected closure date for SCAR WBP870036SCA. It is considered an indication of significant weakness in the licensee's corrective action program.

8.0 Exit Interview

The inspection scope and findings were summarized on October 21, 1992, with those persons indicated in Appendix B. The team leader described the areas inspected and discussed in detail the inspection results. Dissenting comments were not received from the licensee. Proprietary information is not contained in this report.

<u>Item Number</u>	<u>Status</u>	<u>Description and Reference</u>
390/90-06-02	Closed	URI - Improper Closure of CAQRs (Section 7.1)
390/90-08-08 391/90-08-08	Open	URI - Prompt Corrective Action (Section 7.2)
390/92-29-01 391/92-29-01	Open	Apparent Violation - Inadequate Corrective Action (Sections 3.1, 3.2, 3.1.4, 3.1.5, 3.1.6, 3.1.8, 4.1 and 4.2)

390/92-29-02 391/92-29-02	Open	URI - S&L and TVA Followup Reviews of Open Records Problems May Be Inadequate (Sections 2.3.1, 2.3.3, 2.3.5, and 2.3.6)
390/92-29-03 391/92-29-03	Open	URI - TVA Construction Engineering Evaluations Of Missing Records (Section 2.3.4)
390/92-29-04 391/92-29-04	Open	URI - Adequacy of Sampling (Section 3.1.9)
390/92-29-05 391/92-29-05	Open	URI - Applicability of Unit 2 HVAC Missing Vanes to Unit 1 (Section 4.3)
390/92-29-06	Open	IFI - Penetration Reevaluation Following SSE or LOCA (Section 4.4)

APPENDIX A - ACRONYMS AND INITIALISMS

ANSI	American National Standards Institute
ASRR	Additional Systematic Records Review
CAP	Corrective Action Program
CAQ	Condition Adverse to Quality
CAQR	Condition Adverse to Quality Report
CATD	Corrective Action Tracking Document
CFR	Code of Federal Regulations
CR	Completion Report
DCA	Drawing Change Authorization
DCCM	Document Control/Change Management
DCDTS	Design Change Document Tracking System
DCN	Design Change Notice
DCRM	Document Control Records Management
DCU	Document Control Unit
DG	Diesel Generator
DR	Discrepancy Report
ECN	Engineering Change Notice
ERCW	Essential Raw Cooling Water
FCR	Field Change Request
FDCN	Field Design Change Notice
HPFP	High Pressure Fire Protection
HVAC	Heating, Ventilation, and Air Conditioning
IFI	Inspector Followup Item
LOCA	Loss of Coolant Accident
NC	Nuclear Construction
NCIG	Nuclear Construction Issues Group
NCR	Nonconforming Condition Report
NE	Nuclear Engineering
NRC	Nuclear Regulatory Commission
PER	Problem Evaluation Report
PRD	Problem Reporting Document
PU	Problem Unit
QA	Quality Assurance
QART	Quality Assurance Records Team
QARU	Quality Assurance Records Unit
QC	Quality Control
RAP	Records Accountability Program
RIMS	Record Information Management System
RMS	Records Management System
RR	Resolution Report
RX	Reactor
S&L	Sargent and Lundy
SCAR	Significant Corrective Action Report
SCR	Significant Condition Report
SSE	Safe Shutdown Earthquake
TVA	Tennessee Valley Authority
URI	Unresolved Item
VSR	Vertical Slice Review
WBN	Watts Bar Nuclear

APPENDIX B - PERSONS CONTACTED

1. License Employees

R. Aikens, Administration Support Supervisor
*T. Arney, Senior Quality Project Manager
*J. Christensen, Site Quality Manager
S. Egli, Licensing Engineer
*W. Elliott, Engineering Manager, Nuclear Engineering
*D. Herrin, Licensing Engineer
*R. Johnson, Modifications Manager
*N. Kazanas, Vice President, Completion Assurance
*R. Lewis, Project Manager, QA Records
J. Lund, Manager, BOP Systems, Design Engineering
D. Malone, Quality Engineering Supervisor
G. Mauldin, Project Manager, Nuclear Engineering
*D. Moody, Plant Manager
*W. Museler, Site Vice President
*R. Norton, Technical Support Supervisor, Site QA
*P. Pace, Compliance Licensing Supervisor
G. Pannell, Site Licensing Manager
V. Patuzzi, Special Projects
R. Perkins, Procedure Administration Supervisor
*R. Pierce, Concerns Resolution Site Representative
R. Purcell, Startup and Test Manager
*T. Raley, Modifications Backlog Supervisor
*S. Tanner, Special Projects Manager, Modifications
*H. Weber, Engineering and Modifications Manager

2. NRC Employees

*K. Barr, Section Chief, Division of Reactor Projects
*J. Johnson, Deputy Director, Division of Reactor Projects

*Attended exit meeting