



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

Report Nos.: 50-327/90-08 and 50-328/90-08

Licensee: Tennessee Valley Authority
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License Nos.: DPR-77 and DPR-79

Facility Name: Sequoyah 1 and 2

Inspection Conducted: February 26 - March 2, 1990

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4/4/90
Date Signed

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4/4/90
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SUMMARY

Scope:

This announced inspection was conducted to determine whether the licensee had developed a comprehensive corrective action program to identify, follow, and correct safety-related problems. The inspection reviewed operational events, internally identified problems, QA audits, NRC inspection findings, the employee concern program and concerns brought by external persons or organizations, and special reports by internal organizations or other organizations.

Results:

The inspectors concluded that the corrective action program was adequate to identify, follow, and correct safety-related problems. The inspectors concluded for each of the areas reviewed that issues were adequately identified and entered into the corrective action program and that tracking to completion and trending of these issues was being accomplished. Corrective actions reviewed were adequate to resolve the problems. The inspectors concluded that the overall approach and attitude toward resolution of problems at the site was good. Several examples of corrective action procedure ambiguities were noted

in the criteria for when a condition adverse to quality report should be prepared. The licensee acknowledged this concern and intends to review the criteria for when these reports are required to ensure that ambiguities are removed. The licensee informed the inspectors that an improved program will be implemented in the near future which will make preparation of corrective action forms easier. The difficulty in properly filling out the forms was viewed by the licensee as a barrier to further improvement in the existing program.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

J. Bynum, Vice President, Nuclear Power Production
*W. Byrd, Acting Site Director
*C. Vondra, Plant Manager
*R. Beecken, Maintenance Manager
*J. Boyles, Employee Concerns Program Manager
*M. Burzynski, Site Licensing Manager
*M. Cooper, Compliance Licensing Manager
*T. Flippo, Quality Assurance Manager
*J. Gates, Technical Support Manager
*J. Holland, Corrective Action Program Manager
*R. Lumpkin, Site Quality Manager
*R. Proffitt, Licensing Engineer
R. Rogers, Supervisor Engineering Support Section
M. Sullivan, Radiological Controls Manager
S. Spencer, Licensing Engineer
*P. Trudel, Site Project Engineer

NRC Employees

*B. A. Wilson, Assistant Director, TVA Projects
*L. J. Watson, Chief, Project Section 1
*K. M. Jenison, Senior Resident Inspector
*P. E. Harmon, Senior Resident Inspector

*Attended exit interview

Acronyms and initialisms used in this report are listed in the last paragraph.

2. Corrective Action (92720)

The corrective action program at Sequoyah is defined in Administrative Instruction AI-12 (Part III), Corrective Action, Revision 2, which implements the requirements of 10 CFR 50, Appendix B, Criterion XVI, Corrective Action. This instruction establishes the overall requirements and responsibilities for the corrective action program. This program consists of administrative control programs and the CAQR program. The specific controls for each of the administrative control programs are described in separate documents which are referenced in AI-12.

CAQs reported on documents in the administrative control program, as a minimum, are required to be promptly identified, documented, evaluated, corrected, tracked, and trended. The administrative control programs consist of:

1. Work Requests
2. Potential Reportable Occurrences
3. Drawing Discrepancies
4. Radiological Awareness Report
5. Housekeeping Deficiencies
6. Test Deficiencies
7. Problem Reporting Documents
8. NQA Audit Reports (COTS)
9. QA Surveillance Reports (COTS)
10. QC Inspection Rejections (Inspection Reports and COTS)
11. Licensee Event Reports
12. Security Degradation/Incident Report

CAQRs are used to document CAQs which require additional management review and attention. CAQs documented in one of the above programs which meet the criteria established in AI-12 (Part III) section 2.1 are required to have a CAQR initiated with the exception of LERs/Reportable PROs. Section 2.1 further breaks down the threshold requirements for a CAQR into hardware CAQs and nonhardware CAQs. Once an item is determined to meet the CAQR threshold a CAQR-PRD form is initiated. AI-12 (Part III) specifies requirements for immediate notification of licensee organizations depending on whether operability or reportability is affected, whether criteria for an abnormal event is met, or whether a security problem is involved. The CAQR is reviewed by the Management Review Committee within three days of the date the initiator signs the CAQR-PRD form. The MRC is made up of senior level site managers who perform a general review of the CAQR including determination of validity, potential reportability, and potential affect on operability. They also assign responsibility for the corrective actions associated with the CAQR. Changes to a CAQR are required to be coordinated with the initiator. Valid CAQRs are entered into the TROI system by the CAQ Coordinator and distributed to the appropriate organizations for determinations (operability, reportability, etc.) and initiation of corrective action.

CAQRs that are determined by the Site Quality Manager to be a QA Programmatic Deficiency are classified as significant. QA Programmatic Deficiencies are associated with items that occur at a frequency which indicate that past corrective action was lacking or ineffective, or when widespread noncompliance with procedural requirements could negate QA program effectiveness. CAQRs that are reportable are also classified as significant.

AI-12 (Part III) section 2.9.4 requires that corrective action for CAQRs, including scheduled completion date, be developed by the assigned organization and approved by the appropriate organizations identified in section 2.15 within 30 days from the date of CAQR origination. Criteria

for cause analysis, corrective and preventive actions, and potential generic implications are also specified in this section. AI-12 (Part III) Section 2.12 defines criteria for escalation of CAQRs when additional management attention is necessary to resolve disagreements or to ensure that timeliness and effectiveness requirements are met. Independent verification of corrective action is required of the QA organization for significant CAQRs, CAQRs initiated by QA, and hardware CAQRs.

Management is kept informed of CAQR status on a monthly basis by corrective action status reports prepared by the SQM. The SQM also is responsible for trending of CAQRs.

The inspectors reviewed the areas listed below to determine whether management controls had been established for the tracking and resolution of identified problems, and to ensure that the program as described in AI-12 (Part III) was properly implemented.

a. Operational Events

The inspector reviewed the ten event investigation reports listed below to determine the accuracy and adequacy of the report. The inspector found that the licensee reviewed the event to determine reportability, root cause assessment, and corrective actions. The ten event reports reviewed met the administrative requirements of AI-18.18, Reporting of Abnormal Events. The inspector found that the items identified in the event reports were properly evaluated as reports required by AI-12 (Part III).

II-88-228
II-88-327
II-89-032
II-89-049
II-89-066
II-89-79
II-89-92
II-89-103
II-89-152
II-90-019

The inspector reviewed Potential Reportable Occurrences 1-89-109, 1-89-151, 1-89-189, 1-89-191, 1-89-202, 1-89-212, 1-90-041, 2-89-130, 2-89-132 and 2-89-152. The inspector reviewed the circumstances surrounding each event; verified that the notifications required by AI-18, Plant Reporting Requirements, file package 18 were made in the appropriate time frames; verified that SQA 84, Revision 8, Potential Reportable Occurrences, Attachment 1, Parts A through D had been completely filled out and properly evaluated; and verified that the events which were reportable were reported in the proper format

(LER). The inspector also determined that conditions adverse to quality had been properly identified and evaluated as required by AI-12 (Part III) requirements and that tracking and trending of PRO's were being accomplished.

No violations or deviations were identified.

b. Internally Identified Problems

This portion of the inspection was conducted to determine whether management controls were established for the tracking and resolution of problems identified internally by the licensee. This inspection included sample reviews to determine if CAQs were adequately identified and if corrective actions were implemented. The areas included in this review were the administrative control programs described in AI-12 (Part III), requests for engineering assistance, and the systems engineering organization including action plans.

(1) Administrative Control Programs

The corrective action program described in AI-12 (Part III) consists of the CAQR program and administrative control programs. The inspector reviewed the procedures governing the following administrative control programs to determine whether the programs included prompt identification, evaluation, correction, and tracking of CAQs.

- Work Requests
- Drawing Discrepancies
- Radiological Awareness Reports
- Housekeeping Deficiencies
- Test Deficiencies
- Problem Reporting Documents
- Security Degradation/Incident Reports

No deficiencies were identified during the review. The inspector noted, however, that inadequacies in the trending of the administrative control programs had been addressed in recent NRC inspection reports and that URI 327, 328/90-03-05 had been issued to follow the concern. A CAQR (SQP900062) had been issued by the licensee as discussed in paragraph 2.c to address the lack of trending for test deficiencies, housekeeping deficiencies, potential reportable occurrences, and drawing discrepancies. Accordingly, trending of the administrative control programs will be resolved by followup of the URI by the resident inspectors.

The inspector reviewed a sample of four items from each of the administrative control programs listed above to verify implementation of the corrective action process. The inspector noted that in each case issues were promptly reviewed and evaluated for CAQs; CAQRs were written where required; and where CAQRs were not required, corrective action plans were established and implemented.

No deficiencies were identified during this review; however, one concern was raised. The inspector noted that most procedural violations did not result in CAQRs and that the threshold for generating a CAQR for procedural violations appeared to vary between the different programs. Examples of this concern were noted on Radiological Awareness Reports, Housekeeping Deficiencies, Problem Reporting Documents, Security Degradation/Incident Reports, and NRC Violations. In each example where a procedure violation occurred, the issue was addressed in the ACPs, was tracked and corrected, and no CAQR was written except as noted in paragraph 2.b.3 below.

AI-12 (Part III), Section 2.1.2, Nonhardware CAQs, includes the following criteria for initiating a CAQR:

Failure to comply with procedures, instructions, or regulatory requirements. Minor or infrequent noncompliance with administrative detail such as documentation or timeframes should be documented in other administrative control programs instead of on a CAQR where no adverse impact on quality is apparent.

The inspector noted that the above requirement could be strictly interpreted resulting in almost all failures to comply with procedures requiring a CAQR. The inspector discussed this requirement with licensee personnel and managers. The inspector was told that procedure violations would normally be addressed by an administrative control program and that an adverse trend in procedure violations would result in a CAQR. Interviews with plant management from various departments resulted in many different descriptions of what this criteria meant. Descriptions included only safety significant items, safety related items, and items that affected quality or the safety of the plant. All admitted that the requirement was hard to interpret. The inspector noted that the words "minor", "infrequent", "administrative detail", and "when no adverse impact on quality is apparent" as used in this requirement result in an ambiguous standard. During the sample review the inspector noted no instances where the failure to initiate a CAQR because of this interpretation resulted in incomplete

corrective actions. At the exit meeting, the inspectors discussed this concern with licensee management and noted that the planned revision to AI-12 (Part III) scheduled for implementation in the near future provided a good opportunity to clarify this requirement.

The inspector concluded that the licensee had administrative control programs in place and implemented to ensure the timely identification of problems and completion of corrective actions.

(2) Engineering Requests

The inspector reviewed the licensee's program for requesting engineering assistance to determine if issues that were passed between organizational interfaces were properly identified as required by AI-12 (Part III). Sequoyah Engineering Procedure SQEP-65, External Interface Control, established methods by which plant organizations request information from Site Engineering. Engineering/plant organizations request quality information on a P-QIR. The inspector reviewed the four P-QIRs listed below and verified that CAQs were properly identified and evaluated as required by AI-12 (Part III).

PQIRNEEMGSQPQA90001R0	Evaluation of Fuel Pool Cleaning Support IFPCH-526
PQIRNECEBSQPMODSA9002R	Conduit Supports Installed Using Ramset Anchors
PQIRNEEESQPTS90004R0	Accuracies for RVLIS Instrumentation
PQIRNESQPMTBSYS89044R0	Replacement of RHR Check Valves Internal Bolting

(3) Systems Engineering

Systems Engineering functions as a central review and evaluation organization for plant systems. As a result, systems engineers should be aware of problems which have an affect on their systems. The inspector reviewed the licensee's system engineering function to determine if problems identified to systems engineering and internally generated within systems engineering were appropriately evaluated and included in the corrective action program as required by AI-12 (Part III).

The Systems Engineering organization is divided into five functional groups, each group having responsibility for certain systems. This functional relationship is listed in Appendix C of SQA-168, Conduct of Technical Support. This organization was

designed to provide continuity for the systems' performance and a central source of information for other site personnel that have to deal with plant systems. The systems engineers are assigned direct responsibility for two to four systems (usually). They are tasked with improving their assigned systems' reliability by:

Performing system walkdowns to maintain correct status of material condition and to initiate corrective action;

Trending important system parameters to identify deteriorating system performance;

Initiating corrective actions prior to a failure or forced outage; and

Reviewing the myriad of paperwork associated with the systems to improve the quality of work and instruction.

The inspector determined that information received by Systems Engineering was typically already in the form of a CAQ document. The inspector interviewed eight system engineers and three supervisors. During these interviews, the inspector determined that information originating in Systems Engineering was initially documented in the engineers' system notebook. Each system engineer then reports these items to his supervisor in the engineer's monthly report. Monthly reports are then combined and condensed into a monthly report for the Technical Support Superintendent.

The inspector reviewed several issues taken from the system notebooks and determined that they had been documented in the monthly reports. Examples of the items reviewed are listed below:

Resin Loss from the Condensate Demineralizers to the High Crud Tanks.

Freeze Protection for the Sense Lines to the RWST Inadequate.

RCS Inleakage into the Cold Leg Accumulators.

Backup Diesel Generator Battery - Low Voltage

Software Control Problems on P-250.

Inadequate Setup of Intermediate Range Detectors.

This review showed that the items originally identified and documented in the system engineers' notebook were being

identified to management by the monthly reports. For this reason the inspector focused his review to items that were identified in the monthly report from the system engineers to their respective supervisor.

The following is a list of items reported in individual engineers' monthly reports. The inspector reviewed the items to determine that they were properly evaluated in accordance with the Corrective Action System as defined in AI-12 (Part III). The items listed in the "Resolutions" column below are the documented entries into the program. Those listed as "Not a CAQ" were determined by the licensee not to be conditions adverse to quality, and therefore, a corrective action document was not needed. All were found satisfactory except the one noted below.

<u>Condition Adverse to Quality</u>	<u>Resolution</u>
Thru Wall leak on 4 inch line in Fire Protection.	CAQR SQP900036
Drawing Inconsistency in Fire Protection System.	WR B760721 89 DD 4560
FCV-87-22 Failed Maximum Stroke Time.	SI-166.1/DN-1 January 1990
Differential Pressure Close to Alert Range on CCS Pumps.	Not a CAQ
Spent Fuel Pit Gate Seal Air Supply Problems.	CAQR SQP 900012
Refueling Water Purification Pumps Mechanical Seal Leakage.	WR B 273896
Auxiliary Building Airborne Leakage Problems.	WR B 285584 B 775718 B 215781
Excess Letdown Heat Exchanger Leaked Profusely When Placed in Service.	WR B 758097
SI Pump 1B-B High Delta Pressure Results in Increased Test Frequency.	Not a CAQ
N-31 Power Channel Poor Response - Issued JCO for Operability.	Not a CAQ
Unit 2 Incore Detector Failure.	WR B 238159

<u>Condition Adverse to Quality (cont'd)</u>	<u>Resolution</u>
Significant Inaccuracies in Prediction of ECP - Unit 1.	SI-38/DN-1 December 12, 1989
Implementations of Corrections to Feedwater Flow.	Not a CAQ - Performed Under RTI-1
Uptrend in the Amount of "Crud" in Unit 2 RCS Samples.	Not a CAQ
Repeated Oil Leaks With Feedwater Pump Systems.	WR B781345 ECN 6193
CPU Overload on TSC Computers	CAQR SQP890475
3 Circuit Detector Switches to Banks of Annunciators Disabled.	WR B 768026 CAQR SQP 900112

The inspector reviewed the above event associated with the 3 circuit detector switches to banks of annunciators which were disabled. This event involved the failure to return equipment to operable status after performance of maintenance. Prior to the event, WR B792969 had been written to repair a system electrical ground. Work had been completed and the electricians had notified the SOS that the system had been returned to service. On January 18, 1990 during a control room annunciator system (system 55) walkdown, the system engineer found 3 circuit detector switches to banks of 25 annunciators each in a disabled condition. The SOS immediately called the Electrical Foreman to the Control Room, and confirmed with him that the alarm blocks were inoperable. WR B 768026 was submitted to cover lamp out indications and loose contact blocks in the cabinet.

The inspector discussed the event with the system engineer, who agreed that corrective action should also have been initiated for the problem of inadequate work instructions and/or failure to follow the instructions on the original WR. A CAQR-PRD form was initiated and approved by the Management Review Committee the next day (CAQR SQP 900112). The fact that a CAQR had not been issued appeared to result from confusion over the same CAQR procedural criteria discussed in paragraph 2.b.1.

The inspector also reviewed SQA-211, Formalized Action Plan. The inspector noted that the procedure did not require the individual to prepare CAQ documents as needed for the action

plan items. This requirement is, however, required by AI-12 (Part III). A recent violation pertaining to freezing of the RWST level transmitters cited the inappropriate use of an action plan instead of a CAQR to address a deficient condition. The inspector reviewed the following action plans and determined that the action plan and/or line items were either not a CAQ or had AI-12 (Part III) administrative control program documents associated with them. This review represented approximately a 10 percent review of the current outstanding action plans.

AFW Level Control Valves

Rod Position Indication System

Main Steam Check Valves

Fuel Transfer System

Airborne in the Auxiliary Bldg.

Although no regulatory deficiencies were identified in these specific action plans, the inspector noted one possible problem with the SQA-211 action plan program. The system engineer is required to review ACP items along with all other available data pertaining to his assigned systems for deficient conditions. In reviewing this information, the systems engineer is essentially conducting a horizontal review across all these programs for adverse trends. The findings are documented in the system engineer's notebook. Action plans in some cases are initiated based on these reviews. The inspector reviewed AI-12 (Part III) sections 2.1.1.E and 2.1.2.E which address the need for a CAQR when deficient conditions occur at a rate which could indicate corrective action was inadequate or when confirmed adverse trends are identified by trend analysis. The inspector noted that a system engineer's review could identify an adverse horizontal trend, but result in an action plan being generated instead of a CAQR. The action plan program as defined by SQA-211 does not adequately define its relationship to AI-12 (Part III) and may lead to a CAQR not being generated when one is required. The licensee acknowledged this concern and intends to review this area to determine if additional clarity is needed to ensure that a CAQR is prepared when one is needed.

With the exception of the item discussed above, all items reviewed from the system engineer monthly reports and from action plans were adequately evaluated for corrective action as required by AI-12 (Part III).

No violations or deviations were identified.

c. QA Audits/ Surveillance

The inspector reviewed the following Quality Assurance Audit reports to determine whether audit findings were adequately dispositioned as required by AI-12 (Part III):

SQA 89913 Correction of Deficiencies
 SQA 88902 Correction of Deficiencies and Corrective Action
 SQA 89003 Operating Experience and Feedback
 SQA 89001 QA Records, Document Control, and Corrective of Deficiencies

The inspector sampled the deficiencies noted in the audit reports and determined that these deficiencies were handled in accordance with the requirements of AI-12 (Part III). The inspector noted that the audit reports appeared to be thorough in the areas reviewed. The inspector also noted that the audit reports had findings in relation to CAQRs invalidated by the Site Director. These audits determined that the site director's justification for invalidation of the subject CAQRs was not adequate. The inspectors considered this audit finding to exemplify that QA audit activities are adequately independent from the site line organization. The inspector sampled the corrective actions for the invalidated CAQR findings and found them adequate to resolve the problem. These corrective actions involved providing adequate documentation of the reason for invalidation.

The inspector reviewed the following quality assurance monitor reports to determine whether findings were adequately dispositioned as required by AI-12 (Part III):

QSQ-M-90-0140	CAQ Program - Trending
QSQ-M-90-56	ACP - Security Degradation/ Reporting Incident
QSQ-M-90-101	ACP - Test Deficiencies
QSQ-M-90-109	ACP - Housekeeping
QSQ-M-90-122	ACP - PROs
QSQ-M-90-123	ACP - Drawing Discrepancies
QSQ-M-89-1309	CAQ Program Determinations and Escalation
QSQ-M-89-1223	CAQ Program - Trending
QSQ-M-89-741	CAQ Program
QSQ-M-89-907	Operability and Reportability Determinations
QSQ-M-89-1225	CAQ Closure
QSQ-M-89-1275	CAQ Program
QSQ-M-89-635	CAQ Program - Trending
QSQ-M-90-50	CAQ Program Survey

The inspector found that all findings for the areas sampled were processed as required by AI-12 (Part III). The inspector noted that the findings from QSQ-M-90-101, 109, 122, and 123 resulted in CAQR

SQP 900062 which was written to address inadequacies in trending the ACP programs for test deficiencies, housekeeping, PROs, and drawing discrepancies. The inspector also noted that this issue was the subject of URI 327, 328/90-03-05, Trending, which was being resolved by the licensee with the resident inspectors.

The inspector discussed the trending and monitoring activities with licensee personnel. The inspector reviewed the escalation list for CAQRs and noted that 22 CAQRs were in first level escalation, 3 were in second level escalation, and 1 was in third level escalation. The fact that a significantly fewer number were in second and third level escalation as compared to first level escalation indicated that the escalation process was working in resolving conflicts associated with corrective action. The inspector reviewed various printouts from the TROI system and determined that CAQRs were being adequately tracked and trended.

The inspector concluded that QA activities in the corrective action area were sufficiently broad to verify implementation of the program.

No violations or deviations were identified.

d. NRC Inspection Findings

This portion of the inspection was conducted to determine whether management controls were established for the tracking and resolution of problems identified by NRC violations and unresolved items. This included a sample review of the implementation of the licensee's program.

The inspector held discussions with licensee personnel and reviewed procedure SLS-SIL-02-R2, Handling of NRC Inspections and Inspection Reports. The inspector noted that a Licensing Engineer is assigned to each NRC inspection and is responsible for coordinating all aspects of the inspection. The assigned engineer is also responsible for ensuring that all problems are addressed, including the initiation of a CAQR when required. Also, all personnel involved are responsible for initiating a CAQR, in accordance with AI-12 (Part III), if required during the course of an NRC inspection.

The inspector reviewed a sample of NRC inspection findings to determine whether the issues met the definition of a CAQ given in AI-12 (Part III) and whether licensee personnel had initiated CAQRs when required. The following violations and unresolved items were reviewed:

VIO 89-07-01	URI 88-40-02
VIO 89-15-02	URI 88-60-02
VIO 89-18-03	URI 89-03-01
VIO 89-25-01	URI 89-18-07

From this review the inspector concluded that CAQRs had been initiated where required; however, the inspector noted one example (VIO 327, 328/89-25-01) where a CAQR was not issued for a procedure violation. This concern is discussed in detail in paragraph 2.b.1.

The inspector concluded that the licensee had an established program to ensure that CAQs arising from NRC inspection findings were addressed and corrective actions taken. The inspector also verified that the program was being implemented as written. Completion of the corrective actions for NRC inspection findings will be verified during routine NRC Inspections. No violations or deviations were identified.

e. Employee Concern Program and Concerns Brought by External Persons or Organizations

The licensee has an employee concerns program to process concerns expressed by employees. This program receives concerns from current employees and also receives concerns from employees (permanent and contractor) during required exit interviews upon termination of employment which could result in CAQs. The licensee also receives industry information from external persons and organizations through the Nuclear Experience Review program which could result in CAQs. In addition, the licensee has contract services such as metallurgical/failure analysis, chemical analysis, and oil analysis which could provide results that would lead to CAQs.

The inspector discussed the handling of employee concerns with the Employee Concerns Program site representative. The Employee Concerns Program files listed below, which were selected based on concerns raised by departing employees or contractors, were reviewed to ensure that concerns were processed in accordance with AI-12 (Part III).

ECP-89-SQ-E15 Unit 2 Steam Generator Snubbers

The inspector noted that CAQR SQP 890396 was written to address these concerns and that DCR 3394 was written to address changing the type of snubber being used.

ECP-89-SQ-E75 Violation of Purchase Procedures

CAQR SQP 880010 had been previously issued addressing similar concerns, however this file addressed the continuation of the problem. QA monitoring activities had been scheduled to confirm continuation of the problem.

ECP-89-SQ-F41 Forgery of SNM Inventory Signatures

CAQR SQP 890435 and CAQR SQP 890528 were issued to address this issue.

ECP-89-SQ-K19

Equipment Qualification Not Maintained

QA Audit SQA 89910 of April 28, 1989 addressed this issue. Two CAQRs, two PRDs, and 3 COTSS were issued as a result of the audit.

The inspector found that all issues from each of these files were adequately addressed in the AI-12 (Part III) program. Investigation of these concerns was thorough. Whenever possible the Employee Concerns Program is positively interfacing with the line organization in the actual investigation and generation of corrective action documents for CAQs generated as a result of concerns raised by exiting employees. This allowed the limited Employee Concerns Program resources to overview the investigation of concerns raised through this program. In the SNM case, that overview resulted in an additional CAQR being written.

The inspector reviewed the licensee's Nuclear Experience Review Program as outlined in administrative procedure STD-1.3.1, Revision 0, "Managing the Nuclear Experience Review Program". This program receives input from and evaluates experience gained from TVA's Nuclear Power Program, other nuclear utilities, the NRC, INPO, architect engineers and constructors, equipment suppliers, and others within the nuclear industry. The inspector reviewed an NER computer printout which listed all inputs into the NER process which included, NRC INs, INPO documents, vendor identified issues (Technical Bulletins), and TVA generated reports (i.e., event reports, PROs, etc.). This printout also identified the disposition for each issue. The inspector was able to determine from this printout that the AI-12 (Part III) corrective action program was being properly used for issues or concerns received by the licensee from outside organizations. A review of specific items relating to vendor supplied information and 10 CFR 21 reports which were processed through the NER program was conducted by the resident inspectors in inspection 327, 328/90-06. The results of that review are documented in paragraph 13 of that inspection report. In discussion with the resident inspector, the inspector was able to determine for the 11 issues reviewed by the resident inspectors that all were properly dispositioned through the NER program as required by AI-12 (Part III).

The inspector selected several areas in which the licensee uses external persons or organizations to provide services to determine if CAQs identified by these organizations were properly dispositioned as required by AI-12 (Part III). The inspector reviewed the licensee's program for sampling and testing of chemicals, metals, received parts, and part failure analysis.

The inspector selected two of the most recent chemistry problems found at Sequoyah and reviewed these items to determine whether the

administrative and procedural controls had been properly implemented for the occurrences reviewed.

- (1) On December 19, 1989, CAQR SQA-88067901, Revision 1, was initiated which identified a violation of TS for effluent monitoring (TS 6.8.1h) in which POTC procedures were not being reviewed as required by TS 6.5.1A. The initiator stated that an offsite TVA organization, such as POTC, which provides Regulatory Guide 4.15 effluent analysis must be reviewed by a site designated qualified reviewer.

The site chemistry group stated that only site procedures were subject to TS 6.5.1A review requirements and POTC procedures are independently audited to provide compliance with TS 6.8.1h services; therefore, they recommended that the CAQR be closed as "invalid".

This recommendation was rejected by QA and a meeting was held between QA, on-site chemistry and corporate chemistry to develop a corrective action plan which was outlined as follows:

- Develop a TS interpretation for each TS procedure process, TS 6.5.1A and TS 6.8.1h, to clearly define the off-site procedures subject to the TS.

The root cause analysis found that POTC procedures which implement site effluent monitoring TS were not given a technical review by a site qualified reviewer. The extent of the problem was limited to POTC procedures which implemented TS requirements.

As corrective action the POTC was added to the Acceptable Suppliers List (ASC) as Vendor ID No. 03847423 and verified by QA on March 14, 1989. The CAQR was closed on March 17, 1989.

- (2) Diesel fuel oil samples, including one from the EDG 1BB 7-day tank, were provided to Southwest Research Institute for determination of the feasibility of cleaning versus replacement of the oil. Results from the laboratory found that the diesel fuel oil in the 7-day tank needed replacement based on the failure of the "accelerated stability" test, which was analyzed in accordance with ASTM D2274 (1988). After receiving this information the licensee generated a CAQR (SQP 900053) due to failing to meet a Technical Specification requirement (4.8.1.1.2.c) which was based on this "accelerated stability" test per ASTM D2274 (1970) requirement.

The licensee collected 3 additional samples and sent these samples to the original lab and two additional laboratories for analysis. The results from all 3 labs found this second sample to be within the limits for accelerated stability, however,

witnessing of the test methods found that the samples were being tested in accordance with a later version of the ASTM standard and therefore a more stringent filter requirement was being used. In addition, the test methodology was not being strictly adhered to during the performance of the test.

The licensee determined that these test problems were reportable to the NRC. The licensee issued an LER and took immediate corrective action to evaluate the operability of the EDG fuel systems (Justification for Continued Operation). The identified fuel oils were replaced and corrective action to prevent recurrence of this testing problem was implemented.

The licensee did not identify any conditions which fell into the specific category of metallurgical or failure analysis related to off-site inspection or review. However, the inspector reviewed several CAQRs dealing with metallurgical testing and reviewed the results of the chemical and mechanical properties testing associated with the licensee's response to NRC Bulletin 87-02, Fastener Testing to Determine Conformance With Applicable Material Specifications. The CAQRs reviewed dealt with the test failure of supplied equipment for a dedication package and testing associated with a failure of supplied equipment. Each review was performed to verify that the licensee correctly identified the original problem and initiated the proper procedural documentation including appropriate CAQ documentation as required. The inspectors review of each item is discussed below.

- (1) Failure during torquing of a Knudsen Company supplied 1/4 inch bolt on a saturable transformer, resulted in the licensee performing a failure analysis on the broken part. The licensee generated a CAQR (SQP 871709) and performed an evaluation of the failed stud, which found that there was no "material defect". However, the stress applied during the torquing was too high. Evaluation of the remaining bolts found that they were seismically and structurally not affected and therefore were still suitable for service (based on engineering evaluation and analysis of vendor and test supplied data).
- (2) While trying to certify material supplied by the Mueller Brass Company in accordance with dedication package requirements, the licensee sent 21 pieces of supplied components for testing. The vendor, Mueller Brass Company, supplied numerous items for use in the plant. Of the 21 pieces sent for testing it was found that only 8 met the required ASTM specification (SAE J513). The licensee placed the order on hold and notified the company in question. Subsequent licensee review determined that all of the parts should be returned to the vendor. The appropriate documentation was generated. Review of the licensee's documentation did not identify any additional comments.

- (3) The licensee selected a sample for each of the various fastener groups identified in NRC Bulletin 87-02 in conjunction with an NRC inspector. The fasteners were then sent to Singleton Materials Engineering Laboratory and Central Laboratories Services Branch for mechanical testing and chemical analysis. The inspector reviewed the sample size, methodology, and results of the testing. Based on the licensee's documentation, the inspector agrees with the methods and technique used to select and test the population of material. The inspector also reviewed the test results and those condition adverse to quality reports which were issued during this process for those items which did not meet the acceptance criteria. The CAQRs appeared to be of sufficient detail and depth to identify the scope of the problems at Sequoyah with regards to the response to Bulletin 87-02. The CAQRs reviewed were properly initiated, tracked, and resolved as required by AI-12 (Part III).

No violations or deviations were identified.

f. Special Reports by Internal Organizations or Other Organizations

The licensee has several internal review organizations which conduct inspections/reviews of Sequoyah activities which could provide findings which would lead to or be identified as CAQs. These organizations are the Nuclear Managers Review Group, the Independent Safety Engineering Group/Independent Safety Engineering, and the Nuclear Safety Review Board. External organizations which could provide the licensee reports that may contain or lead to CAQs are the Institute of Nuclear Power Operations, the Authorized Nuclear Insurer, and outside organizations contracted to perform a service such as Westinghouse.

The inspector reviewed administrative procedure ONP-STD 1.1.1, Revision 0, "Nuclear Safety Oversight" which identified that the purpose of the NMRG was to submit for approval and review, schedules and topics based on past performances or on requests from senior management. Due to a licensee reorganization, the ISEG function was moved from the licensing organization to the NMRG and renamed as Independent Safety Engineering. As a result, NMRG through ISE is tasked with performing independent reviews of safety engineering functions as described in NUREG 0737 (ISEG/ISE), which include reviews, surveillance of plant activities, and examination of plant operating experience reviews. These reviews are promulgated in the form of a report and submitted to senior management for distribution and notification of NMRG and ISE findings. In addition to conducting the review, the NMRG manager will review corrective action plans, make recommendations on ISE findings and observations to the affected organization, track corrective action, and perform follow-up reviews.

The inspector reviewed NMRG reports NMR-89-003-ASR, R-89-04-NPS and R-89-03-SQN. Based on this review, the inspector found that items were properly addressed as required by AI-12 (Part III). However, one item noted in report NMR-89-003-ASR, item 88-08-I-01 originally identified a voltage control problem associated with the Intertie Bank found during an outage in 1988. Although the inspector did not technically review this specific item, the inspector did review the administrative controls associated with the closure of this item. Item 88-08-I-01 was identified and tracked through several monthly reports, however the last monthly report to discuss this item was the March 1989 report. Discussions with the licensee's staff found that the item was identified for closure on the staff's tracking program.

The inspector reviewed the administrative controls which governed the activities performed by ISEG/ISE. The procedures reviewed were ONP STD 1.1-1, Revision 1, Nuclear Safety Oversight and SQA-117, Revision 7, Responsibility of Independent Safety Engineering. The inspector verified that:

- Lines of authority were clearly defined and identified;
- controls for the conduct of specific activities were identified; and
- the group was performing those functions as identified within Technical Specification (TS) 6.2.3.

The inspector verified the implementation of these administrative controls by reviewing ISEG/ISE monthly reports issued from January 1989 to the present. The ISEG/ISE reports contained numerous findings with recommendations and several items which were categorized as conditions adverse to quality, requiring a CAQR. The inspector reviewed several of these findings and the associated CAQRs and found that the issues were identified, tracked and resolved (for those items closed) in accordance with the administrative control procedures and AI-12 (Part III). Based on this review of the administrative program and monthly activities reports, the inspector did not identify any outstanding items or concerns.

The inspector reviewed the minutes of NSRB meetings for the below listed dates to determine if items identified by NSRB were being adequately processed as required by AI-12 (Part III).

June 22, 1989
 August 25, 1989
 September 13, 1989
 August 28, 1989
 December 18, 1989
 January 11, 1990
 February 22, 1990

The inspector discussed the operation of the NSRB with the NSRB chairman and secretary. The inspector determined that because NSRB functions as an overview committee most comments made by NSRB are general in nature. These comments involve refinement of existing programs or additional areas or subjects which should be considered to raise the standard of plant performance. As such, the inspector was unable to find any specific items from the meeting minutes which directly affected corrective actions for AI-12 (Part III) identified items or items which should have been entered into the corrective action program. NSRB functions as a direct line review group for TS changes and license amendments. In these areas, NSRB had a significant direct effect on the end product.

The inspector reviewed the report from the 1989 INPO inspection and discussed selected items with senior plant management. The inspector determined that all items had been properly evaluated against AI-12 (Part III) criteria, that existing corrective action documentation existed or were generated for the required items, and that these items were being tracked in the TROI system.

The inspector discussed findings from the ANI inspector with both licensee personnel and the ANI inspector. The inspector determined from the interview with the ANI inspector and from a sample of the documented findings that all items meeting AI-12 criteria were being addressed and tracked as required. The inspector found that most ANI findings were addressed by CAQRs rather than ACP items.

The inspector reviewed a sample of outside contract reports which were sent to TVA. The reports listed below were reviewed to ensure that items identified were addressed as required by AI-12 (Part III).

Bechtel Report TV-72-104A on Cable Trays

This particular item addressed the approach to analysis used in relation to corrective actions specified in CAQR SQP 890524. The inspector determined that this item was adequately addressed through the CAQR.

Westinghouse Reports

TVA-90-862	EOI Review
TVA-89-675	Feedwater Bypass Valve Controllers
TVA-89-639	Steam Generator Upper Support Splice Plate Thru Holes

Westec - Independent Review for Response to NRC GL 88-14,
Instrument Air

The inspector found that the only item which should be addressed by AI-12 (Part III) was contained in the Bechtel cable tray report and appeared to be properly dispositioned.

No violations or deviations were identified.

g. Management Review Committee Meeting

Each inspector attended a Management Review Committee meeting in which CAQR-PRD forms generated the previous day and potential CAQRs were discussed. The inspectors determined that the management review committee functioned as described in AI-12 (Part III) which included reviewing the CAQR-PRD form for the classification of the CAQ identified, potential reportability, and potential affect on operability. The inspectors noted that the responsibility for action on valid CAQRs/PRDs was discussed and properly assigned per the requirements of AI-12 (Part III) section 2.4.1.H.

During the course of the inspection, the inspectors discussed the operation of the Management Review Committee with several of the members. The inspectors noted from these discussions and observance of the meetings that ambiguities in the CAQR criteria of AI-12 (Part III) have caused some problems in classification of items. Similar problems were discussed in paragraphs 2.b.1, 2.b.3, and 2.d above. A similar problem was observed by the inspectors at one of the Management Review Committee meetings and is discussed below.

While working on the temperature indicators (TI's) for the Waste Gas Compressors it was noted that the actual plant configuration was different than the system drawings. The drawing for the WGC system shows TI-77-96 (Waste Gas Compressor "A") to be on the right side of the WGC control panel. However, the correct TI for this instrument is located on the left side of the panel and is labeled TI-77-111. The WGC unit "B" TIs are apparently reversed in relation to indicator location and labeling with the unit "A" TIs. The licensee had initiated drawing deviation 90DD4722 which specified that the label tags for the two instruments in question would be changed in accordance with Tag Request T025014 and T025015. WR B792207 was also issued to clear drawing deviation 90DD4722 by either verifying that the lines were correct or by swapping the leads at the gauges. During the management review committee meeting it was decided that since this item was already covered by the DD and WR and did not involve a safety system, a CAQR was not required. AI-12 (Part III), Section 2.1.1.G, requires that any condition found which requires a plant configuration change shall be documented as a CAQR. The inspector discussed this item with a member of the Management Review Committee. The inspector determined that

this item had no safety significance. However, it is an additional indicator that the CAQR criteria defined in AI-12 (Part III) may be ambiguous to the users of the procedure.

No violations or deviations were identified.

The inspectors concluded that the corrective action program was adequate to identify, follow, and correct safety-related problems. Although the number of items sampled was low compared with the overall number of items in the corrective action program, the sample was sufficiently broad to conclude that the overall approach and attitude toward resolution of problems at the site was good. The inspectors concluded for each of the areas reviewed that issues were adequately identified and entered into the corrective action program, and that tracking and trending of items was being accomplished. Corrective actions reviewed were adequate to resolve the problems. Several examples were noted where ambiguities in the AI-12 criteria for CAQRs may have resulted in CAQRs not being issued. The licensee acknowledged this concern and intends to review the criteria for CAQRs to ensure that ambiguities are removed. The licensee informed the inspectors that an improved program will be implemented in the near future which will make preparation of corrective action forms easier. The difficulty in properly filling out the forms was viewed by the licensee as a barrier to further improvement in the existing program.

3. Exit Interview (30703)

The inspection scope and findings were summarized on March 2, 1990 with those persons indicated in paragraph 1. The Team Leader described the areas inspected and discussed in detail the inspection findings. The licensee acknowledged the inspection findings and did not identify as proprietary any of the material reviewed by the inspectors during the inspection.

4. List of Acronyms and Initialisms

ACP	-	Administrative Control Program
AFW	-	Auxiliary Feedwater
AI	-	Administrative Instruction
ANI	-	Authorized Nuclear Insurer
ASTM	-	American Society of Testing and Materials
CAQ	-	Condition Adverse to Quality
CAQR	-	Conditions Adverse to Quality Report
CFR	-	Code of Federal Regulations
COTS	-	Correct-On-The-Spot
CPU	-	Central Processing Unit
DCR	-	Design Change Request
DD	-	Drawing Discrepancy
EDG	-	Emergency Diesel Generator
EOI	-	Emergency Operating Instruction
GOI	-	General Operating Instruction

GL - Generic Letter
IN - Information Notice
INPO - Institute of Nuclear Power Operation
IR - Inspection Report
ISEG - Independent Safety Engineering Group
ISE - Independent Safety Engineering
JCO - Justification for Continued Operations
LER - Licensee Event Report
LCO - Limiting Condition for Operation
MRC - Management Review Committee
NER - Nuclear Experience Review
NMRG - Nuclear Managers Review Group
NQA - Nuclear Quality Assurance
NRC - Nuclear Regulatory Commission
NSRB - Nuclear Safety Review Board
PORS - Plant Operation Review Staff
POTC - Power Operations Training Center
P-QIR - Plant Quality Information Request
PRD - Problem Reporting Document
PRO - Potentially Reportable Occurrence
QA - Quality Assurance
QC - Quality Control
SAE - Society of Automotive Engineers
SNM - Special Nuclear Material
SOS - Shift Operating Supervisor
SQA - Sequoyah Standard Practice - Administrative
SQEP - Sequoyah Engineering Procedure
SQM - Site Quality Manager
TI - Technical Instruction
TROI - Tracking Open Items
TS - Technical Specifications
URI - Unresolved Item
VIO - Violation
WGC - Waste Gas Compressor
WR - Work Request