

# **Nuclear Assurance and Licensing**

## **Corrective Action / Correction of Deficiencies**

**Audit Report No. SSA94405**

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TENNESSEE VALLEY AUTHORITY  
NUCLEAR ASSURANCE AND LICENSING

NUCLEAR QUALITY AUDIT AND EVALUATION

AUDIT REPORT NO. SSA94405

TITLE: CORRECTIVE ACTION/CORRECTION OF DEFICIENCIES

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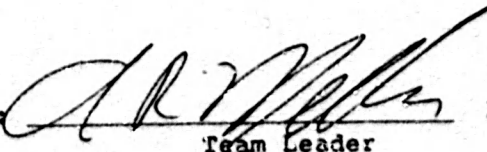
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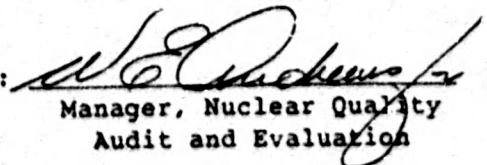
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Audit Report No.: SSA94405

Audit Dates: April 28-May 25, 1994

Audit Subject and Module No.: Corrective Action/Correction of Deficiencies (11)

Audit Locations: Browns Ferry and Sequoyah Nuclear Plants

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### ATTACHMENTS\*

Attachment 1 - Audit Conference Meeting Attendance

Attachment 2 - Audit Plan and Checklist

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\*Those who wish to review the complete audit report may request the attachments using the RIMS number on the cover memorandum.



**AUDIT DETAILS****I. GENERAL**

The audit of the Corrective Action (CA) Program was conducted at Browns Ferry (BFN) and Sequoyah (SQN) Nuclear Plants. The audit was conducted to determine whether the results of actions taken to correct deficiencies occurring in unit equipment, structures, systems, or methods of operation that affect nuclear safety are adequate and effective.

The audit team evaluated CA Program elements such as Significant Corrective Action Reports (SCARs), Finding Identification Reports (FIRs), Incident Investigations (IIs), Problem Evaluation Reports (PERs), other Administrative Control Program documents (ACPs), Nuclear Regulatory Commission (NRC) commitments, employee concerns, and Nuclear Experience Review (NER) items.

Personnel interviews were conducted, and CA Program documents were sampled for a number of organizations at each audit location. The documents were reviewed to ensure that deficiencies are properly evaluated for reportability and operability, root causes and extent of conditions are determined, CAs resolve the problems in a timely manner and prevent recurrence, and generic issues are promptly evaluated for applicability at each site. Evaluations were also conducted to ensure that commitments to the NRC are tracked and implemented and employee concerns are satisfactorily resolved.

The following sections contain the results of the audit based on the audit plan objectives.

**II. BFN****A. Generic Reviews**

The audit team evaluated 44 CA documents originated at BFN for adequacy of the generic applicability determinations. The audit included assessments of the adequacy of the evaluation, associated actions, timeliness, and interfaces with other sites. In addition, 8 CA documents received from other sites for evaluation of potential applicability to BFN were evaluated. The team concluded that generic issues are adequately evaluated for applicability to BFN and other sites. However, the team observed one BFN PER which it believes should have been sent to WBN for consideration of unit separation requirements. The audit team combined their issues with other issues in BFPER940147 (see Section F).



## II. BFN (cont.)

### B. NRC Commitments

The audit team reviewed Tracking and Reporting of Open Items (TROI) information for 75 NRC commitments and also reviewed the closure packages for 25 of the 75 commitments. The commitment closure form provided clear evidence of the adequacy of the processes used. Documentation retrieved offsite was observed to be legible and complete. The management of the commitments was thorough and sufficient with no noted discrepancies.

### C. Reportability Evaluations

The items selected in Section II.F were evaluated for correct and timely reportability determinations. No problems were identified with the reportability determinations.

### D. Operability Determinations

The items selected in Section II.F were also evaluated for correct and timely operability determinations. No problems were identified with the operability determinations.

### E. 10CFR21 Notices

Two 10CFR21 notices were reviewed to ensure that potential defects in materials or services are identified, evaluated, and corrected. The identification, evaluation, and CAs for the items reviewed were satisfactory.

### F. CAs, Recurrence Controls

The audit team evaluated 44 CA documents (SCARs, PERs, and IIs) principally representing the CA Program activities of the Operations, Engineering, Technical Support, Modifications, and Maintenance organizations. The CA documents were generally selected to reflect activity which had occurred in the recent six-month period. The documents were reviewed for proper problem description, category assignment (SCAR, PER, II, or other ACP), timeliness in meeting actions, extent of condition analyses, operability and reportability determinations, generic reviews, cause analysis, interim actions, CAs and recurrence controls, previous occurrences, and adequacy of closure documentation and records. Additional TROI searches were also conducted to evaluate problem recurrences.

The audit team concluded that improvement is required in identifying CAs and recurrence controls. During the evaluation of the CA documents, observations and findings were made which are discussed in the following paragraphs.

**II. BFN (cont.)****F. CAs/Recurrence Controls (cont.)**

A number of instances were identified of incomplete root cause identifications, CAs that did not adequately address root causes, previous/similar event searches that were not thorough, conclusions that did not have supporting calculations, incomplete extent of condition actions, and CAs that did not focus on the identified problem. In addition, it was observed that Human Performance Evaluation System (HPES) evaluations were not being evaluated against adverse condition criteria. Administrative errors were also identified during the review. The audit findings were separated into two PERs. BFPER940118 was issued to address the findings which were applicable to BFN Engineering. BFPER940147 was issued to address findings which were applicable to the rest of the BFN organizations.

**G. Nonconforming Items**

Seven receipt inspection packages involving nonconforming items were evaluated along with nonconforming materials storage to ensure that measures are taken to prevent the inadvertent use or installation of items that do not conform to requirements.

The nonconforming conditions were well documented. The material was easily located in the "hold cage" and had effective access control. There was timely disposition of the nonconformances.

**H. NER**

Five NER items were evaluated for timeliness and adequacy of CAs/recurrence controls. Problems identified by external agencies are appropriately documented and resolved in the CA Program and the NER Program. The screening reviews are adequately conducted, and problems are transmitted to the affected organizations.

**I. ACPs**

The BFN ACPs evaluated by the audit team included Work Requests (WRs), Drawing Deviations (DDs), Radiological Awareness Reports (RARs), Corrected-on-the-Spot (COTS), Safeguard Event Reports (SGERs), and Quality Control Inspection Reports (QCIRs). The ACPs were evaluated for the adequacy and effectiveness of trending and the adequacy of CAs. The audit team concluded that the problems identified in the ACPs are adequately resolved and trended.

**J. Additional Audit Items**

The findings associated with the previous two CA audits (BFA93401 and SSA93308) were evaluated and observed to have been satisfactorily resolved.



II. BFN (cont.)

## J. Additional Audit Items (cont.)

The BFN trend program was evaluated by reviewing NRC findings, obtaining TROI printouts of repetitive issues, and making a comparison with trend program results. The comparison indicated the trend program was identifying and resolving issues and bringing them to management's attention.

Systems which track issues outside of the CA Program were evaluated to ensure they were not identifying or tracking issues which should have been identified and documented as adverse conditions. The HPES and management issues tracking systems were evaluated. The audit team observed that HPES evaluations were not being evaluated against adverse condition criteria. (This issue was incorporated into BFPER940147). The issues identified and tracked as "management issues" were sampled and observed to be non-adverse conditions. The use of management issues appeared to be a satisfactory manner of resolving concerns that did not represent adverse conditions.

The CA Program backlogs were reviewed and were considered to be reasonable considering the recent Unit 2 outage and Units 1 and 3 delays.

The General Electric (GE) CA Program was evaluated. It was observed to be adequate for documenting and correcting deficiencies, and was being implemented as required by their Quality Assurance Manual and procedures. GE personnel recognized when adverse conditions needed to be prepared to meet TVA CA Program requirements.

III. SON

## A. Generic Reviews

The audit team evaluated 55 CA documents originated at SQN for adequacy of the generic applicability determinations. The audit included assessments of the adequacy of the evaluation, associated actions, timeliness, and interfaces with other sites. In addition, 13 CA documents received from other sites for evaluation of potential applicability to SQN were evaluated. The team concluded that generic issues are adequately evaluated for applicability to SQN and other sites.

## B. NRC Commitments

The audit team reviewed the commitment-related TROI database information and commitments associated with nine NRC documents. The commitments made to the NRC were effectively implemented and tracked. The program in place to generate, document, track, and close NRC commitments meets or exceeds current commitments.



## III. SQN (cont.)

## C. Reportability Evaluations

The items selected in Section III.F were evaluated for correct and timely reportability determinations. No problems were identified with the reportability determinations.

## D. Operability Determinations

The items selected in Section III.F were also evaluated for correct and timely operability determinations. No problems were identified with the operability determinations.

## E. 10CFR21 Notices

Six 10CFR21 notices were reviewed to ensure that potential defects in materials or services are identified, evaluated, and corrected. The identification, evaluation, and CAs for the items reviewed were satisfactory.

## F. CAs/Recurrence Controls

The audit team evaluated 55 CA documents (PERs and IIs) principally representing the CA Program activities of the Operations, Engineering, Technical Support, Modifications, and Maintenance organizations. The CA documents were generally selected to reflect activity which had occurred in the recent six-month period. The documents were reviewed for proper problem description, category assignment (SCAR, PER, II, or other ACP), timeliness in meeting actions, extent of condition analyses, operability and reportability determinations, generic reviews, cause analysis, interim actions, CAs and recurrence controls, previous occurrences, and adequacy of closure documentation and records. Additional TROI searches were also conducted to evaluate problem recurrences.

The audit team concluded that improvement is required to meet TVA requirements. During the evaluation of the CA documents, observations and findings were made which are discussed in the following paragraphs.

A number of instances were identified of repeat events, inadequate root causes, incomplete CAs, inadequate previous/similar event searches, and documentation issues. More details concerning the finding are contained in PER SQ940418 which was issued to identify the conditions.

A review of the PER/II forms for 21 IIs issued since January 1, 1994, indicated 18 required a root cause analysis. A review of the II packages indicated none of the packages contained a detailed or formal root cause analysis; the root causes were generally a basic, common sense deduction of the cause. The audit team recommends that a review be conducted of this area to determine if this is management's expectation. This is listed in the Executive Summary as SQN audit recommendation 1.

III. SON (cont.)

## F. CAs/Recurrence Controls (cont.)

The audit team identified a number of problems with adverse conditions which were closed based on a memorandum from the Corrective Action Review Panel. Several adverse conditions were identified which were closed without completion and/or verification of CAs. The audit team initiated PER SQ940419 to identify this issue.

SON Nuclear Assurance and Licensing (NA&L) had initiated SQ9400118PER in February 1994 to identify CA documents which did not fully document the completion of CA Program requirements. The PER extent of condition noted that future findings would be addressed by meetings with the Plant Manager or issuance of new PERs, as appropriate. The audit team observed that the CA plan for the PER had not been properly implemented. The indicated meetings were not occurring, and new PERs were not being prepared to address subsequent deficiencies. The audit team initiated PER SQ940417 to identify this issue.

## G. Nonconforming items

Actions associated with 10 QCIRs for nonconforming materials were evaluated. The disposition of the nonconforming material was timely. The controls, physical storage, segregation, and tagging for nonconforming materials were adequate.

## H. Concerns Resolution Program

Five Employee Concerns were evaluated. Documentation and tracking of packages were appropriate, and the packages were worked in a timely manner. Additionally, the packages included the supporting documentation that addressed effective CAs, sound problem resolution, and the initiation of the proper CA documents when required.

## I. ACPs

The SON ACPs evaluated by the audit team included WRs, DDs, RARs, COTS, and QCIRs. The ACPs were evaluated for the adequacy and effectiveness of trending and the adequacy of CAs. The audit team concluded that the problems identified in the ACPs are adequately resolved and trended.

## J. Additional Audit Items

The findings associated with the previous two CA audits (SQA93401 and SSA93308) were evaluated, and the status and/or resolution were satisfactory.



## III. SQN (cont.)

## J. Additional Audit Items (cont.)

The SQN trend program was evaluated. The initial implementation of the enhanced program represents an improvement from previous trending. Discussions with SQN personnel indicated additional improvements are required in the analysis portion of the evaluation, expanding the database used in the analysis, and the computer hardware used to support the process.

The audit team evaluated the operability determinations for ACPs as a result of a problem which occurred at WBN (WBFIR930147). SGERs and QCIRs are not required by their SQN implementing procedures to be reviewed for affect on operability. This is a different approach than is utilized at WBN, and appears to stem from a different interpretation of the requirements of TVA Nuclear Standards. The audit team recommends that the operability determination expectations for QCIRs and SGERs be clarified. This is listed as SQN audit recommendation 2.

The audit team evaluated Systematic Assessment of Licensee Performance action plan items addressing guidance for initiating PERs and identification of potential safety issues from one TVA site to another. The action plan items were transferred to the SQN Site Improvement Plan. All of the items have been corrected by revisions to the CA Program except one which will be incorporated into the next revision.

The audit team was asked to evaluate the status of the Unit 2 restart CA Program issues. The Department Operations Readiness Book for Site Quality Restart Readiness was evaluated for actions related to the CA Program. The Unit 2 restart items associated with the CA Program were found to be complete.

The audit team reviewed the interface between the HPES and the CA Program and determined that HPES includes a review for whether adverse conditions should be prepared and included in the CA Program.

The audit team reviewed the CA documents backlog and timeliness of resolution. Performance indicators were maintained to monitor these parameters. A memorandum was observed from the SQN NA&L Manager to the Plant Manager indicating that the backlog had reached 491 (versus a fiscal year 1994 goal of 400 which is assigned to the Manager, NA&L), and that action was needed to control the backlog. The memorandum also mentioned the large number of extension requests as a contributor. Discussions with Outage and Technical Support management indicated that NA&L was maintaining the issue in the forefront during daily meetings. The Technical Support Manager also indicated they were increasing attention in this area and expected to see improvement.

A review of the adequacy and effectiveness of contractors' CA Program was also on the audit checklist. However, the SQN onsite contractors use TVA's CA Program, so this item was not evaluated any further.



**QA Record**

August 30, 1994

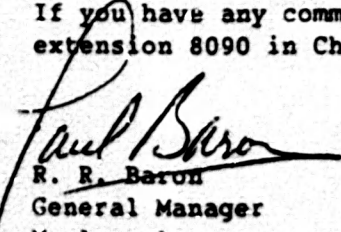
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TVA NUCLEAR - BELLEFONTE NUCLEAR PLANT (BLN) AND CORPORATE ORGANIZATIONS -  
NUCLEAR ASSURANCE AND LICENSING (NA&L) - AUDIT REPORT NO. SSA94407 -  
CORRECTIVE ACTION (CA)/CORRECTION OF DEFICIENCIES

Attached is the CA/Correction of Deficiencies audit report that provides conclusions regarding the adequacy of the CA Program at BLN and Corporate organizations in Chattanooga.

One Corporate and two BLN findings were initiated from this audit. Problem Evaluation Reports have been issued for the findings. Recommendations have been provided to BLN NA&L, Corporate Quality Assurance, and Corporate Concerns Resolution Staff. Responses are requested for these recommendations within 60 days of receipt of this memorandum.

If you have any comments or questions, please contact A. R. Meller at extension 8090 in Chattanooga.

  
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General Manager  
Nuclear Assurance and Licensing  
BR 4J-C

MJF:WEA:ARM:LYM

Attachment

cc (Attachment.):

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\*\*Audit Working File  
\*\*RIMS, CST 13B

\*Receives Executive Summary only.

\*\*Receives Audit Report w/Attachments.

## EXECUTIVE SUMMARY

AUDIT SSA94407

### CORRECTIVE ACTION (CA)/CORRECTION OF DEFICIENCIES

The audit team concluded that the CA Program at Bellefonte Nuclear Plant (BLN) and Corporate organizations in Chattanooga meet regulatory requirements; however, improvements are required to meet management expectations. Two Problem Evaluation Reports (PERs) were identified at BLN, and one was identified at Chattanooga. The findings are as follows:

#### Bellefonte:

- Several discrepancies were identified in the implementation of the BLN CA Program. They included incomplete generic reviews, extent of condition analyses that were not thorough, and administrative errors (PER BLP940050).
- Two BLN Site Standard Practices (SSPs) were identified which had not been revised to the latest Nuclear Power Standard (NP STD) revisions or changes (PER BLP940051).

#### Corporate:

- Several discrepancies were identified in the implementation of the Corporate CA Program. The types of discrepancies included incomplete CAs, extent of condition analyses that were not thorough, recurrence controls that did not address identified problems, and administrative errors (CHPER940033).

The audit scope included evaluations of CA Program documents such as Significant Condition Adverse to Quality Reports (SCARs), PERs, Finding Identification Reports, other Administrative Control Program documents, Nuclear Regulatory Commission (NRC) commitments, Nuclear Experience Review (NER) items, and Concerns Resolution Program items. The evaluations included approximately 50 CA documents at BLN and 25 at Chattanooga. Operability and reportability evaluations, extent of condition analyses, root cause and generic review determinations, and CA/recurrence controls were reviewed.

Three of the audit team members were technical specialists, and two were TVA senior management representatives.



AUDIT SSA94407  
CORRECTIVE ACTION (CA)/CORRECTION OF DEFICIENCIES

AUDIT FINDINGS/RECOMMENDATIONS

**BELLEFONTE:**

- Finding 1**      Discrepancies were identified in the implementation of the BLN CA Program (PER BLP940050, Nuclear Assurance and Licensing [NA&L]). The types of discrepancies include:
- The BLN generic review of a Watts Bar Nuclear Plant (WBN) PER identified additional pertinent information which was not noted on a generic review evaluation and distributed to other sites.
  - Other less significant discrepancies were identified, such as generic applicability determination, extent of condition analyses thoroughness, trend program analysis time frames, and administrative errors.
- Finding 2**      SSP 11.2, "Reporting Safeguards Events," has not incorporated Revision 3 to NP STD-11.2 dated September 27, 1993. SSP 5.4, "Special Nuclear Material," has not incorporated SCN No. 2 to NP STD-5.4 dated May 11, 1994. NP STD-2.1 allows 60 days for implementation of new or revised standards. Other less significant discrepancies were identified that were associated with the timing of the BLN implementation of NP STD-3.4, Revision 3 (PER BLP940051, BLN Site Services).
- Recommendation 1**      Improvements are recommended for the BLN review of Part 21 notices. BLN should expedite the Office of General Counsel's evaluation of Part 21 response timeliness, modify the material transfer checklist to address potential Part 21 issues, review the BLN process for handling Part 21 items in the NER Program, and reevaluate the closing of BLP940025 associated with a diesel generator Part 21 evaluation (BLN NA&L).
- Recommendation 2**      BLN should conduct a review of the WBN lessons learned from the final implementation, verifications, and NRC review of the old CA documents which were combined, rolled over, etc. (BLN NA&L).
- Recommendation 3**      The CA plan for BLSCA930011, Envirex flexible couplings issues, should be updated to include an evaluation of the method by which hardware issues are reflected in the record copy of a vendor's contract file (BLN NA&L).



AUDIT SSA94407  
CORRECTIVE ACTION (CA)/CORRECTION OF DEFICIENCIES

AUDIT FINDINGS/RECOMMENDATIONS

CORPORATE:

- Finding 1      Discrepancies were identified in the implementation of the Corporate CA Program (CHPER940033, Corporate Quality Assurance). The types of discrepancies include:
- CHPER930034, Radiation Exposure System (REX), states Deviation Report (DR) SSA93312 will address the root cause; however, the DR did not state why the C-list change was not verified and tested prior to being placed into production. Also, the analysis did not address previous similar REX issues such as those identified in PERs CHPER930005 and CHPER930008.
  - Several extent of condition analyses did not adequately bound the identified problem.
  - Other less significant issues were identified with the scope of recurrence controls and administrative errors.
- Recommendation 1      Corporate organizations should consider implementing a Management Review Committee similar to the nuclear plants. This would strengthen the evaluation process for reportability and affect on operability (Corporate Quality Assurance).
- Recommendation 2      A review should be conducted of the management expectations and guidance for the extent of condition analyses. The audit indicated there were still misunderstandings over the relationship between previous event searches, generic reviews, and extent of condition reviews (Corporate Quality Assurance).
- Recommendation 3      NA&L should sample review Corporate CA Program documents and closeout packages (Corporate Quality Assurance).
- Recommendation 4      Work requests (WRs) and work orders (WOs) which implement CAs associated with an employee concern should be annotated with a statement indicating the WR/WO should not be cancelled without notifying the Concerns Resolution Staff (CRS). The CRS should hold the concern file open until the WR/WO is completed (Corporate CRS).