



# **NUCLEAR ASSURANCE AND LICENSING**

## **CORRECTIVE ACTION/CORRECTION OF DEFICIENCIES - BELLEFONTE NUCLEAR PLANT AND CORPORATE ORGANIZATIONS**

**AUDIT REPORT NO. SSA94407**

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TENNESSEE VALLEY AUTHORITY  
NUCLEAR ASSURANCE AND LICENSING

NUCLEAR QUALITY AUDIT AND EVALUATION

AUDIT REPORT NO. SSA94407

TITLE: CORRECTIVE ACTION/CORRECTION OF DEFICIENCIES - BELLEFONTE  
NUCLEAR PLANT AND CORPORATE ORGANIZATIONS

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Audit Locations: Bellefonte Nuclear Plant and Corporate Organizations

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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 Bellefonte Nuclear Plant (BLN) and Corporate organizations in Chattanooga. 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 Condition Adverse to Quality Reports (SCARs), Finding Identification Reports (FIRs), Problem Evaluation Reports (PERs), other Administrative Control Program documents (ACPs), Nuclear Regulatory Commission (NRC) commitments, Concerns Resolution (CR) Program items, 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 employer concerns are satisfactorily resolved.

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

### II. BLN

#### A. Generic Reviews

The audit team evaluated 41 CA documents originated at BLN 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 BLN were evaluated. The team identified two issues associated with generic reviews. WBPER910168 (Pall-Trinity fillet weld problem) was sent to BLN for generic review. The generic review at BLN identified additional nonspecified weld sizes that affected the scope of the original Watts Bar Nuclear Plant (WBN) PER (BLPER930064). The additional information was not sent to the other sites for further generic review. BLPER910019 (safety-related cables installed in conduits subjected to water intrusion) was identified as not requiring a generic review; however, the generic applicability is to be reevaluated by August 7, 1997. The significance of water in a conduit and the capability of the safety-related cables to withstand submergence should warrant a more timely generic review determination. The audit team combined these issues with other issues in BLP940050 (see Section II.F).



**II. BLN (cont.)****B. NRC Commitments**

NRC commitments are placed in Tracking and Reporting of Open Items (TROI) by BLN Licensing. The closure packages for seven commitments were reviewed. The commitments were adequately addressed and closed. A review of the management of the commitments in TROI indicated the due dates were being monitored and were being met. The management of Generic Letters and Bulletins was not reviewed by the audit team since BLN Licensing was in the process of assembling previous contractor files to establish the adequacy of the associated actions and responses.

**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**

Five 10CFR21 notices were reviewed to ensure that potential defects in materials or services are identified, evaluated, and corrected. BLN is tracking Part 21 notices in the NER Program until sufficient resources are available to complete a BLN evaluation. The sometimes lengthy evaluation process has prompted BLN to request an opinion from the Office of General Counsel on the associated regulatory requirements for timeliness. Also, an evaluation of the process for obtaining parts from BLN warehouses concluded that a review for potential Part 21 issues is not clearly stated. In addition, a review of BLPER940025 associated with a diesel generator Part 21 evaluation indicated that although the item is being tracked by the NER program, the PER may have been prematurely closed.

The audit team recommends improvements 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 BLPER940025 associated with a diesel generator Part 21 evaluation. This is listed in the executive summary as BLN Recommendation 1.

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

The audit team evaluated 41 CA documents (SCARs, PERs, and FIRs) representing the CA Program activities of a number of BLN organizations, including Site Engineering, Warehouse Services, and contractor engineering organizations. The CA documents were generally selected to reflect activity which had occurred in the recent 15-month period. The documents were reviewed for proper problem description, category assignment (SCAR, PER, Incident Investigation [II], or other ACP), timeliness in meeting actions, extent of condition analyses, operability and reportability determinations, generic reviews, root 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 needed in the implementation of the CA Program to meet management expectations. Observations are discussed in the following paragraphs and are addressed in PER BLP940050, initiated by the audit team.

The extent of condition statements for two PERs consisted of TROI database searches for previous/similar events. The searches did not provide an adequate BLN evaluation for determining what other similar conditions currently exist or for bounding the identified problem.

A FIR was closed by adding it to a SCAR which addressed similar problems. The FIR was closed without providing auditable documentation correlatable to the actions which had been closed and verified prior to rolling the FIR into the SCAR. Several other CA documents were observed that had been rolled into other documents prior to BLN discontinuing the rollover practice. The audit team recommends that BLN conduct a review of the WBN lessons learned from the final implementation, verifications, and NKC review of the old CA documents which were combined, rolled over, etc. This is listed in the executive summary as BLN Recommendation 2.

Several administrative error-type problems were observed, such as blocks not checked, typographical errors, and revising a document without cross-hatching, initialing, etc.

**G. Nonconforming Items**

Three nonconforming items were selected for review. The nonconforming material was appropriately tagged, and the physical control of the material was adequate. An administrative issue was identified with an Envirex flexible couplings contract. After the



II. BLN (cont.)

## G. Nonconforming Items (cont.)

material was accepted by receipt inspection, a corporate vendor audit resulted in a SCAR which removed the vendor from the TVA Acceptable Suppliers List. The material was appropriately tagged at BLN; however, the contract file at the warehouse did not reflect the SCAR. In addition, the inventory database indicated the material was acceptable. The audit team recommends that the CA plan for SCAR BLSCA930011 be updated to include an evaluation of the method by which hardware issues are reflected in the record copy of a vendor's contract files. This is identified in the executive summary as BLN Recommendation 3.

## 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. Also see Section II.E for a discussion of Part 21 review observations.

## I. CR Program

The CR Program at BLN was being administered out of Chattanooga with BLN Human Resources maintaining the exit interview documentation. Exit interview statement sheets for 15 persons were reviewed. The sample identified one concern which was filed in Chattanooga. This concern was evaluated during the Chattanooga phase of the audit and was adequately resolved. The CR activities conducted at BLN were considered adequate.

## J. ACPs

The BLN ACPs evaluated by the audit team included Work Requests/Work Orders (WRs/WOs), Safeguards Events, QC Inspection Reports (QCIRs), Engineering Design Changes (EDCs), and Corrected on the Spot (COTS). The WR/WO ACP was too early in the initial implementation phase to draw audit conclusions; however, a review of the procedure indicated it was adequate. No safeguards events have been initiated by BLN during the audit period. The EDCs prepared at BLN do not fall under the general function of an ACP, no trending is required, and the CAs are accomplished as part of the normal engineering process. The COTS and QCIR 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 where appropriate; however, two related issues were identified.

II. BLN (cont.)

## J. ACPs (cont.)

A September 1993 revision to Nuclear Power (NP) Standard 11.2, "Reporting Safeguards Events," had not been incorporated into the BLN Site Standard Practice (SSP). A further sample of other SSPs identified another instance of an SSP not being updated within the 60-day implementation phase. Additional administrative issues were identified with the timing of the BLN implementation of the CA Program identified in NP STD-3.4, Revision 3. BLN had received an extension until August 19, 1994, to implement Revision 3 (Reference CHPER940030). The audit team initiated BLP940051 to address these issues.

The BLN quarterly trend program did not identify some adverse trends due to a failure to consider relevant data from previous quarterly trend reports. Particularly, repeat occurrences were noted in "document use practice" and "design," in which over a period of two quarters, 11 and 19 items were identified, respectively. The audit team included this issue in BLP940050.

III. Corporate Organizations

## A. Generic Reviews

The audit team evaluated 25 CA documents originated at Chattanooga for adequacy of the generic applicability determinations. The audit included assessments of the adequacy of the evaluations, associated actions, timeliness, and interfaces with other sites. In addition, 6 CA documents received from other sites for evaluation of potential applicability to Corporate organizations were evaluated. The team concluded that generic issues are adequately evaluated for applicability to Chattanooga and other sites; however, one exception was observed.

One PER was observed which addressed a Sequoyah Nuclear Plant Chemical Traffic Control SSP revision issued prior to the associated NP Standard revision. The PER should either have been sent to other sites for generic review or included an explanation as to why it was not. The audit team included this observation in CHPER940033.

## B. NRC Commitments

The audit team reviewed four NRC commitments, two Generic Letters, and two Bulletins. No discrepancies were noted during the review. The NRC commitment dates are adequately tracked and kept current in TROI. No Corporate organization commitments to NRC had been closed in the previous 15 months.



### III. Corporate Organizations (cont.)

#### C. Reportability Evaluations

The items selected in Section III.F were evaluated for correct and timely reportability determinations. An additional four SCARs were also evaluated. No problems were identified with the reportability determinations; however, the audit team observed that the reportability and operability evaluations are conducted by numerous personnel with diverse backgrounds. To improve and add consistency to the evaluation process, the audit team recommends that Corporate organizations consider implementing a Management Review Committee (MRC) similar to the nuclear plants. This would strengthen the evaluation process for reportability and effect on operability. This recommendation is listed in the executive summary as Corporate Recommendation 1.

#### D. Operability Determinations

The items selected in Section III.F were also evaluated for correct and timely operability determinations. An additional four SCARs were also evaluated. No problems were identified with the operability determinations. See Section III.C for a recommendation to implement an MRC.

#### E. 10CFR21 Notices

Three 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 25 CA documents (PERs, FIRs, and SCARs) principally representing the CA Program activities of Engineering and Technical Services, Information Services, and Operations Support. The CA documents were generally selected to reflect activity which had occurred in the recent 15-month period. The documents were reviewed for proper problem description, category assignment (SCAR, PER, or other ACP), timeliness in meeting actions, extent of condition analyses, operability and reportability determinations, generic reviews, root 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 the implementation of the CA Program to meet management expectations. During the evaluation of the CA documents, observations and findings were made which are discussed in the following paragraphs and are included in CHPER940033, initiated by the audit team.

## III. Corporate Organizations (cont.)

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

A PER which addressed a Radiation Exposure System outage stated that another CA document would address the root cause. A review of the other CA document indicated it did not address the root cause.

Additional observations addressed the adequacy of extent of condition analyses and recurrence controls. A number of administrative issues were also identified. More details concerning the observations are included in CHPER940033.

The documents reviewed and audit team discussions indicated there were still misunderstandings over the relationship between previous event searches, generic reviews, and extent of condition reviews. The audit team recommends that a review be conducted of the management expectations and guidance for the extent of condition analyses. This is included in the executive summary as Corporate Recommendation 2.

Considering the number of issues identified by the audit, the audit team also recommends that NA&L sample review Corporate CA Program documents and closeout packages. This is identified in the executive summary as Corporate Recommendation 3.

## G. NER

Three NER items were evaluated for timeliness and adequacy of CAs/recurrence controls. The problems evaluated were appropriately documented and resolved.

## H. CR Program

Five closed employee concern files were evaluated. The tracking and documentation were adequate. Assignments were given to the appropriate organizations, and CA documents were initiated when required. The file folders consisted of a documented trail from the initial concern through interviews with all parties involved and included the closure notification letter to the concerned individual. The employee concerns were satisfactorily resolved.

In one instance, a BLN WO was identified which resolved an employee concern. Although the WO reflected the fact that it addressed an employee concern, the audit team recommends that further instructions be placed in the WO to prevent potential problems. WRs and 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 CR Staff (CRS). The CRS should hold the concern file open until the WR/WO is completed. This is listed in the executive summary as Corporate Recommendation 4.



### III. Corporate Organizations (cont.)

#### I. ACPs

The only ACP applicable to Corporate organizations is the COTS Program. A review of Corporate audit reports indicated that COTS are being entered into TROI for incorporation into the trend program.

#### J. Additional Audit Items

The audit team was asked to determine if further actions are necessary in Corporate as a result of NRC Violation 390, 391/94-22-01, and CHPER 10011 which addressed an incomplete CA plan for correcting deficiencies in the control of quality assurance-related software. The audit team reviewed the associated PERs, CHPER930001, CHPER940008, and CHPER940011, and interviewed Information Services (IS) personnel. The actions taken by IS as a result of the identified problems were concluded to be adequate. The self-assessment process and escalation process are functioning effectively. No self-assessment reports were 40 or more days late. IS library personnel have been trained to NP standards associated with the CA Program and software control, and the standards are included in their training matrix. The audit team observed that other IS training issues are being addressed by IS Audit SSA93312 Deviation Reports.

The audit also evaluated Corporate CA documents to ensure CAs were completed prior to closure of the document. No issues were identified other than the issue identified in Section III.F in which the root cause for a problem was stated to be contained in another document and apparently was not. That problem is under evaluation as part of CHPER940033.

The Nuclear Safety Review Board (NSRB) activities associated with the CA Program were evaluated. The audit team concluded that the NSRB issues are adequately tracked. No issues were identified which should have been CA documents that were not already identified as such. The NSRB issues are considered during the trend activities at the sites. The audit team concluded the NSRB activities are in accordance with the CA Program.