EMPLOYEE CONCERNS SPECIAL PROGRAM

VOLUME 8
QUALITY ASSURANCE/QUALITY CONTROL CATEGORY

PART 80400
SUBCATEGORY
NONCONFORMANCE AND CORRECTIVE ACTIONS

OFFICE OF NUCLEAR POWER

TVA
Tennessee Valley Authority

TVA NUCLEAR

TVA EMPLOYEE CONCERNS
SPECIAL PROGRAM

REPORT NUMBER: 80400

REPORT TYPE: Subcategory

REVISION NUMBER: 6

TITLE: Nonconformance Control and Corrective Action

REASON FOR REVISION:

To incorporate a CATD response and to correct typos.

Revision markers used in margin to indicate revisions.

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EXECUTIVE SUMMARY

Subcategory 80400

Nonconformance Control

and

Corrective Action

1.0 SUMMARY

The issues in this subcategory report were comprised of concerns raised during the Watts Bar Employee Concern Special Program. The issues focus attention on the inadequacy of the TVA control systems employed for the control of nonconforming items and the prompt correction of nonconforming conditions in accordance with Appendix B to 10 CFR 50. There are a total of 29 issues detailed in the report, of which 14 identified problems, directly or indirectly, requiring corrective action.

2.0 MAJOR FINDINGS

The report identifies several conditions which degraded the nonconformance control and corrective action programs. It was found that discrepancies were not promptly identified; reporting systems were overly complicated and confusing; licensing commitment tracking was inadequate resulting in the final safety analysis report being out of date; and sampling of identified noncompliances as a basis for acceptance was inadequate.

3.0 COLLECTIVE SIGNIFICANCE

The subcategory results indicated that the systems employed to control the nonconformance program were ineffective in assuring compliance to 10CFR50, Appendix B requirmenets. Management's inability to satisfy regulatory requirements and commitements resulted in inadequate implementation by the line organization and conflicting direction in procedures. In some instances adequate procedures were in place but were

not implemented. Nonconformances were allowed to remain undocumented and/or uncorrected for extended periods of time. Although some significant problems had been identified by TVA, NRC, INPO, and others, they were allowed to remain uncorrected or, in some cases, effective preventive action was not taken and problems multiplied to a point where the quality of the TVA nuclear program was highly criticized.

TVA, as part of its recovery effort, has instituted a number of new programs to correct noted problems. Particularly, the TVA CAQ Program, now in effect, has partially corrected the Nonconformance Control and Corrective Action Programs. The new and strengthened programs in place are a significant improvement over past practices. Like the new programs, however, their success depends on the ability and willingness of line managers to aggressively pursue their implementation. If commitments made in the Nuclear Performance Plan in this regard are fulfilled, the corrective action program will function effectively.

4.0 CAUSES

The problems identified in the report are a result of management's inability to adequately implement Quality Assurance Procedures to meet and comply with Appendix B to 10CFR50. This condition resulted in a procedural system which was inadequate and inconsistently applied.

5.0 CORRECTIVE ACTION

In realization of management's inability to establish a complete and adequate control program and satisfactorily implement that program, a completely new program has been established to correct the inadequacies of the nonconformance and corrective action programs. The new program will require frequent review and evaluation to assure its effectiveness and satisfactory implementation.

Preface

This subcategory report is one of a series of reports prepared for the Employee Concerns Special Program (ECSP) of the Tennessee Valley Authority (TVA). The ECSP and the organization which carried out the program, the Employee Concerns Task Group (ECTG), were established by TVA's Manager of Nuclear Power to evaluate and report on those Office of Nuclear Power (ONP) employee concerns filed before February 1, 1986. Concerns filed after that date are handled by the ongoing ONP Employee Concerns Program (ECP).

The ECSP addressed over 5800 employee concerns. Each of the concerns was a formal, written description of a circumstance or circumstances that an employee thought was unsafe, unjust, inefficient, or inappropriate. The mission of the Employee Concerns Special Program was to thoroughly investigate all issues presented in the concerns and to report the results of those investigations in a form accessible to ONP employees, the NRC, and the general public. The results of these investigations are communicated by four levels of ECSP reports: element, subcategory, category, and final.

Element reports, the lowest reporting level, will be published only for those concerns directly affecting the restart of Sequoyah Nuclear Plant's reactor unit 2. An element consists of one or more closely related issues. An issue is a potential problem identified by ECTG during the evaluation process as having been raised in one or more concerns. For efficient handling, what appeared to be similar concerns were grouped into elements early in the program, but issue definitions emerged from the evaluation process itself. Consequently, some elements did include only one issue, but often the ECTG evaluation found more than one issue per element.

Subcategory reports summarize the evaluation of a number of elements. However, the subcategory report does more than collect element level evaluations. The subcategory level overview of element findings leads to an integration of information that cannot take place at the element level. This integration of information reveals the extent to which problems overlap more than one element and will therefore require corrective action for underlying causes not fully apparent at the element level.

To make the subcategory reports easier to understand, three items have been placed at the front of each report: a preface, a glossary of the terminology unique to ECSP reports, and a list of acronyms.

Additionally, at the end of each subcategory report will be a Subcategory Summary Table that includes the concern numbers; identifies other subcategories that share a concern; designates nuclear safety-related, safety significant, or non-safety related concerns; designates generic applicability; and briefly states each concern.

Either the Subcategory Summary Table or another attachment or a combination of the two will enable the reader to find the report section or sections in which the issue raised by the concern is evaluated.

The subcategories are themselves summarized in a series of eight category reports. Each category report reviews the major findings and collective significance of the subcategory reports in one of the following areas:

- management and personnel relations
- industrial safety
- construction
- material control
- operations
- quality assurance/quality control
- welding
- engineering

A separate report on employee concerns dealing with specific contentions of intimidation, harassment, and wrongdoing will be released by the TVA Office of the Inspector General.

Just as the subcategory reports integrate the information collected at the element level, the category reports integrate the information assembled in all the subcategory reports within the category, addressing particularly the underlying causes of those problems that run across more than one subcategory.

A final report will integrate and assess the information collected by all of the lower level reports prepared for the ECSP, including the Inspector General's report.

For more detail on the methods by which ECTG employee concerns were evaluated and reported, consult the Tennessee Valley Authority Employee Concerns Task Group Program Manual. The Manual spells out the program's objectives, scope, organization, and responsibilities. It also specifies the procedures that were followed in the investigation, reporting, and closeout of the issues raised by employee concerns.

ECSP GLOSSARY OF REPORT TERMS*

classification of evaluated issues the evaluation of an issue leads to one of the following determinations:

Class A: Issue cannot be verified as factual

Class B: Issue is factually accurate, but what is described is not a problem (i.e., not a condition requiring corrective action)

Class C: Issue is factual and identifies a problem, but corrective action for the problem was initiated before the evaluation of the issue was undertaken

Class D: Issue is factual and presents a problem for which corrective action has been, or is being, taken as a result of an evaluation

Class E: A problem, requiring corrective action, which was not identified by an employee concern, but was revealed during the ECTG evaluation of an issue raised by an employee concern.

collective significance an analysis which determines the importance and consequences of the findings in a particular ECSP report by putting those findings in the proper perspective.

concern (see "employee concern")

corrective action steps taken to fix specific deficiencies or discrepancies revealed by a negative finding and, when necessary, to correct causes in order to prevent recurrence.

criterion (plural: criteria) a basis for defining a performance, behavior, or quality which ONP imposes on itself (see also "requirement").

element or element report an optional level of ECSP report, below the subcategory level, that deals with one or more issues.

employee concern a formal, written description of a circumstance or circumstances that an employee thinks unsafe, unjust, inefficient or inappropriate; usually documented on a K-form or a form equivalent to the K-form.

evaluator(s) the individual(s) assigned the responsibility to assess a specific grouping of employee concerns.

findings includes both statements of fact and the judgments made about those facts during the evaluation process; negative findings require corrective action.

issue a potential problem, as interpreted by the ECTG during the evaluation process, raised in one or more concerns.

K-form (see "employee concern")

requirement a standard of performance, behavior, or quality on which an evaluation judgment or decision may be based.

root cause the underlying reason for a problem.

*Terms essential to the program but which require detailed definition have been defined in the ECTG Procedure Manual (e.g., generic, specific, nuclear safety-related, unreviewed safety-significant question).

Acronyms

AI	Administrative Instruction
AISC	American Institute of Steel Construction
ALARA	As Low As Reasonably Achievable
ANI	Authorized Nuclear Inspector/ANII (Inservice)
ANS	American Nuclear Society
ANSI	American National Standards Institute
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
AWS	American Welding Society
BFN	Browns Ferry Nuclear Plant
BLN	Bellefonte Nuclear Plant
CAQ	Condition Adverse to Quality
CAQR	Condition Adverse to Quality Report
CAR	Corrective Action Report
CATD	Corrective Action Tracking Document
CCTS	Corporate Commitment Tracking System
CEG-H	Category Evaluation Group Head
CEP	Construction Engineering Procedure
CFR	Code of Federal Regulations
CI	Concerned Individual
CMTR	Certified Material Test Report
COC	Certificate of Conformance/Compliance
DCR	Design Change Request
DNC	Division of Nuclear Construction (see also NU CON)

DNE	Division of Nuclear Engineering
DNQA	Division of Nuclear Quality Assurance
DNT	Division of Nuclear Training
DOE	Department of Energy
DPO	Division Personnel Officer
DR	Discrepancy Report or Deviation Report
ECN	Engineering Change Notice
ECP	Employee Concerns Program
ECP-SR	Employee Concerns Program-Site Representative
ECSP	Employee Concerns Special Program
ECTG	Employee Concerns Task Group
EEOC	Equal Employment Opportunity Commission
EQ	Environmental Qualification
EMRT	Emergency Medical Response Team
EN DES	Engineering Design
ERT	Employee Response Team or Emergency Response Team
FCR	Field Change Request
FSAR	Final Safety Analysis Report
FY	Fiscal Year
GET	General Employee Training
HCI	Hazard Control Instruction
HVAC	Heating, Ventilating, Air Conditioning
II	Installation Instruction
INPO	Institute of Nuclear Power Operations
IRN	Inspection Rejection Notice

L/R	Labor Relations Staff
M&AI	Modifications and Additions Instruction
MI	Maintenance Instruction
MSPB	Merit Systems Protection Board
MT	Magnetic Particle Testing
NCR	Nonconforming Condition Report
NDE	Nondestructive Examination
NPP	Nuclear Performance Plan
NPS	Non-plant Specific or Nuclear Procedures System
NQAM	Nuclear Quality Assurance Manual
NRC	Nuclear Regulatory Commission
NSB	Nuclear Services Branch
NSRS	Nuclear Safety Review Staff
NU CON	Division of Nuclear Construction (obsolete abbreviation, see DNC)
NUMARC	Nuclear Utility Management and Resources Committee
OSHA	Occupational Safety and Health Administration (or Act)
ONP	Office of Nuclear Power
OWCP	Office of Workers Compensation Program
PHR	Personal History Record
PT	Liquid Penetrant Testing
QA	Quality Assurance
QAP	Quality Assurance Procedures
QC	Quality Control
QCI	Quality Control Instruction

QCP	Quality Control Procedure
QTC	Quality Technology Company
RIF	Reduction in Force
RT	Radiographic Testing
SQN	Sequoyah Nuclear Plant
SI	Surveillance Instruction
SOP	Standard Operating Procedure
SRP	Senior Review Panel
SWEC	Stone and Webster Engineering Corporation
TAS	Technical Assistance Staff
T&L	Trades and Labor
TROI	Tracking and Reporting of Open Items
TVA	Tennessee Valley Authority
TVTLC	Tennessee Valley Trades and Labor Council
UT	Ultrasonic Testing
VT	Visual Testing
WBECSP	Watts Bar Employee Concern Special Program
WBN	Watts Bar Nuclear Plant
WR	Work Request or Work Rules
WP	Workplans

Nonconformance Control and Corrective Action
80400

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1.0 CHARACTERIZATION OF ISSUE

The Nonconformance Control and Corrective Action Subcategory consisted of 70 concerns comprising 29 issues, pertinent to the processes for identifying, documenting, dispositioning, trending, and correcting unsatisfactory conditions. Nine of the issues were determined to be generic and 20 were determined to be site-specific.

The evaluated issues resulted in the following classifications: eight of the issues could not be verified as factual (Class A); six of the issues were factually accurate, but what was described was not a problem (Class B); five of the issues were factual and identified problems, but corrective action for the problems was initiated before the evaluation of the issues was undertaken (Class C); nine of the issues were factual and presented problems for which corrective action has been, or is being, taken as a result of an evaluation (Class D); and one issue could not be verified as factual but as a result of the evaluation other problems were discovered for which corrective action was initiated (Class E).

2.0 EVALUATION METHODOLOGY

The evaluation methods used to assess the issues contained in this subcategory report consisted of reviewing the Employee Concern File, Nuclear Safety Review Staff (NSRS) File, Quality Technology Company (QTC) File, and applicable reports contained in the files. Pertinent requirements were established by reviewing the Tennessee Valley Authority (TVA) procedural hierarchy, ranging from the TVA Topical Report and Nuclear Quality Assurance Manual, to the specific governing implementing procedures. Additionally, regulatory requirements and industry standards were researched, when appropriate.

Documentation generated as a result of the particular activity related to each was reviewed in the evaluation process. For example, over 350 Nonconformance Reports, Significant Condition Reports, Inspection Rejection Notices, Quality Control Investigation Reports, Corrective Action Reports, Monthly Trend Reports, Deficiency Reports and Problem Identification Reports were reviewed in determining the issue's validity.

Discussions were held with cognizant personnel having responsibilities for the activities associated with the specific issue. Furthermore, when the issue warranted, additional evaluation or inspections were conducted of installations.

3.0 FINDINGS

3.1 Element - Discrepancies not being documented

3.1.1 Issue - Problems are not being documented on Problem Identification Reports (PIRs)/Significant Condition Reports (SCRs). Also, writing notes to file is being stressed instead of using the PIR/SCR forms. (Site-specific to BLN) (I-86-232-BLN)

Specific Evaluation

This issue was evaluated at BLN only. A review was performed of the following applicable documents: Quality Assurance Manual for Design, Construction, and Operation (Topical Report) TVA TR75 1A, Revision 8; TVA Nuclear Quality Assurance Manual (NQAM), January 26, 1967; Office

of Engineering Procedure (OEP), OEP-17 "Corrective Action," Revision 3, March 28, 1986; Nuclear Engineering Procedure (NEP), NEP-9.1, "Corrective Action," Revision 1, February 20, 1987; and Quality Control Procedure (QCP), QCP-6.18 "Metallic and Nonmetallic Thermal Insulation," Revision 5, October 8, 1985. Also, the investigation of the issue included discussions with Division of Nuclear Engineering (DNE) and QA personnel.

Discussion

A letter located in the (administratively confidential) file provided two examples where quality problems were not documented on PIRs and/or SCRs. In the first example, an SCR was generated relating to problems with final verification and analysis of installed piping insulation. The SCR was subsequently downgraded to a PIR. However, the PIR was never issued. QACEG's evaluation indicated the PIR was reviewed by the lead mechanical engineer (DNE) and was found not to be a problem. The reason this was not a problem was explained to the individual who initiated the PIR. The individual indicated (on the PIR) his concurrence that the PIR condition was not a problem.

The second example indicated that a PIR was initiated identifying a problem with the closure of an Engineering Change Notice (ECN), but never issued. QACEG's evaluation indicated no evidence of the subject PIR, however an ECN was located which appeared to be the subject of this

concern. The Lead Mechanical Engineer stated that the PIR was initiated but not issued because the PIR's description of the condition was in error. The closure sheet of the ECN was properly coordinated and initialed by the involved supervisors before closure. The ECN was incorporated before closure.

QACEG held discussions with several Division of Engineering and Quality Assurance personnel to gain further insight to the scope of the issue. These discussions indicated that one individual, a Principal Mechanical Engineer, recalled a time when notes were written to the files as an informal means of identifying discrepancies, but could not provide any details or examples.

QACEG also reviewed two procedures. OEP-17 "Corrective Action," (in effect at the time of the concern) Revision 3, March 28, 1986 and NEP-9.1, "Corrective Action," Revision 1, February 20, 1987 (which superseded OEP-17), contain the requirements for processing and resolving quality problems. NEP 9.1 delineates the present method for resolving disagreements regarding the validity of newly identified quality problems.

Conclusion

The issue could not be verified as factual (Class A). The particular examples provided, by the Concerned Individual, were determined to be invalid. Discussions held with

cognizant personnel did not reveal any instances where quality problems were not being properly documented on PIRs/SCRs, when required. Procedures were/are in place to control the processing of quality problems documented on PIRs, SCRs and the current Condition Adverse to Quality Report.

3.2 Element - Timely issuance of discrepancy documentation

3.2.1 Issue - Corrective Action Reports (CARs)/Deficiency Reports (DRs) not issued in a timely manner precluding prompt identification of problems (generic - WBN, BFN, BLN). (IN-86-090-002, IN-86-098-001, I-85-129-WBN, IN-86-087-003, IN 85 688 004, I 85 517 BFN, IN-85 688-002)

Specific Evaluation

This issue was evaluated at WBN, BFN, and BLN.

The QACEG's review of the Employee Concern Files indicated the existence of four NSRS reports, I-85-517-WBN, March 4, 1986, IN-85-424-WBN, December 9, 1985, I-86-185-SQN, March 5, 1986 and I-85-933-WBN, December 18, 1985, which addressed this issue. The evaluation also consisted of a review of implementing procedures (Administrative Instructions and Staff Instruction Letters) at Watts Bar Nuclear Plant (WBN), Bellefonte Nuclear Plant (BLN) and Browns Ferry Nuclear Plant (BFN) governing the processing of CARs/DRs and the associated tracking logs.

At Sequoyah Nuclear Plant (SQN) the QACEG evaluation included interviews with supervision personnel from Quality Engineering (QE) and Quality Control (QC), the CAR/DR Coordinator, and SQN Site Quality Assurance (QA) Manager. All 1985 and 1986 open and closed SQN CARs and DRs were reviewed as well as a random review of historical revisions to Sequoyah Administrative Instructions (AIs).

Discussion

A review was performed of the NSRS reports pertinent to the issue. These reports concluded that CARs/DRs had, in fact, not been promptly issued. Also, a review was conducted of the respective site implementing procedures. For example, at WBN, Administrative Instruction (AI), AI-7.3, Revision 4 and Plant Quality Assurance Staff Instruction Letter (PQA-SIL) PQA-SIL-3.1, Revision 8 included provisions for the use of a "draft" (informal) CAR/DR. This "draft" report was used primarily as a means of obtaining the concurrence of the Plant Quality Assurance Staff and there were no procedural time restraints on the processing of the "draft" report. Additionally, the procedures required that the initiator obtain his supervisor's review on the "draft" CAR/DR which provided the opportunity for further delays.

Review of implementing procedures at BFN and BLN indicated that similar situations occurred as those identified at WBN. The procedures did not provide any time restraints for the processing of CARs/DRs, from initiator to formal issuance, which resulted in the untimely issuance of CARs/DRs.

Conclusion

At SQN a review of the CARs/DRs and the applicable logs indicated that the documents were being processed promptly.

The issue is considered factual, and presents a problem but corrective action for the problem was initiated before the evaluation of the issue was undertaken (Class C). At WBN, AI 7.3 and PQA-SIL 3.1 were revised deleting use of the "draft" reports.

QA-SIL-5.04, Revision 0, July 1, 1985 was issued at BFN to impose time restraints and tracking requirements for CARs/DRs.

At BLN, QA-SIL-4.3, Revision 10, January 31, 1986 was issued imposing a unique numbering system for assuring CARs/DRs were promptly processed. Subsequent to the above actions, TVA has instituted the Condition Adverse to Quality Program which includes requirements for the prompt issuance of discrepancy documentation.

Corrective Actions

The issue presented problems at the WBN, BFN and BLN plants. At each of the plants procedural revisions had been generated which addressed the immediate problems of untimely CAR/DR issuance. Subsequent to the procedural revisions, TVA has initiated a new standardized corrective action program to be implemented by the Office of Nuclear

Power (ONP). In recognition of the newness of the program, two CATDs were issued to Project Quality Assurance Organizations to track and verify that implementation of the new program is effective. See CATD 80402-WBN-01 and 80402-BLN-01. The Corrective Action Plans for the CATDs indicated that surveillances and audits are being periodically conducted at all sites to assess the effectiveness of the corrective action program. At Browns Ferry the new program is identified in Site Director's Standard Practice BF-SDSP-3.7, titled "Corrective Action"; January 15, 1987 which is the implementing procedure for BFN. This procedure was implemented at BFN prior to issuance of CATD's 80402-WBN 01 and 80402-BLN-01.

3.2.2 Issue - Problem reporting systems are overly complicated (Generic to WBN, SQN, BFN and BLN).(IN-86-215-001)

Specific Evaluation

The issue was evaluated by reviewing QTC Report IN 86-215-001 and, NQAM Part III Section 7.2 Revision 10/12/84 (corrective action) Specific evaluations were not conducted at SQN nor BLN because the issue is corporate in nature, and all sites utilize similar procedures.

Discussion

The TVA program had many different methods to report problems. For example, Nonconformance Report, Inspection Rejection Notice, Quality Control Investigation Report,

Corrective Action Report, Maintenance Request, Work Request, and Deficiency Report systems all provided various methods for identifying and correcting discrepant conditions. These systems were confusing as to when to report a problem and on what document. The QACEG investigation revealed that TVA has identified this problem and is addressing this concern by use of the "Condition Adverse to Quality" (CAQ) program stated in the NQAM, Part I, Section 2.16.

Conclusion

The issue is considered to be factual, and presented a problem, but corrective action for the problem was initiated before evaluation of the issue was undertaken (Class C).

TVA's management has recognized that the various deficiency reporting programs, previously in place, were very difficult to understand.

TVA implemented a new corrective action program on March 31, 1987 to correct the original deficiencies. Reviews of the implementation of the new program have been conducted by the TVA Quality Systems Branch Review Team. This review indicates that the program suffers from many of the same problems as the original. The primary cause of problems with the new program is management lack of an aggressive and positive attitude toward the CAQ program,

both in the line and in the site quality managers organization. Implementation of the new program is being tracked by CATDs issued by the QACEG. These CATDs will remain open until the program is adequately implemented.

Corrective Action

TVA has instituted a new centralized program for the reporting of Conditions Adverse to Quality (CAQ). This new program is identified in Administrative Instruction AI 2.8.5, "Corrective Action" at WBN and BFN Site Directors Standard Procedure (BF-SDSP) BF-SDSP-3.7, "Corrective Action," January 15, 1987 at BFN. Although the issue was not evaluated at SQN and BLN it was determined that the issue was generic to these locations also. These plants have also instituted procedures for implementation of the CAQ program.

The new program is the subject of ongoing evaluations and will be required to be assessed at frequent future intervals until a satisfactory confidence level is attained for the corrective action program.

3.3 Element - Processing of discrepancy reports/design changes

3.3.1 Issue NCR voided incorrectly (site-specific WBN). (WI-85-068-003)

Specific Evaluation

This issue was evaluated at WBN only. The issue was evaluated by performing a review of NCRs listed as voided in the NCR logs. The review included NCR's from 1975 to 1987, Quality Control Instruction (QCI), QCI 1.02, "Control of Nonconforming Items," Revision 15, November 1, 1985, and discussions were also held with cognizant QC supervisors.

Discussion

A review of approximately 60 voided NCRs and discussions with cognizant Quality Control supervisors revealed no instances where NCRs were voided incorrectly.

QCI 1.02, states: "If the supervisor responsible for approving the disposition determines that the NCR does not identify a nonconformance, the initiator or reviewer marks the NCR invalid or void, states the reason, signs and dates the NCR in Section 3. All invalid or voided NCRs receive review, approval and distribution up through the highest level at which it was originally approved to acknowledge invalidating or voiding of the NCR." QACEG found no instance of void or corrected NCRs at the initiation or disposition stage that were in violation of these requirements.

Conclusion

This issue could not be verified as factual (Class A). A review of QCI 1.02 and voided NCRs indicated no instances where NCRs were incorrectly voided.

3.3.2 Issue - Field Change Requests (FCRs) misincorporated on drawings/FCRs issued in lieu of NCRs. (Site-specific - WBN) (IN 85-279 003, IN-85-279-002, IN-85-414-005, IN-85-290-001 and IN-85-867-001)

Specific Evaluation

This issue was evaluated at WBN only. Procedures QCI 1.02 1, "Inspection Rejection Notice," QCI-1.02, and QCI-1.13 were reviewed. Additionally, discussions were held with responsible personnel and QTC reports I-85-623-WBN and IN-85-414-002 were reviewed.

Discussion

A review was performed of historical issues of QCI-1.13, "Preparation and Documentation of Field Change Requests." This review indicated that, previously, Engineering had been required to perform a review ensuring that FCRs were properly incorporated into the effected drawing. In the event the review identified a discrepancy, Engineering was then required to initiate an NCR. Revision 10 of QCI-1.13 deleted the requirement to issue the NCR. Currently, Engineering issues a new FCR to correct the discrepant

condition. However, it was not clear in the procedure whether the new FCR was being issued before or after final acceptance inspection. Discussion with Engineering management personnel indicated that the FCR is issued only while the document is within the design organization and prior to release for work or prior to final acceptance inspection. An NCR would be issued if a discrepancy is noted after final acceptance inspection.

Conclusion

The issue was determined to be factual and presents a problem for which corrective action has been or is being taken as a result of this evaluation (Class D), because there was a lack of clarity regarding the procedural requirements for generating an FCR versus an NCR. As a result of the procedural change for issuing an FCR rather than an NCR before final acceptance inspection, the number of FCRs issued did increase substantially.

Causes

The cause of the finding was management did not assure the procedural content was completely clear and understandable. The QCI for processing of FCRs had deleted the issuance of an NCR when a misincorporated FCR was noted. Further investigation indicated that this was true only while the document was within the design organization and prior to release for work or up to the point of final acceptance inspection. The procedure did not clearly delineate this point and required clarification to clearly state the FCR processing methods.

Corrective Actions

As a result of the evaluation, a CATD (80404-WBN-01) was issued to the Project Quality Assurance Organization. QCI-1.13 was identified as being discrepant. The CATD indicated that later revisions of the QCI had deleted the requirement to initiate an NCR for noted FCR discrepancies on drawings. The Corrective Action Plan (CAP) indicated that if verification indicates a discrepancy between the initiated FCR and the approved drawing incorporating the FCR, a new FCR is issued correcting the discrepancy. QCI 1.13 provides a comprehensive tracking system by which FCRs are generated only when a drawing, containing an FCR error is still in process, i.e. has not been final acceptance inspected. As a result of the CATD, a revision to QCI-1.13 will be issued to clarify the actions involved in the flow of FCRs for incorporation in a drawing.

3.3.3 Issue - Incorrect processing of NCRs (site-specific WBN). (IN-85-862-001, WBP-85-003-001 and IN-86-116-002)

Specific Evaluation

This issue was evaluated at WBN only. NCR 6173, QCI-1.02 and QCI 1.13 were reviewed and discussions were held with Quality Control supervisors.

Discussion

This issue deals with concerns regarding Engineering incorrectly attributing problems to the craft, unauthorized resolution of NCR 6173 and NCR wording changes by supervisors.

The portion of this issue regarding Engineering attributing problems to the craft(s) could not be evaluated because of insufficient information.

A review was conducted of NCR 6173 to determine if it had been resolved inappropriately. NCR 6173, Revision 0, July 9, 1985, regarded alignment length problems on penetration 33. and stated that eight Tube Turn bellows penetration installation alignments were out of tolerance. |R6

The disposition of the NCR, provided by O'Toole Enterprises, was "accept as is" because movements resulting from the misalignment were within allowable limits. O'Toole Enterprises was properly approved to provide the disposition. Revision 1 of the NCR, October 24, 1985, indicated additional problems regarding weld shrinkage on non-safety related systems. This portion of the NCR remains undispositioned.

A review was also performed to evaluate the changing of words on NCRs. QCI-1.02 Revision 15, November 1, 1985, Section 6.7 "Voiding, Correcting, and Revising NCRs," states: "A revision to an NRC is required when information

previously entered on the NCR's changes. Also, "All revised NCRs are prepared, reviewed, approved and distributed the same as the original NCR." QACEG has found no instance of void or corrected NCRs that were in direct violation of these requirements.

Conclusion

The issue could not be verified as factual (Class A). In each case, the evaluation did not identify a problem. Either insufficient information was provided by the CI or the documents reviewed during the evaluation indicated a problem did not exist.

3.4 Element - Disposition assignment/corrective action

3.4.1 Issue - Specific instances of NCRs which were incorrectly dispositioned or closed (site-specific WBN). (IN-85-442-008, IN-85-661-001, IN-85-993-008, and IN-85-993-011)

Specific Evaluation

This issue was evaluated at WBN only. Current and historical revisions of procedure QCP-1.47, "Concrete/Grout Preplacement Inspection" were obtained and reviewed. Also, copies of NCR 5612 Revision 0, 1, and 2 were obtained for review. QACEG evaluated the steps taken to repair damaged cables in tray segment 2081. Revision 2 of NCR 5612 stated that Engineering Design (EN DES) sent memorandum EEB 840518 901 to WBN Construction on May 17, 1984, and a copy was obtained for review.

Discussion

A number of questions arose regarding Engineering disposition and closure of NCRs. For example, it was stated that Engineering evaluations per QCP-1.08 requirements, were not being met as evidenced by an evaluation accepting bulkhead plates embedded in concrete - reference engineering evaluation numbers 48W93311Z1 CPMK1 and 48W93311Z1 CPMK2. The Engineering evaluation accepted the bulkhead plates based on concrete pour prerequisite inspections, but it was alleged that the plate installations were not included in prerequisite inspections. The closure of NCR 5612 was also questioned concerning splicing of a cable tray.

During the evaluation of the issue, Records Information Management System (RIMS) was contacted to obtain a copy of QCP-1.08. It was indicated by RIMS, that QCP-1.08 had never existed, therefore it was felt the CI was mistaken in the reference of QCP-1.08. A review was performed of QCP-1.47 because it is the governing procedure for concrete preplacement inspections. Paragraph 7.1.1 stated, "The embedment installations are acceptable if they conform to TVA drawings, specifications, and this procedure." This QCP had seven revisions between July 2, 1982 and January 1, 1987; paragraph 7.1.1 was not revised. Therefore, embedded bulkhead plates were required to be inspected as a concrete pour prerequisite inspection. Copies of pour prerequisite inspection reports were obtained and it was verified that bulkhead plates were inspected as part of the pour prerequisite inspection.

To address the part of the issue regarding NCR 5612, copies of NCR 5612 Revisions 0, 1 and 2 were obtained for review to determine if the NCR was properly dispositioned. QACEG evaluated the steps taken to repair damaged cables in tray segment 2081. Revision 1 of NCR 5612 in the correction method block states "EN DES evaluated revision 1 of the nonconformance and subsequently specified alternate acceptance criteria to that stipulated in QCP-3.06-4 to allow these splices to qualify as permanent installations." The results of the EN DES review and disposition for this item were transmitted to WBN construction on May 17, 1984, in memorandum No. EEB 840518 901.

Two aspects of the issue could not be verified as factual. The first dealt with Engineering NCR evaluations being performed to unapproved methods and the second dealt with a nonconforming condition that was reworked without appropriate investigation into the potential adverse effects of the rework.

Conclusion

The issue cannot be verified as factual (Class A). Information evaluated did not support the expressed concerns because embedment plate inspections were performed and NCR 5612 was properly dispositioned and closed.

3.4.2 Issue - Licensing documents/commitments are inadequate (generic to WBN, SQN, BFN and BLN). (OE-QMS-2, WI-85-100-025, WI-85-100-026, and HI-85-077-N09)

Specific Evaluation

This issue was evaluated at WBN, SQN, BFN and BLN. The evaluation of this issue involved reviewing the following compliance documents: Title 10 Code of Federal Regulations Part 50.49, Part 50 71(e), Part 50.90 and Part 50.91; NEP 2.1, "Licensing Support," Revision 0, Change Notice 1, December 31, 1986; Engineering Procedure (EN-DES-EP), EN DES-EP 2.01, "Amendments to Safety Analysis Reports - Preparation, Review, and Approval," Revision 2, July 6, 1978; EN-DES-EP 2.07, "Licensing Commitments - Control and Tracking," Revision 6, February 28, 1985; Office of Engineering Special Engineering Procedure (OE-SEP) OE-SEP-84-13, "Verification of Implementation Presented on Updated Final Safety Analysis Report for Sequoyah Nuclear Plant," Revision 0, February 8, 1985; Sequoyah Nuclear Plant Standard Practice SQA-180 "Amending the Sequoyah Updated Final Safety Analysis Report (UFSAR)," (Draft Copy).

In addition to the above documents, the following correspondence was reviewed to supplement the subject information: Memorandum (RIMS B45 861114 257) from H. L. Jones, November 14, 1986, "Sequoyah Nuclear Plant" - DNE Program Plan for Updated Final Safety Analysis Report (UFSAR) Revisions; Letter (RIMS L44 870203 805) from J. A. Domer (TVA) to DR. J. Nelson Grace, (NRC) February 3, 1987, Subject: Sequoyah Nuclear Plant Units 1 and 2 - Engineering Change Notice (ECN) Closeout and Final Safety Analysis Report (FSAR); Memorandum

(RIMS NEB 830909 261) from Ira M. Heatherly, September 9, 1983, Subject: Browns Ferry and Sequoyah Nuclear Plants - Meeting on Amendments to the Updated Final Safety Analysis Report.

The following corrective action documents relevant to UFSAR updating to 10 CFR 50.71(e) were reviewed:

NCR BFNNEB 8502, (RIMS B45 850513 851), May 8, 1985 which is closed and site specific to Browns Ferry Nuclear Plant, BFN; SCR SCRGENNEBB 8602, March 17, 1986, (RIMS B45 860319 851) which is open and generic to all TVA Nuclear Plants; CAR-SQ-CAR-86-04-021, April 16, 1986, (RIMS S08 861020 827) which is open and site specific to SQN; NCR SQNNEB 8506, dated May 14, 1985, (RIMS B45 850520 851) which is open and site specific to SQN; Conditions Adverse to Quality Report (CAQR) SQT870586 April 9, 1987 which is open and site specific to SQN which references a generic problem to the other TVA nuclear plants.

Discussions were held with members of the Licensing Group regarding the FSAR not reflecting current WBN organization. Section 6C of the Nuclear Performance Plan was also reviewed to determine the method proposed for commitment tracking. Several TVA memoranda regarding implementation of the Corporate Commitment Tracking System were also reviewed. Reference TVA memorandum "Watts Bar Nuclear Plant Unit 1 violation 50-390/85-3801-Supplemental Response" RIMS (L44 851115 811), TVA memorandum "Policy Regarding Control over Commitments" RIMS (L44 860404 812), TVA memorandum, "Implementation of Corporate Commitment Tracking System" RIMS (L44 860404 812)

Additionally, Project Management Procedure PMP 0605.01, "Commitment Management and Tracking," Revision 0, January 13, 1987 was reviewed.

Discussion

In regard to a concern relating to the BFN UFSAR accuracy, it was determined by QACEG in the course of evaluating this issue at BFN, that the Division of Nuclear Engineering Branch Licensing had issued a draft Problem Identification Report (PIR) concerning NCR BFNNEB 8502. The draft PIR (March 6, 1987) stated, in part, that the condition reported by NCR BFNNEB 8502 was closed without proper corrective action. The PIR also stated that the corrective action did not provide any procedural control to assure "as-constructed" drawings are incorporated into the Updated Final Safety Analysis Report (UFSAR).

During generic review of Watts Bar PIRs WBNNEB 8611 and 8612, it was determined that a programmatic concern existed regarding the accuracy of UFSAR statements for all TVA plants. This condition was reported on Significant Condition Reports (SCRs) SCR GENNEB 8602, and SCR BLNNEB8702. The evaluations at WBN, SQN and BLN also noted that similar problems had occurred at these plants. Corrective action had been initiated already by issuance of SCR GENNEB 8602.

There was also a concern that the UFSAR did not accurately reflect the WBN organization and the Plant Manager and Assistant Plant Manager didn't meet FSAR qualification

requirements. QACEG contacted the WBN Personnel Department to determine the individuals who had held the positions of Plant Manager and Assistant Plant Manager during the timeframe of the concern. Personal History Records (PHRs) were compared to the requirements of ANSI N18.1, "Selection and Training of Nuclear Power Plant Personnel" and TVA position descriptions PD-WBN-30-005 and PD-WBN-25-044. The review of the PHRs indicated the personnel did meet the requirements of these documents.

Discussions were held with Licensing Department personnel regarding the concern of the FSAR not reflecting current WBN organization. The evaluation was conducted based on a timeframe of the fall of 1984 to the present. This corresponds to the time that Revision 8 of the TVA Topical Report, TVA-TR75-1A, was in effect. The Topical Report is part of the FSAR in that the FSAR references the Topical Report for its Quality Assurance commitments in Section 17.

Several reorganizations took place during that period of time and not all changes were documented and submitted formally to the NRC. A review was performed of 10 CFR 50.54 to determine requirements for submitting changes made to the FSAR. 10 CFR 50.54(a) states, in part, "Changes to the Quality Assurance Program that do not reduce commitments must be submitted to the NRC at least annually . . . changes . . . that do reduce commitments must be submitted to NRC and receive NRC approval before implementation . . ." However, Revision 9 of the Topical Report was approved by the NRC and accurately depicts the WBN organization.

Discussions were held with cognizant individuals from Nuclear Licensing and an individual, formerly with Quality Systems Branch. These personnel were involved with the latest revision to the Topical Report (TVA-TR75-1A). Those individuals stated that, starting in the fall of 1984, WBN underwent several major reorganizations. Concurrent with this, restructuring functional changes were made in implementing commitments to the NRC. The cognizant individuals stated that, while the NRC was involved at the site level, TVA did not always formally document changes to FSAR/licensing commitments and submit them to the NRC for concurrence. The individuals also stated that before implementation of the Nuclear Performance Plan (NPP) no centralized system existed to track NRC commitments and ensure timely implementation. Currently, TVA has initiated the Corporate Commitment Tracking System to ensure licensing commitments are adequately identified, statused and tracked.

Conclusion

The issue is factual at all sites and presents a problem for which corrective action has been or is being taken as a result of this evaluation (Class D). Corrective action for revising the UFSARS was inadequate and has been identified on CATDs. SCR GENNEB8602 was also initiated by TVA indicating this condition to be generic to all plants. SCRGENNEB8602 has since been voided and replaced by site specific reports (three CAQRs and one SCR). The following

matrix lists the respective reports for each site and the contact that has been assigned the responsibility of proposing corrective action plans to prevent recurrence as stipulated in the CAQR/SCR programs.

Site	Report No.	Responsible Contact
Bellefonte Nuclear Plant (BLN)	SCRBLNNEB8702	D. T. Clift
Browns Ferry Nuclear Plant (BFN)	CAQRBFF870088	T. F. Newton
Sequoyah Nuclear Plant (SQN)	CAQRSQT870586	V. A. Bianco
Watts Bar Nuclear Plant (WBN)	CAQRWBT870165	P. D. Metcalf

The listed responsible contacts reside within the Division of Nuclear Engineering (DNE). Corrective action for safety evaluation reports (SER) and NRC question responses has been accomplished by the implementation of the corporate commitment tracking system PPM 0605.1 Revision 0, January 13, 1987 which will assure licensing commitments are adequately identified, statused and tracked.

Causes

The cause was attributed to management's failure to properly oversee the UFSAR process, failure to take effective corrective action, and failure to implement a corporate tracking system to ensure licensing commitments are adequately identified, statused, and tracked.

Corrective Action

The Project Engineering Organizations at WBN, SQN, BFN and BLN have responsibility for corrective action resulting from the issue of CATD 80454-NPS-01 and 80405-BFN-01. CATD 80405 BFN 01 was issued as a result of the evaluation conducted at BFN. CAQR BFF 870089 has been issued because of CATD 80405 BFN 01. An acceptable response has been received for CATD 80454-NPS-01 as shown in the conclusion section above.

3.5 Element - Assignment of root cause

3.5.1 Issue - NCR cause determination is inadequate in general and also root cause for the significant NCRs on the spent fuel pool racks (unit 1) is inadequate (site-specific WBN). (IN-85-279-006 and IN-85-457-002)

Specific Evaluation

The issue was evaluated at WBN only. QACEG evaluation included a review of QCI 1.02, "Control of Nonconforming Items," Revision 15, which provided no specific criteria on the assignment of "apparent cause" of nonconforming conditions addressed on NCRs. QTC Report IN-85-279-006 was also reviewed in conjunction with this evaluation.

Also, all 90 significant NCRs not related to the spent fuel pool racks but issued during the timeframe of the issue, were reviewed to determine if the root cause had been determined.

Discussion

Two aspects of assigning causes were questioned concerning NCRs and significant NCRs. First, apparent cause for nonconforming conditions was not being determined in that "unknown" was used frequently for the cause. Also, root cause for significant NCRs, specifically on the spent fuel pool racks (unit 1) were not being determined.

There are numerous reasons why the apparent cause of nonconforming conditions, (e.g., handwheel missing from valve, bolt missing from hanger, etc.) cannot be established. No regulatory nor TVA requirement could be identified to determine the apparent cause of all NCRs. The apparent cause was intended to be used as an aid in determining trends, however, it is not consistently determined and, in most cases, it is a guessing process.

The root cause of significant NCRs must be established to fulfill the requirements of Appendix B to 10 CFR 50, Criterion XVI, so that corrective actions can be taken to preclude recurrence. All 90 significant NCRs initiated during the timeframe of the issue were checked. Seventeen of the NCRs, which ranged from one and one-half to two years old, had not had the root cause identified. The seventeen NCR's are not related to the spent fuel pool racks.

The investigation of this issue also included the review of NSRS report Number I-85-193-WBN. This report adequately identified, reported, tracked, and verified that the corrective action was taken and root cause determined on the problems associated with the NCRs pertaining to the spent fuel pool racks for unit 1.

The NSRS open item associated with the spent fuel pool racks, dealt with the 15 percent sample size for neutron attenuation testing to verify the presence of boroflex in the spent fuel pool racks. This was identified in NCR W-344 P on January 23, 1986, disposition which was to use as is. The NCR was closed April 15, 1986.

Conclusion

The issue of NCR cause determination is inadequate in general, is factual, and presents a problem for which corrective action has been or is being taken as a result of this evaluation (Class D). QCI 1.02 requires the root cause of all significant NCRs to be promptly identified.

As stated above, a number of significant NCRs have not had the root cause determined.

Causes

The cause of the finding was attributed to the noncompliance to procedural requirements and was assigned to the project QA organization.

Corrective Action

The Site Engineering and Quality Assurance organizations are responsible to provide corrective action resulting from the issue of CATD 80406-WBN-01 resolution. A sample of 90 significant NCRs selected for review indicated 17 of the NCRs had not had the root cause promptly identified. Upon receipt of TVAs response, it was learned that the sample of significant NCRs taken from the vault were not current working copies and NCR's 6172 R1, 6208, 6224, 6278, 6354 and 6359 had received previous root cause analysis. TVAs response included corrective action for the assignment of root cause to significant NCRs 6218, 6328, 6356, 6416, 6417, W-235-P, W-243-P, W-257-P, W-290-P, W-300-P and W-315-P. Scheduled completion dates for corrective action range between October and November 1987. TVAs response further stated in part; "This situation has been remedied with the implementation of the CAQR program. AI-2.8.5 'conditions adverse to quality - corrective actions' delineates in paragraph 6.4.2.2 that the responsible organization will develop a Corrective Action Plan within thirty days of the origination date which will include determination of the root cause of the CAQ, if required. AI 2.8.5 also includes provisions in Section 6.12 for escalation to higher management situations where lower and middle levels of management fail to comply with the timeliness and effectiveness of the procedure."

3.5.2 Issue - Design change root cause determination not performed. (Site-Specific - WBN) (IN-85-830-X01)

Specific Evaluation

A review was performed of QCI-1.02, "Inspection Rejection Notice" and Appendix B to 10 CFR 50.

Discussion

This issue was evaluated at WBN only. A review was performed of QCI 1.02 and Appendix B to 10 CFR 50. This review indicated that no requirement exists to determine root cause for design changes.

Conclusion

This issue is factually accurate but what is describes is not a problem (Class B). No requirement for design change root cause determination could be identified.

3.6 Element - Disposition by Sampling

3.6.1 Issue - Sampling plans not based on recognized standard practices (generic WBN, BFN and BLN) (IN-86-243-002, PH-85-032-001 and NS-85-001-X03)

Specific Evaluation

The evaluation of the issue was conducted at WBN, SQN, BFN and BLN. The evaluation, at WBN, consisted of a review of the following documents: Quality Training Program Manual, Section III 2, Revision 2; TVA Nuclear Topical Report TR/5-1A, Revision 8, Table 17D-2; ANSI N45.2, 1971; NSRS Report IN 85 445 010; WBN-QCI-1.11, "Indoctrination and Training Program," Revision 5, October 13, 1986; ASME - 1983, Subsection NB, Section 5000, Paragraph NB-5521; NQAM Part II, Section 5.3A, Revision 1.

At SQN, a review was performed of 150 open and closed CARs/DRs. At BFN, a review was performed of Browns Ferry Engineering Procedures Project Instructions, (BFEP PI), BFEP PI-86-29, BFEP PI-87-42, and BFEP PI-86-01.

Also, a review was conducted of various NCRs which employed sampling as a method to determine acceptable status of nonconforming items. Discussions were held with cognizant Division Nuclear Enginering management personnel at WBN, SQN, BFN and BLN.

Discussion

At WBN, the QACEG reviewed various Nonconforming Condition Reports where random sampling was used to determine the acceptance status of large numbers of nonconforming items. For example two NCRs (2654R R1 and 2375R) were identified which employed sampling plans to determine the

acceptability of duct supports and cable tray supports, respectively. QACEG could find no mention of the basis for the sampling program, nor adequate justification for the sample size and selection process used. Discussions were held with cognizant Engineering Management personnel to provide clarification and justification of the methods used in the sampling program noted. As a result of these discussions QACEG was informed that a recognized sample program was not implemented in all cases.

At BLN, discussions were held with cognizant Project Engineering personnel who stated that Military Standard (MIL-STD) MIL-STD105D was used, in some cases. Additionally, NCRs were reviewed during the evaluation which employed sampling to determine the acceptance of the nonconforming items. This review indicated that not all of the reviewed NCRs referenced MIL-STD105D nor did they provide justification for sample size/selection process using a recognized standard practice.

At BFN, discussions with Project Engineering personnel indicated that three procedures had been issued for sampling conducted at BFN. The three procedures were Browns Ferry Engineering Project Instruction (B&EP PI) BFEP PI 86-01, "Selection of the Sample Population for the Concrete Expansion Shell Anchor Sampling Program," Revision 1, April 14, 1986: BFEP PI 86-29,, "Procedure for Sampling of Class I Small Bore Piping," Revision 0, October 10, 1986; and BFEP PI 87 42, "Sampling Plan for Field Verification of Appendix R Cables," Revision 0, June 3, 1987. A review of the three procedures indicated that the procedures, in establishing their sample sizes and selection processes, were based on Nuclear Construction Issues Group (NCIG) Procedure NCIG-02, "Sampling Plan for

Visual Reinspection of Welds," Revision 2, March 24, 1987. However, NCIG-02 was prepared specifically for weld sample inspection and as such its suitability for these other programs is indeterminate.

At SQN, the evaluation indicated that this issue has not been a problem. A review was performed of 150 open and closed CARs/DRs. This review indicated that none of the CARs/DRs had been dispositioned requiring sampling processes to be used. There were several current DRs that were dispositioned using a sampling process, however, it was to be accomplished in accordance with DNQA's new procedure DQAI-113, Revision 0, "Sampling for Inspection by Attribute."

Conclusion

The issue is factual and presents a problem for which corrective action, has been or is being, taken as a result of an employee concerns evaluation (Class D). Sampling plans employed were not documented as being based on recognized standard practices which resulted in the acceptability of the installations being indeterminate.

Causes

The cause of the finding is attributable to managements failure to implement commitments in the procedural system and has been assigned to the Department of Nuclear Engineering, Knoxville for WBN and Project Engineering at BFN and BLN as no sampling standards had been developed for use by Engineering to meet commitments stated in the Topical Report. CATDs 80407-WBN-01, 80407-BFN-01 and 80407-BLN were issued to their respective plants identifying

that sampling plans used for determining acceptability of NCR related items were not based on any recognized sampling standard practice.

Corrective Action

Responsibility for the CATDs was assigned to DNE, Knoxville at WBN and Project Engineering at BLN and BFN. The CATD identified that NCRs had invoked sampling programs to determine the acceptability of installations. The sampling programs were not based on any recognized sampling standard practice which has resulted in the acceptability of the installations being indeterminate. The response for WBN indicated that random samples were not always performed in accordance with WBN procedures. Because of this a WBN Engineering procedure will be developed to assure sampling plans are performed in accordance with recognized practices. Also, surveys will be conducted to determine those NCRs previously closed which used sampling plans but are considered to be questionable. This effort will exclude those instances where design and/or field verifications have adequately established acceptability. For the NCRs which are still questionable, a determination will be made whether they meet the requirements of the new procedure or meet recognized practices. Those that are determined to be lacking justification for the sampling performed will be identified on a CAQR.

The response from BFN was reviewed, evaluated and accepted by QACEG. The response stated; "The NCIG-02 document provides a statistical approach for selection of a sample

size and a criteria for determination, based on the sample evaluation results, when the entire population is acceptable or the sample size must be expanded. The validity of the statistical sampling methodology is not limited to reinspection of structural welds. The statistical approach outlined in the NCIG-02 will yield the same confidence and reliability levels for other homogeneous populations, provided the sample item, population, and the evaluation acceptance criteria are properly defined. Therefore, BFEP-PI-86-01 and BFEP PI-87 42 did not violate ANSI procedure by using the sampling methodology from NCIG-02 and no corrective action is required. The applicability of the NCIG-02 sampling methodology to programs other than reinspection of welds is supported by NRC in the T. P. Speis (NRC) to W. H. Weber (NCIG) letter, dated April 9, 1987 (Attachment B). Since the NRC is well informed about the details of BFN restart programs through various reviews and presentations, BFN has not submitted its intended use of NCIG-02 sampling methodology provisions for programs other than reinspection of welds for prior approval."

The response from BLN was accepted by QACEG. The response stated;

The two specific NCRs referenced in the CATD were reviewed to determine if a deficiency existed. NCR 4618 had a sample size that is more than two times that required for a statistically valid sample. The disposition has a valid technical basis and no deficiency exists. NCR 4815 has a

sample that is statistically valid. Since evaluation of this NCR has not been completed, a statement concerning the validity of the technical basis for disposition cannot be made at this time.

To prevent similar questions in the future, Bellefonte will include the requirement that the basis for sample size and selection be documented.

3.7 Element - Consistency of resolution

3.7.1 Issue - Rejected instrumentation accepted and the governing procedure revised to delete the basis for the noncompliance (site-specific WBN). (IN-85-375-001 and IN-85-375-002)

Specific Evaluation

The issue was evaluated at WBN only. A review was performed of QCP 3.06 7, "Inspection of Electrical and Instrumentation Installation." Revision 0 through Revision 7, July 6, 1982 through October 28, 1985. Discussions were also held with cognizant personnel.

Discussion

The issue pertains to the proper identification and traceability of instrumentation hardware. A review was conducted of the governing procedure for instrumentation inspection. The review did not disclose any inspection

requirements for the verification of material specification, heat numbers, size, and grade, required to identify instrument lines. The procedure (QCP-3.06-7) specifies that installed items are to be identified in accordance with applicable drawings. Drawing 47W600 Series is applicable to QCP-3.06-7. The Bill of Material on these drawings provides the description, size, type, and schedule (wall thickness) for instrument lines. Further investigation revealed that these instrumentation identification requirements remained the same throughout the revision history of QCP 3.06 7 and are now included in the the current procedure, QCP-3.06-9, Revision 1, "Instrument Installation and Tagging."

Also, the QACEG investigation revealed that QCP-3.06-7, deleted serial number verification requirements for rack mounted instruments. Revision 5 states that verification of manufacturer and model number specified on drawings is sufficient to verify the correct device for a given location. Review of Westinghouse drawing 1-4703 FA1 disclosed a bill of material which provides tag number, model number and serial number of instruments. After the installation of a rack mounted instrument, the Instrument

Engineering Unit (IEU) calibrates these instruments and records model number and serial number on a "Scaling and Set Point Data Sheet." This record is forwarded to the instrument maintenance section, and this department performs calibration of the instrument. The calibration record is a permanent plant record. As the instrument

model number, and not the serial number, is required to verify the correct equipment is used, this is not considered to be a problem.

Conclusion

The issue is factually accurate, but what is described is not a problem (Class B). The procedure did delete the requirement for serial number verification, however, it was unnecessary. The verification of the instrument model number and not the serial number assures that the correct instrument is used.

3.7.2 Issue - NCR dispositions changed for personal preference (site specific WBN). (IN-85 887 002)

Specific Evaluation

This issue was evaluated at Watts Bar only. The issue was evaluated by performing a random review of NCR's selected from the NCR logs (Maintained by the Document Control Unit) and WBN-QCI 1.02 (Control of Nonconforming Items) Revision 15, November 1, 1985.

QCI-1.02 (Control of Nonconforming Items) Section 6.7.4 states "A Revision to an NCR is required when information previously entered on the NCR is changed. The NCR identifier remains the same and the Revision - Level is advanced by one number." Section 6.7.5 states "All Revised

NCR's are prepared, reviewed, approved, and distributed the same as the original NCR." QACEG performed a reviewed of revised NCRs selected at random from the NCR logs. The review consisted of 60 NCRs that originated from 1976 to 1987. In each case the reason the NCR was revised was technically justified and in no case was a revision found that could be construed as personal preference.

Conclusion

This issue could not be verified as factual (Class A). A review of QCI 1.02 and revised NCRs indicated no instances where NCRs were incorrectly revised.

3.7.3 Issue Inadequate Quality Control Investigation Report (QCIR) resolution (site-specific BLN) (BNP QCP-10.35-C)

Specific Evaluation

The issue was evaluated at BLN only. QCIRs 24525; 24526; and 24527, August 23, 1982 were reviewed as well as FCRs M-4235, M-4236 and M-4555.

Discussion

QCIR 24,525; 24,526; and 24,527 (August 23, 1982) reported that three air handling unit fan covers could not be removed to perform maintenance inspections because of external interference.

Engineering reported that the three fan covers were installed in accordance with design requirements and could be removed. Therefore, the recommended disposition was "no action required." This determination was made without considering the impact of the obstructions (two hangers and one pressure test valve) on the removal of the fan covers. Engineering reconsidered their disposition because of further investigation, and on October 21, 1982 the first of three Field Change Requests (FCRs) was issued. FCRs M-4235, M-4236, and M-4555 were dispositioned providing adequate clearances for removal of the fan covers. The evaluator verified that the modifications were in accordance with the FCR and were adequate to correct the problems documented.

Conclusion

The issue is considered factual but what it describes is not a problem (Class B). The actual problem concerns the ease of maintenance inspections regarding the obstructions and not a quality problem.

Causes

This issue indicated, based on the response to CATD 80408 BLN 01, that the circumstances actually were not a quality problem. Therefore, no cause is assigned.

Corrective Action

Although this issue was originally thought to indicate a negative finding, the CAP received and reviewed revealed it is in fact not a problem. The QCIRs dealt with a situation concerning ease of maintenance and/or inspection and not a quality problem.

3.8 Element - Discrepancy status/tracking

3.8.1 Issue - Status of rejected items at the time of turnover indicates acceptability but there is no documentation of the evaluation for acceptability. (Site-specific - BLN) (IN 85-973-005)

Specific Evaluation

The issue was evaluated at WBN and BLN. A review was conducted of the applicable procedures at each plant including WBN-QCI-1.08 "Quality Assurance Records," Revision 11, at WBN; BNP-QCP 10.7 "Quality Assurance Records"; BNP-QCP-10.38; and BNP-QCP-10.51, "Engineering Evaluations and Interpretations," Revision 0, June 6, 1985, at BLN. Also, discussions were held with cognizant personnel at each plant.

Discussion

It was stated that Engineering evaluations for rejected items to determine their acceptability at the time of turnover were not documented. At WBN, a review was

performed of WBN-QCI 1.08, "Quality Assurance Records," Revision 11, September 9, 1985. The review indicated that Attachment D of the procedure is used to provide the documented evaluation of the instances when the original documentation has been lost. An NCR is generated and the NCR referenced on Attachment D when an item is indicated as rejectable and no documentation exists to show it has been evaluated and accepted. A review was performed of four evaluations documented on Attachment D (2-3V-67-2400A, 1-4PL-30-3001-A, 1-2PM-3-3995-A, and 1-1NM-94-1259-E). All were found to be documented as required. The evaluation accepting the condition is represented by a percent (%) sign on the status listing. However, the % sign is also used to indicate acceptance of the condition by means of ONP inspection. The use of the % sign to indicate two different methods of acceptance has led to confusion regarding the method of acceptability.

At BLN, the evaluation revealed that the Records Accountability Program (RAP), referenced in BNP-QCP-10.7, "Quality Assurance Records" uses symbols on computer listings to indicate acceptability of an item. BNP-QCP-10.7 documents that a dollar sign is used to indicate that documentation data was reviewed and accepted by the Document Control Unit-A (DCU-A). Document Control personnel stated that DCU A does not enter a dollar sign into RAP listings without adequate supporting documentation, including evidence of required evaluations. This activity was verified by QACEG through document reviews.

Items statused as incomplete, due to missing records, require Engineering evaluation in compliance with TVA procedure BNP-QCP-10.51 "Engineering Evaluations and Interpretations." Engineering evaluations of missing records are documented on Attachment A "Record Evaluation Sheet" of BNP-QCP-10.51. Attachment A requires a justification statement and a listing of all documentation which supports the acceptance of an item. When missing records can not be reconstructed or evaluated, BNP-QCP-10.51 requires that a Nonconforming Condition Report (NCR) be generated. BNP-QCP-10.51, Revision 0 was issued on June 6, 1985. Before its issue, the potential existed for acceptance of an item (from reconstruction of missing records) without adequate documentation. Electrical seals, statused as acceptable on the RAP computer listing, were reviewed during the evaluation to verify the accuracy of dollar sign entries into RAP. Documentation supporting the acceptance status had been reviewed by DCU A and stored in the DCU vault. This documentation consisted of NCR Record Evaluation Sheets and Sealing Inspection Checklists, which describe the evaluation process and resulting acceptance of the electrical seals.

In July 1983 a Records Accountability Task Force began a review of all records in the DCU vault to verify the accuracy of activities statused as complete. The Task Force investigation was completed in 1985. The DCU A Supervisor stated, "The Task Force verified that items statused as acceptable could be adequately supported with

documentation." QACEG verified that the records accountability task force evaluation was properly conducted and the engineering evaluations were documented in accordance with the requirements of BNP-QCP 10.5.1.

Conclusion

At BLN, the issue was found factual and identified a problem but corrective action had been initiated before evaluation of the issue had been undertaken (Class C). Engineering evaluations must be performed and documented on Attachment A of BNP-10.51. Attachment A documents the method of evaluation for acceptance of an item involving missing or incomplete records. This must be completed before DCU A enters a dollar sign into RAP. Before the implementation of BNP-QCP-10.51, the potential existed for the problem identified in the concern. This problem was addressed during the Record Accountability Task Force's verification effort.

At WBN, the issue could not be verified as factual but another problem was identified as a result of the evaluation. The status listing of evaluation results indicated a percent sign for the method of evaluation. The percent sign, as stated in WBN-QCI-1.08, meant two different methods of evaluation had taken place.

Corrective Actions

CATD 80409-WBN-01 was issued to identify the procedural conflict contained in WBN-QCI-1.08 and responsibility was assigned to the Division of Nuclear Engineering (DNE) at WBN. The CATD response indicated that the percent (%) evaluation definition discrepancy in WBN-QCI-1.08 paragraph 6.5.5 will be identified, corrected, and documented in the correction method specified in SCR 6722 for WBN unit 1, and SCR 6723 for WBN unit 2. Each responsible engineering unit will review and correct all percent evaluations that do not specify an NCR number. WBN-QCI 1.08 will be revised to delete the last sentence in 6.5.5 as part of the correction method of the above SCR's. Procedure revision number RR-617 has been issued to delete the use of percent evaluation when nuclear power inspects and documents the installation. WBN-QCI-1.08 was revised on March 16, 1987.

3.8.2 Issue Status/tracking of NCRs, QCIRs, and IRNs is inadequate. (Site-specific to WBN) (IN-86-231-002 and WI-85 100-054)

Specific Evaluation

The issue was evaluated at WBN, BFN, SQN, and BLN. A review was performed of the following procedures: Administrative Instruction (AI), AI 2.8.3 (WBN), "Nonconformances, 10 CFR 50, Appendix B," Revision 10, October 3, 1986, QCI-1.02-1 (WBN), "Inspection Rejection

Notice;" WBN Plant QA Staff Instruction Letter (PQA-SIL), PQA SIL-4.2, WBN-AI-7.1, "QC Inspection Program," at WBN. BNP-QCP 10.38 and BLN-SQP-3.11, "Corrective Action for Conditions Adverse to Quality," Revision 0 were reviewed at BLN. No procedures were in effect at BFN for this issue concerning NCRs. Discussions were also held with cognizant personnel at each plant.

Discussion

The concerned individual (CI) stated that the status/tracking of NCRs was incorrectly assigned to the originating department and that there was a general lack of knowledge as to the status of QCIRs and IRNs.

The concerned individual indicated that a department (unidentified) tracked the status of Nonconforming Condition Reports (NCRs) it generated for input at scheduled status meetings. The Concerned Individual (CI) contends that this was time consuming and would have been more effective if delegated to persons responsible for resolving the nonconforming condition. Interviews with WBN personnel revealed there was a recognized problem at WBN. It was a general practice to require personnel who initiated NCRs to identify the organization responsible for resolving the nonconforming condition. A change to WBN Administrative Instruction (AI) AI 2.8.3, "Nonconforming 10CFR50, Appendix B," Revision 10, October 3, 1986, allowed the Plant Manager to delegate authority for resolving nonconforming conditions to a specific organization. This

change, to AI 2.8.3, allowed Planning and Scheduling personnel to enter information pertaining to NCRs in the Consolidated Tracking and Reporting of Open Items (TROI) system.

Discussions with BLN Quality Assurance personnel revealed that it was not a practice to assign responsibility for tracking the status of NCRs to the initiator. The supervisor of the unit which initiated the NCR tracked and statused NCRs or delegated responsibility to an individual or group other than the initiator. This status was provided to BLN's Construction Nuclear Licensing Unit (NLU). BLN procedure BNP-QCP-10.38 assigns responsibility to NLU for monitoring the NCR process at BLN. NLU statused required NCR changes and commitment dates on BNP-QCP 10.38, Attachment C, "Commitment Tracking Record."

The Division of Engineering Design (EN DES) issues NCRs at BFN and SQN. The Division of Engineering Design procedure EN DES-EP 1.26, Revision 9, "Nonconformance-Reporting and Handling by EN DES" requires responsible organizations, such as the Office of Construction, Office of Nuclear Power or vendor, to track corrective action using their own approved and controlled tracking instrument.

QACEG evaluation revealed that Construction Division IRNs are carried in an IRN tracking program until closure as required by WBN procedure QCI-1.02-1, "Inspection Rejection Notice." The QC Department provides input for a computer printout of IRNs on a monthly basis.

The Office of Nuclear Power (ONP) does not track and status QCIRs. However, it was determined that QCIRs are tracked and statused by the way the program is implemented. Plant QA Staff Instruction Letter, "QC Inspection and Monitoring Program," PQA SIL 4.2 requires QC to forward a copy of the rejected inspection report to the section supervisor involved, Quality Engineering/Control (QE/C) and to the Project Quality Assurance (PQA) supervisor.

QC checks the status of QCIRs every thirty (30) days.

Conclusion

The issue is factual and identifies a problem at WBN only, but corrective action for the problem was initiated before the evaluation of the issue was undertaken (class C). WBN Administrative Instruction, AI 2.8.3, delegated authority for resolving nonconforming conditions to a specific organization. The establishment of the TROI system as described in Administrative Instruction AI 7.9, Revision 0, July 30, 1986, provided the basis for centralized tracking of NCRs. Effective March 30, 1987, TVA's corporate level program, "Corrective Action for Conditions Adverse to Quality," effective for all TVA sites assigns responsibility for tracking and statusing Conditions Adverse to Quality (CAQs) to a CAQ coordinator. Conditions Adverse to Quality Reports (CAQRs) will replace NCRs. The issue was found not factual at SQN, BLN, and BFN.