EMPLOYEE CONCERNS

SPECIAL PROGRAM

VOLUME 3
OPERATIONS CATEGORY

SUBCATEGORY REPORT 30900
ENGINEERING

UPDATED

TVA

NUCLEAR POWER

TVA EMPLOYEE CONCERNS
SPECIAL PROGRAM

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REPORT TYPE: Subcategory

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TITLE: Engineering

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PREPARATION

PREPARED BY:

Glenn Adams/Jon Richards — SIGNATURE — 7/6/87 DATE

(Note: Evaluator List in Attachment I)

REVIEWS

PEER: M M Mungo for J L McVay — SIGNATURE — 7/9/87 DATE

TAS: James E Wardley III — SIGNATURE — 7/24/87 DATE

CONCURRENCES

SIGNATURE	DATE		SIGNATURE	DATE
		CEG-H:	W. R Lagergren	7/24/87
		SRP:	[signature]	7/24/87

APPROVED BY:

James R Russell	7-24-87	N A	
ECSP MANAGER	DATE	MANAGER OF NUCLEAR POWER CONCURRENCE (FINAL REPORT ONLY)	DATE

*SRP Secretary's signature denotes SRP concurrences are in files.

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HISTORY OF REVISION

REV NUMBER	PAGES REVISED	REASON FOR CURRENT REVISION
3	i	To clarify that one or more attachments will help the reader find where a particular concern is evaluated

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
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
CAR	Corrective Action Report
CATD	Corrective Action Tracking Document
CCTS	Corporate Commitment Tracking System
CEG-H	Category Evaluation Group Head
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
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

ENGINEERING

Subcategory Report 30900

Executive Summary

I. SUMMARY OF ISSUES

The Engineering Subcategory of the Operations Category contains 11 concerns which raise 11 issues. These issues raise questions about engineering programs and processes such as the workplan process, configuration control, control of consumables, and engineering training at all TVA sites.

Four of these issues were found not to be validated. One issue was factual, but did not require corrective action. Three issues were factual and identified a problem, but corrective actions were initiated before the employee concerns evaluation of the issue was undertaken. These issues deal with a) inadequate work control on the fire protection system at WBN, b) inaccessible drawings on backshifts at WBN, and c) lack of acceptance criteria in procedures at WBN. Three issues were factual and presented problems for which corrective actions have been, or are being, taken as a result of an employee concerns evaluation. These issues deal with a) inadequate control of Teflon tape at SQN and BFN, b) lax inspection criteria at WBN leading to incomplete hardware modifications, and c) technical support engineers at WBN not getting adequate formal training. |R1

II. SUMMARY OF FINDINGS |R1

Of the 11 issues evaluated, eight were found not to be problems because corrective actions were either not needed or were already in place, but three issues revealed problems for which corrective action was required: |R1

1. WBN had two potential problems in the implementation of training for System Engineers. These problems were believed to be generic to SQN and BFN as well.

2. At WBN, a deficiency (a violation of a design, construction, or operation requirement) was found pertaining to the potential for loss of configuration control in implementing the Maintenance Request (MR) process.

3. All sites had deficiencies which allowed Teflon thread sealing tape to be used in violation of General Construction Specifications.

III. SUMMARY OF COLLECTIVE SIGNIFICANCE |R1

A collective assessment of the findings for this subcategory showed that the issues reflected upon plant-wide programmatic deficiencies and maintenance practices more fully addressed in Subcategory Report 30700, "Nuclear Power Site Programs/Procedures," and Subcategory Report 30800, "Maintenance." It was determined that a meaningful assessment of the issues presented in this subcategory could not be accomplished without also examining the findings in the other two subcategory reports. Therefore, it was decided that no subcategory-level conclusions would be made in this report and that the findings from this subcategory report on issues such as workplan process, configuration control, control of consumables, and engineering training would be analyzed more fully during the collective assessment processes on Subcategory Report 30700 and 30800. Significant conclusions resulting from these two subcategory collective assessment processes will be escalated to the Operations Category Report.

IV. SUMMARY OF ROOT CAUSES |R1

Causes for the deficiencies discussed in Section II included:

1. Some procedures governing engineering training and control of consumables are incomplete or fail to incorporate all technical requirements. (WBN, SQN) |R1

2. There have been instances of inadequate controls for temporarily altered equipment and use of consumables to ensure compliance with commitments. (WBN, SQN) |R1

V. SUMMARY OF CORRECTIVE ACTION

1. With respect to Teflon tape, SQN line management committed to revising procedures and issuing a memorandum in order to clarify the restrictions on Teflon tape application. WBN, BFN, and BLN were found to have already reviewed the use of Teflon tape and to have restricted its use. Corporate management has been requested to revise the division procedure manual relative to Teflon tape control. Corporate management is also currently negotiating a test program with Oak Ridge National Laboratory for candidate thread sealant materials to conclusively qualify unrestricted sealants.

2. With respect to implementation of the Maintenance Request (MR) process, WBN line management explained that the AI is explicit in how the maintenance request process is to be conducted and that the process provides for returning equipment to normal status as required. Therefore, the problem perceived by ECTG was thought to be with MR implementation rather than with the MR form itself.

3. With respect to system engineering training, WBN and corporate management have committed to a review of engineering training requirements and have initiated some procedural changes.

1.0 CHARACTERIZATION OF ISSUES

1.1 Introduction

The Engineering Subcategory is comprised of 11 employee concerns that raise 11 issues dealing with Engineering Training and Engineering programs which control plant processes or equipment. The subcategory originally had been developed to look at the Engineering support part of the various plants' organizations and had consisted of five higher order groups of related concerns, called elements. Later, however, two of these five elements were deleted as the elements' concerns were transferred to more appropriate subcategories. Also, as findings were generated on the remaining three elements, it became evident that the issues reflected more on plant-wide programmatic deficiencies and maintenance practices more fully addressed in Subcategory Report 307, "Nuclear Power Site Program/Procedures," and Subcategory Report 308, "Maintenance," rather than on Engineering support functions. Therefore, references to these two other subcategories are made throughout this report. In this section of the report, each of the three existing elements is presented with a brief overview of the issues.

1.2 Description of Issues

The issues have been combined into higher-order groups, called elements, to aid in identifying and evaluating related issues. In this section of the report, each element is presented with a brief overview of its issues. The employee concern numbers for each issue are listed under each issue title. R1

1.2.1 Element 309.01 - Adequacy of Procedures

Issue 309.01-1 - Management did not require Fire Protection System drained before maintenance

IN-85-595-008 R1

The CI reported that management at WBN did not request the fire protection system be drained before craft began drilling on the shutdown lines.

Issue 309.01-2 - Backshifts have no access to plant drawings

IN-85-704-002 R1

It was reported by the CI that 2nd and 3rd shifts at WBN do not have access to drawings related to instrumentation activities.

Issue 309.01-3 - Procedures lack clarity and acceptance criteria

IN-85-825-002 |R1

The CI reported that several procedures at WBN need to have portions rewritten for clarity or more defined acceptance criteria.

Issue 309.01-4 - Teflon tape is not adequately controlled

IN-85-977-001 |R1

This concern addresses the implementation of WBN programs to identify and replace the Teflon tape used on the Reactor Coolant System and those systems that return to the RCS.

Issue 309.01-5 - Technical Instructions (TI) are incorrect and incomplete

WBN-243NS |R1

The CI alleged that WBN TIs are incorrect or incomplete, citing one specific TI.

1.2.2 Element 309.04 - Procedure Violations

Issue 309.04-1 - Lax inspection criteria

IN-85-984-002 |R1

For Element 309.04 one employee concern at WBN involves a lack of adherence to existing procedures within Nuclear Power which apparently led to modifications to permanent plant ladders without revision to appropriate drawings and in another case led to the improper reassembly of a shielding enclosure.

Issue 309.04-2 - Violation of Out-of-Service tags

XX-85-122-023 |R1

At Bellefonte Nuclear Plant (BLN), lack of adherence to existing procedures was alleged by the CI who reported Office of Nuclear Power (ONP) personnel violating out-of-service tags on valves and electrical equipment, thus jeopardizing personnel safety.

1.2.3 Element 309.05 - Engineering Training

Issue 309.05-1 - Training on actual plant equipment

IN-85-495-001 |R1

The CI expressed a need at WBN for more training on the specifics of plant equipment.

Issue 309.05-2 - Personnel performing technical reviews are not properly trained

IN-86-091-001 |R1

The CI expressed a vague concern at WBN regarding training of personnel performing technical reviews.

Issue 309.05-3 - System engineers do not get adequate formal training

IN-86-209-005 |R1

The CI expressed a broad concern at WBN regarding lack of systems training which could lead to design control errors.

Issue 309.05-4 - Inexperienced Shift Technical Advisor (STA) Course instructors

IN-86-209-012 |R1

The CI reported individuals at WBN with no STA experience instructing STA classes.

To locate the issue in which a particular concern is evaluated, please consult the following attachments:

Attachment A, Subcategory Summary Table

Attachment B, List of Concerns by Element/Issue

2.0 EVALUATION PROCESS

2.1 General Methodology

The evaluation of this subcategory was conducted according to the Evaluation Plan for the Employee Concerns Task Group and the Evaluation Plan for the Operations Group. The concern case files were reviewed. Source documents were researched and interviews conducted in order to identify the requirements and criteria which |R1

applied to the issues raised by the concerns. The issues were evaluated against the identified requirements and criteria to determine findings. A collective significance analysis was conducted; causes were indicated for negative findings; and corrective action for the negative findings was initiated or determined to have already been initiated. |R1

2.2 Specific Methodology |R1

During the element evaluations, the evaluators reviewed applicable sections from the following baseline requirements documents: Final Safety Analysis Report (FSAR) at WBN; applicable regulatory requirements including NUREGs; and ANSI Standards. To ensure consistency and implementation of the requirements found in these documents, the evaluators reviewed applicable Standard Practices, Administrative Instructions (AI), Surveillance Instructions (SI), Technical Instructions, Quality Control Instructions (QCI) and procedures, data packages, Maintenance Requests (MRs), and records. In addition, the evaluators reviewed files which had been expurgated by NRC, as well as WBN plant staff reports, Nuclear Safety Review Staff (NSRS) reports of concerns previously investigated, and interoffice memoranda at WBN, SQN, BLN, and BFN.

The evaluators conducted informal interviews with cognizant personnel when required either to verify document-based findings or to provide nondocument-based evaluation input. Interviews were conducted with personnel in ONP; Steamfitters at SQN, Power Stores Management at BFN; the Instrument Maintenance (IM) Engineer at WBN; Electrical and Mechanical Superintendents, General Foremen, and Shift Engineers in both DNC and ONP organizations at BLN; the BLN Employee Concerns Program Site Representative (ECP-SR); and STA course students at SQN.

From their element evaluation findings, the evaluators identified specific deficiencies and analyzed them for perceived root causes at the element level. A final determination was made on whether or not each specific deficiency was safety-related. The evaluators initiated CATDs for the specific deficiencies that had been identified during the element evaluations. The evaluators documented their findings, specific deficiencies, and perceived root causes in element reports written in accordance with the Operations Category Evaluation Plan.

3.0 FINDINGS |R1

NOTE: Generic applicability statements are included for concerns which are classified as being potentially safety-related or safety-significant as denoted on Attachment A. |R1

3.1 Element 309.01 - Adequacy of Procedure |R1

Issue 309.01-1 - Management did not require Fire Protection System drained before maintenance (WBN)

Concern IN-85-595-008 pertained to management not requesting the Fire Protection System to be drained prior to drilling on the system. The evaluator found that during the 1983-1984 timeframe, an isolated incident occurred which fit the description of the concern. Craft personnel informed the evaluator that a new system had been installed in the fire protection system which used instrument air to detect leakage in the sprinkler system. An Auxiliary Unit Operator (AUO), unaware of the new system, did not ensure that the air pressure was bled off before authorizing work to commence. Therefore, approximately four gallons of muddy water (from a low spot in the lines) spilled on the floor while craft personnel were working on the fire protection. |R1

Conclusion |R1

The issue was factual, identified a problem, but corrective action for the problem was initiated before the evaluation of the concern was undertaken. The AUOs were subsequently trained on the system and the evaluator could find no recurrence of the incident. No further corrective action was determined to be necessary. |R1 |R1

Issue 309.01-2 - Backshifts have no access to plant drawings (WBN)

One of the five WBN concerns for the adequacy of procedures (IN-85-704-002) pertained to the inaccessibility of plant drawings to backshift personnel. During the evaluation it was learned that Watts Bar Nuclear Plant Site (WBNPS) document control section opened a 24-hour-a-day, 7-days-a-week document control center. Instrumentation drawings for plant operations and maintenance are available for use by individuals working all three shifts. No further corrective action was determined to be necessary. |R1

Conclusion |R1

This issue was factual, identified a problem, but corrective action for the problem was initiated before the evaluation of the concern. |R1

Issue 309.01-3 - Procedures lack clarity and acceptance criteria (WBN)

Another concern, IN-85-825-002, alleged inadequacy in TVA procedures to provide clear instructions and well-defined acceptance criteria. Two examples were provided: Technical Instructions (TI)-27 and Modifications and Addition Instruction (M&AI)-14. NSRS report I-85-339-WBN had previously investigated this concern. This report concurs with the findings of the NSRS report. NSRS found deficiencies in TI-27 to have been already addressed under the WBN Quality Assurance Program. As a result of the QA corrective actions, the TI was adequately revised to include measures to direct the performance of troubleshooting activities. The other example provided by the CI was not validated by the NSRS investigation. |R1

Contrary to the allegation, Revision 5 of M&AI-14 dated May 15, 1985 did not use the term "Qualified Personnel." The instruction did provide explicit references on who could sign-off on data sheets, namely QC Inspectors and Craft Foremen.

Conclusion |

This issue was factual, identified problems, but corrective actions for the problems were initiated before the evaluation. No further corrective action was determined to be necessary. |R1

Generic Applicability |

This concern was evaluated at the site of the concern (WBN). It was determined that the issue was related to specific WBN procedures. Adequate corrective action had been implemented prior to the ECTG evaluation. No other site evaluations are necessary. |R1

Issue 309.01-4 - Teflon tape is not adequately controlled

WBN

Concern IN-85-977-001 pertained to a perception that TVA defaulted on a commitment to identify and replace misapplications of Teflon tape on the Reactor Coolant Systems (RCS). NSRS Report I-85-383-WBN reviewed the usage of Teflon tape with respect to Construction Specifications. This concern was validated by the NSRS Report and this report concurs with the NSRS Report findings. The misapplication of Teflon tape on lines that re-enter the RCS on WBN units 1 and 2 was previously identified by Nonconformance Report (NCR) W-231-P. |R1 |R1

As part of the NCR corrective action measures, the WBN Office of Engineering (OE) released a memorandum requiring immediate removal of Teflon tape from specific areas of the plant and also justified use as-is in the remainder of the plant until all tape could be replaced on a no-delay-to-operations basis. It also stated that Teflon tape located outside the applicable RCS boundary did not pose a safety concern. The memorandum further stated that Teflon tape would no longer be used at Watts Bar. NSRS verified removal of Teflon tape from the Power storeroom and Construction warehouse stock. This decision virtually eliminates any use of Teflon tape and possible future problems in this area. Subsequent to this memorandum, Nuclear Power removed all Teflon tape applied on the referenced applicable stainless-steel lines in unit 1. The unit 2 portion of the NCR remains open until similar action can be accomplished on the applicable unit 2 lines. No further corrective action was determined to be necessary.

SQN

A SQN evaluation was also performed for the concern pertaining to a perception that TVA defaulted on a commitment to identify and replace misapplications of Teflon tape. This concern was validated under NSRS Inspection Report I-85-383-WBN and was generically applied to SQN. This report concurs with the NSRS Report findings. The inspection found that standard practice SQA-160 had contained the restrictions on Teflon tape usage that were consistent with the General Construction Specification, but that planners, foremen, and engineers were not familiar enough with the standard practice to preclude recurrence of the problem. |R1

This unfamiliarity was discovered in interviews with planners, foremen, and an engineer who had the responsibility to be knowledgeable with the requirements of the standard practice. No working level instruction addressed the use of tape. To address the fact that no program exists to identify and replace the existing misapplications of Teflon tape, Operating Experience Report (OER) SQN 850088001 was initiated. This OER is also performing the task generic to all TVA nuclear sites which is to locate a suitable substitute for Teflon tape. |R1

Subsequent to the initial evaluation and the Corrective Action Plan (CAP) received for CATD 30901-SQN-01, some questions were raised by the NRC. Additional information was obtained in response to questions concerning the proposed corrective action as stated in Section 6.0. |R1

It was determined that Teflon tape is not a problem if used within the environmental limits, regardless of the system on which it is used. Revision 5 of SQA-160 removed the restriction prohibiting use of Teflon tape on any lines that will reenter the reactor system. The removal of this requirement creates an inconsistency with the upper-tier requirements in G29, DPM N73E1 and N73M2.

The requirements in revision 5 of SQA-160 will override DPM N73E1 until the DPM is revised to reflect the same requirements. This is allowed by plant procedure SQA-188, and a cover sheet is attached to the revision 5 of SQA-160 documenting headquarters' endorsement of the standard practice in lieu of the upper-tier document indicated on the cover sheet. The cover sheet indicates that DPM N73E1 is overridden but does not indicate G-29 or DPM N73M2 as being overridden. Therefore an inconsistency still exists between SQA-160 and upper-tier documents G-29 and DPM N73M2. |R1

The requirements of G-29 are applicable to SQA-160 since G-29 is a Division of Nuclear Construction (DNC) Document and Modifications, which is a branch of DNC, uses SQA-160.

The disposition of OER SQN 850088001 indicates an environmental drawing prerequisite will be imposed on Teflon tape usage. A discussion with OER tracking personnel revealed that this prerequisite has not been implemented and remains an open item on the OER.

A Condition Adverse to Quality Report, (CAQR) SQP 870155, was initiated on March 9, 1987 which identifies the lack of a "consistent policy or program to identify, control, and eliminate improper usage of Teflon tape."

It was concluded that the specific concern that no program has been established to identify and replace Teflon tape on the RCS is not valid. However, the issue of preventing the use of Teflon tape in all unacceptable locations was determined to be valid. The present approach by SQN in allowing limited, controlled use of Teflon tape is not consistent with the WBN and BFN approach as indicated in OER SQN 850088001. CAQR SQP 870155 identifies this inconsistency for resolution. CATD 30901-SQN-01 was issued to SQN line management to address the lack of employee familiarity with Teflon tape usage and to address the adequacy of Standard Practice SQA-160. CATD 30901-SQN-02 was issued to track closure of CAQR SQP-870155. |R1

This issue at SQN and BFN was factual and presents a problem for which corrective action is being undertaken as a result of the evaluation. |R1

This issue at BLN was not verified as factually accurate.

Issue 309.01-5 - Technical Instructions are incorrect and incomplete (WBN)

Another concern (WBN-243NS) alleged that TIs are incorrect or incomplete, citing one specific TI where the output values in two separate instrumentation loops were expressed in units of millivolts when the actual output values were in units of kilo-pounds/hour (KBH). The evaluator discredited the concern for one of the loops by determining its output value to be in units of degrees F; rather than either of the cited units. The concern for the other loop was also not validated because the evaluator determined the instruction correctly expressed computer input values in millivolt units and output values as KBH.

Conclusion |R1

This issue was not verified as factually accurate.

3.2 Element 309.04 - Procedure Violation |R1

Issue 309.04-1 - Lax inspection criteria (WBN)

The site specific concern (IN-85-984-002) that WBN Nuclear Power (NUC PR) personnel violated procedure by modifying permanent plant ladders without revising appropriate drawings and in another case, improperly reassembling a shielding enclosure was validated. |R1

The first instance of procedure violation was substantiated based on evidence that two of the three cited ladders had been modified without supporting documentation. An interview with the cognizant engineer revealed that the ladder modifications were eventually documented by a Temporary Alteration Control Form (TACF) sometime after the concern was initiated and at least two years after the modification.

The second instance of procedure violation was substantiated based on physical evidence that the cited shielding enclosure around a radiation monitor was improperly reassembled as alleged. In fact, the evaluator determined that the shields had remained improperly reassembled (disassembled) for over two years. The initiating Maintenance Request (MR) had been kept open to document the state of disassembly of the shields; however, the open MR was not being tracked by any central tracking device nor was the Instrument Maintenance Engineer aware that the MR was open.

By procedures, governing Administrative Instructions required sufficient action to preclude the occurrence of this deficiency. The Administrative Instruction which governs MRs even requires second party verification that equipment which has been temporarily altered in a manner such as this is returned to its normal condition. It further requires the completion of a TACF if the temporary alteration is not returned to normal. Other associated AIs make similar provisions to track alterations. However, where these associated AIs, SIs, and MIs all include a step to verify the system is returned to normal, MRs do not include a specific sign-off block to reference a TACF written upon closure of the MR or to verify that the item has been returned to normal. Although MRs do not include the specific sign-off block, it was determined that the WBN MR program requires TACFs to be referenced on the MR. CATD 30904-WBN-01 was issued to address this discrepancy. |R1

The issues of workplans and configuration control are addressed more thoroughly in Subcategory Report 307.

Conclusion

This issue was verified as factual and presents a problem for which corrective action is being taken as a result of the evaluation.

Generic Applicability

The WBN evaluation of this concern determined the issue to be instances of procedural noncompliance and inadequate procedures limited to WBN. No other site evaluations are necessary.

Issue 309.04-2 - Violation of Out-of-Service tags (BLN)

A concern (XX-85-122-023) expressing a lack of proper recognition for equipment out-of-service tags by personnel at BLN could not be substantiated based on numerous employee interviews and a thorough review of training documents. The evaluator determined that all operations and construction personnel authorized to hold a protective clearance for equipment work are required to complete a training class on clearance procedures once every two years. |R1

The evaluator found that additional emphasis is routinely put on protective cards at the group safety meetings in DNC and ONP organizations. In short, the evaluator found sufficient training and instructions to ensure that all plant personnel are knowledgeable of the requirements on protective cards used at BLN. Furthermore, interviews revealed no evidence of a widespread indifferent attitude toward protective tags or personnel safety problems related to such practices. The evaluator found that no concerns of this nature had been identified to the BLN Employee Concerns Program, indicating continued employee respect for protective cards.

Conclusion

This issue was not verified as factually accurate.

Generic Applicability

This concern was evaluated at the site of the concern (BLN) and found to be not valid. No other site evaluations are necessary. R1

3.3 Element 309.05 - Engineering Training

Issue 309.05-1 - Training on actual plant equipment (WBN)

Concern IN-85-495-001 pertained to insufficient training for craft and engineering personnel on plant-specific equipment and was not validated. Training for craft and engineering personnel on the specifics of plant equipment is decided by their immediate supervisors as detailed by a WBN procedure. This procedure also contains specific courses that may be selected by a supervisor for his/her personnel. Additionally, the Plant Operations Training Center (POTC) publishes, on a monthly basis, the courses that are to be taught in the next month. This notification is sent to line management at each plant and they may enroll personnel at their discretion. Further, there are many specialized courses offered at manufacturers' facilities that are utilized.

Conclusion

R1

This issue was not verified as factually accurate.

Issue 309.05-2 - Personnel Performing Technical Reviews are not Properly Trained (WBN) |R1

Concern IN-86-091-001 is in regard to technical reviews of data being performed by personnel with neither the proper training nor expertise. This concern was not validated based on a review of training records, particularly those training records of Preoperational (Preop) Test Personnel. These individuals perform the majority of technical reviews of tests/data. The evaluator found that the requirements for Preoperational Testing Section personnel qualifications were fully met. Training within the section was found to be well-implemented and supported by written examinations and records validating section personnel knowledge and capability.

Conclusion |R1

This issue was not verified as factually accurate.

Issue 309.05-3 - System engineers do not get adequate formal training (WBN)

One concern (IN-86-209-005), of broad scope, pertained to WBN technical support engineers not getting adequate formal training to prevent design control errors which could impact plant safety. Although no instance was identified where an engineer did not understand system operations as alleged, the concern was validated based on a finding that training procedures do not adequately implement ONP training requirements for engineers. Furthermore, the evaluator found an organizational interface problem of unestablished responsibility for plant-specific training for WBN personnel in the Division of Nuclear Engineers (DNE), Division of Nuclear Construction (DNC), Division of Nuclear Quality Assurance (DNQA), and Division of Nuclear Safety and Licensing (NS&L). |R1

In general, the evaluator found the training programs to be soundly structured and functional. However, two potential problems were identified with the training program. One potential problem results from a Training Management oversight that system engineers in some organizations (mentioned above) do not get site-specific training because they are not subject to the WBN governing training procedure. Another potential problem results from the failure of

the WBN administrative instruction to specifically implement the requirements from TVA's Nuclear Training Program Manual. With respect to these two potential problems, the evaluator found a necessity for revision of the applicable administrative instruction to provide more detail with respect to training paths for engineers with system responsibility. An additional finding was that WBN line management appeared to be behind on Orientation Phase training for engineers.

Six CATDs were issued to address the concern for inadequate formal training for engineers with system responsibility. One CATD was issued to Corporate Training and another to POTC. The remaining four CATDs were issued to WBN line management.

CATD 30905-NPS-01 issued to Corporate Training noted that the WBN site procedure for technical staff training (AI-10.1) does not apply to site personnel from DNE, DNC, DNQA, or NS&L. Furthermore, the CATD noted that the AI is not responsive to the TVA upper tier procedure which specifies training for site assigned personnel (Area Plan 0202.17). Finally, the CATD noted that there were no responsibilities assigned to ensure that this training program is accomplished.

CATD 30905-NPS-02, which was issued to POTC, noted that a section of Area Plan 0202.17 is not accurate in that responsibility has been transferred from Supervisor, Personnel Service Staff to POTC. R1

CATD 30905-WBN-01 issued to WBN line management noted that AI-10.1 does not implement the requirements of Area Plan 0202.17, and as a result, does not provide guidance for engineers. Also, CATD 30905-WBN-03 to WBN line management noted that AI-10.1 fails to provide sufficient detail on engineering training programs.

CATD 30905-WBN-02 noted that the orientation phase course implemented under Area Plan 0202.17 had not been successfully completed by anyone via classroom attendance and examination. CATD 30905-WBN-04 to WBN line management noted that plant management is lax in sending plant personnel to required training programs.

Conclusion

This issue was verified as factual, and presents a problem for which corrective action is being taken as a result of the evaluation. R1

Issue 309.05-4 - Inexperienced Shift Technical Advisor (STA) Course Instructor

WBN

Concern IN-86-209-012 pertained to the inadequate qualification of STA Course instructors because they had little or no experience as STAs. Investigation 309.05 SQN was performed and addressed all aspects of the concern. The situation involved joint WBN/SQN class Shift Technical Advisor (STA) training. Someone alleged that an STA student was scheduled to instruct a portion of the next STA class with no experience of having fulfilled the actual watch station as an STA. It was determined that two individuals, indeed, completed the STA training and became instructors with little or no STA experience. However, a review of these individual's qualifications indicated that they were well-prepared for the subject matter they were to teach and their qualifications were within TVA's training instruction requirements. This evaluation concurs with the content of 309.05 SQN as presented in the SQN section below. No problems were identified; no corrective action is necessary. R1 R1

SQN

This issue was substantiated in that there were two instructors performing STA training with little or no STA experience. However, the evaluator found the qualifications of these two individuals well-matched to the subject matter assigned. The duties assigned were also within TVA's requirements for STA instructor qualification. Therefore, no deficiencies were identified.

Conclusion

This issue was verified as factual at WBN and SQN, but what is described is not a problem.

Generic Applicability R1

This concern was evaluated at SQN and WBN and found to be not valid at both sites. No other site evaluations are necessary.

4.0 COLLECTIVE SIGNIFICANCE |R1

This subcategory consisted of concerns about the adequacy of engineering programs, adherence to procedures, and the adequacy of engineering training. A collective assessment of the findings for this subcategory showed that the issues reflected upon plant-wide programmatic deficiencies and maintenance practices more fully addressed in |R1
Subcategory Report 30700, "Nuclear Power Site Programs/Procedures," and Subcategory Report 30800, "Maintenance." It was determined that a meaningful assessment of the issues presented in Subcategory 30900 could not be accomplished without also examining the findings in the other two subcategory reports. Therefore, no subcategory-level conclusions were made in Subcategory 30900.

5.0 ROOT CAUSE, PRELIMINARY ANALYSIS |R1

Section 3.0 discussed the specific findings for each of the element evaluations of this subcategory. This section presents the results of an independent review and analysis done on these specific element-level findings to identify overall root causes at the subcategory level. Patterns of recurring findings called symptoms were derived from the elements and were tested for root causes. The root causes for all elements were then analyzed collectively to identify those occurring most frequently for the subcategory overall. Details of the symptoms and root causes derived for each element are presented in Attachment D, "Summary of Symptoms and Root Causes." |R1

The review and analysis of the symptoms and root causes pointed to two subcategory level root causes as follows:

a. Some procedures governing engineering training and control of consumables are incomplete or fail to incorporate all technical requirements (WBN, SQN)

b. There have been instances of inadequate controls for temporarily altered equipment and use of consumables to ensure compliance with commitments (WBN, SQN)

These two subcategory level root causes derived from root cause analysis are supported by several element-level findings at two of TVA's four nuclear plants. The first root cause is supported by a) need for revision of the WBN administrative instruction for technical staff training to provide more detail on training paths for engineers with system responsibility (section 3.3), and b) no working level instructions at SQN to address the use of Teflon tape (sections 3.1). |R1

Examples supporting the second root cause include a) two instances at WBN when there was improper identification of the status of temporarily altered equipment (section 3.2), and b) use of Teflon tape at SQN in violation of upper-tier requirements (sections 3.1). |R1

Corrective Action Tracking Documents (CATDs) were not issued specifically on these subcategory-level root causes. It was believed that corrective actions being taken already by line management as part of the commitments made in the Nuclear Performance Plan were helping to address these root causes. However, line management was expected to use the subcategory-level root cause information as an aid in preparing corrective action responses to subcategory-level CATDs that would preclude recurrence of the deficiency noted. The ECTG's process for judging the adequacy of line corrective action response to subcategory-level CATDs included a determination of how well the applicable root causes were addressed by the response. |R1

The significant root causes for all subcategories in the Operations category provided part of the input for determining programmatic areas of weakness at the category level and the associated causes. In the Operations category report, these programmatic weaknesses and associated causes are presented along with a discussion of how they are being corrected through implementation of the Nuclear Performance Plan and other corrective action programs. |R1

6.0 CORRECTIVE ACTION |R1

6.1 Corrective Action at Element Level

6.1.1 Element 309.01 - Adequacy of Procedures |R1

Three CATDs were issued to address problems dealing with usage of Teflon tape. One Non-Plant-Specific (NPS) CATD (30901-NPS-01) was issued to corporate management, and |R1

the other two CATDs (30901-SQN-01,-BFN-01) were sent to SQN and BFN line managers.

NPS

CATD No. 30901-NPS-01

CATD 30901-NPS-01 sent to corporate management noted that inconsistencies exist between WBN, BFN, and SQN on the restrictions of use of Teflon tape. It also made the observation that identification of an acceptable substitute for Teflon tape has not been aggressively pursued. The acceptable corrective action response received from corporate management was as follows:

"The current status of the program to identify an approved, unrestricted thread sealant is outlined in a memorandum from W. E. Pennell to R. A. Sessoms dated February 26, 1987 (B45 870212 259). Some of the information contained in the discussion of Concern IN-85-977-001 in Fact Sheet 309.01-WBN has been updated by a memorandum from H. B. Bounds to George Toto dated March 16, 1987 (B26 870316 001). Site procedures on the use of Teflon tape at BFN, SQN, and WBN may vary somewhat, within the restrictions imposed on Teflon tape usage in G-29M and DPM N73M2, P. S. 4.M.1.1 (R10). Deviations from these engineering requirements are grounds for initiation of a CAQ. Such a CAQ is presently under review for disposition at SQN."

Excerpts from the Pennell to Sessoms memorandum referenced in the corrective action response above are as follows:

Problem

"Application of Teflon thread sealant tape outside the limits imposed by G-29M and DPM N73M2 was identified at SQNP in SCRSQNNEB8525 (reference 3) and at Watts Bar in NCR W-231-P (C24 850501 104).

"In order to avoid misapplication of certain thread sealants in restricted areas, it is desirable to identify a thread sealant material(s) with the following features:

(1) Effects a seal at 650°F/2200 psia on threaded stainless steel joints to gamma radiation doses of 10^9 rads

(2) Contains low levels of halogens, sulfur, and low melting point metals so that it does not promote corrosion/stress-corrosion of these joints under the above conditions

(3) Is easily applied to small-diameter instrument lines by craft personnel wearing C-zone clothing

(4) Provides sufficient lubricity such that galling is prevented during joint construction

(5) Allows the joint to be easily disassembled for maintenance or repair work

"Grafoil tape has been the recommended unrestricted material for thread sealant applications. DNE recognizes the difficulty of applying this tape to small-diameter lines and has been actively pursuing an alternative which will be qualified for use at temperatures up to 650°F and at doses up to 10^9 rads (gamma, 40-year integrated plus accident dose).

Interim Alternative Sealant

"Until a usable, fully qualified, unrestricted thread sealant is identified, one alternative material which can be used on CSSC stainless steel within certain limitations is Felpro HPS. Felpro HPS as a phenolic resin generally can withstand temperatures to 650° and doses of 10^7 rads (gamma). It is, therefore, acceptable in many areas of the plant and is listed in G-29M, P.S.4.M.1.1 Certain low-halogen batches of Felpro HPS have been procured by WBN and SQN. However, not all lots will now meet halogen limitations. We have contacted Felpro concerning their ability to supply the HPS on a preferred lot basis with Certified Material Test Reports (CMTRs). Although Felpro is interested in pursuing this capability, they presently do not exercise sufficient batch chemistry control to be able to supply CMTRs. Until they have this capability, TVA will have to continue to conduct in-house chemical analyses on each batch/lot ordered.

Additional Prospective Sealant

"Union Carbide has recently produced a laboratory formulation of Grafoil Paste consisting of Grafoil particles in a linseed oil carrier. Recent tests to qualify the Grafoil Paste have been conducted and demonstrate the sealant adequately prevents leakage, whereas fittings with no sealant experienced severe leakage. Union Carbide will certify this as a nuclear grade material and will produce it commercially upon receipt of a purchase order. The constituent materials are approved for use in a nuclear environment; thus, Grafoil Paste is promising as an unrestricted thread sealant; however, sealant life under operating conditions has yet to be established.

Summary of Current Status

"We are currently negotiating a test program with Oak Ridge National Laboratory (ORNL) for candidate thread sealant materials to conclusively qualify unrestricted sealants. This program is expected to be completed in six months. In the interim, Grafoil tape is fully qualified yet recognized as being difficult to use. Felpro HPS is acceptable for use up to 650° F and 10^7 rads."

Excerpts from the Bounds to Toto memorandum referenced in the corrective action response for CATD-30901-NPS-01 are as follows:

"The original disposition to NCR W-231-P (Reference 3) stated that Teflon tape would no longer be used at WBN after May 1, 1985, based on a decision by plant management. This was noted

in Nuclear Safety Review Staff (NSRS) Investigation Report Number I-85-383-WBN (T25 860317 981). Moreover, NSRS had verified removal of all Teflon tape from Power and Construction storerooms prior to September 1985.

"Because of the lack of an easily applied alternative to Teflon tape, Watts Bar decided later to allow its use in areas outside the Reactor and Auxiliary Buildings. This policy was reflected in Reference 5 and WBN Technical Instruction (TI) 35. However, Nuclear Regulatory Commission (NRC) Inspection Followup Item (IFI) 390/85-32-01 was closed based on NCR W-231-P (Reference 2 and 3). Reference 3 reflected the original plant intention to prohibit future use of Teflon tape and provided technical justification for allowing Teflon tape to remain on lines which do not reenter the reactor coolant system (RCS), until maintenance scheduling allowed its removal.

"The Watts Bar resident NRC inspector has raised questions recently about TVA's policy on the use of Teflon tape. The DNE limitations of 300°F and 10^4 rads contained in G-29, P.S.4.M.1.1 have not changed since their inspection in 1980. The provisions of G-29M are adequate to define necessary requirements for use of Teflon tape in view of the fact that an adequate substitute has not yet been found. NCR W-231-P may be redispositioned to delete the total ban on Teflon tape and accept use as defined in G-29.

"This policy is within the technical justification provided in the original disposition of NCR W-231-P.

"DNE concurs in part with the Teflon tape policy requested in Reference 1. We are working with items 1, 2, and 4, but have difficulty with item 3. We are working with your staff to resolve our problems with this item and will revise G-29 when mutual agreement is reached.

"Please add this memorandum as a reference in Sections 5 and 11 of completed NCR W-231-P. This will provide clarification of the WBN Nuclear Power policy on the use of Teflon tape."

SQN

CATD No. 30901-SQN-01

CATD 30901-SQN-01 was issued to SQN line management to address the lack of employee familiarity with Teflon tape usage and to address the adequacy of Standard Practice SQA-160. The acceptable response to this CATD received from SQN line management was as follows:

THIS ITEM COMPLETED
DATE: 10-26-87

"Revise SQN Standard Practice SQA-11 to clarify limitations of Teflon tape. Issue memorandum to employees who may use Teflon tape advising of the restrictions of Teflon tape applications. Items will be tracked by MAPS 9357 and 9356." |R1

CATD No. 30901-SQN-02

THIS ITEM COMPLETED
DATE: 10-26-87

CATD 30901-SQN-02 was issued to track closure of CAQR SQP-870139 dealing with the lack of a consistent policy or program to identify, control, and eliminate improper usage of Teflon tape.

BFN

CATD No. 30901-BFN-01

CATD 30901-BFN-01 was issued to BFN line management noting a lack of a tracking mechanism to ensure that Teflon tape will be replaced before it begins to break down due to exceeding its radiation dose restrictions. BFN line management has responded as follows:

"A tracking mechanism is not needed to ensure the removal of Teflon tape before radiation induced breakdown. A recent memorandum to Division of Nuclear Engineering (DNE) has requested that they define those system applications and environments where the use of Teflon tape should be controlled or prohibited.

"BFN plans to remove the Teflon tape from those areas indicated by DNE on an "as maintenance is performed" basis. This is in agreement with the recommendations made regarding a similar problem at Watts Bar Nuclear Plant. It is also a reflection of prior nuclear utility experience which has no stress corrosion cracking directly attributable to the breakdown of Teflon tape. This includes nuclear facilities with longer operating lifetimes than BFN. It should be noted that radiation doses exceeding 10^4 Rads often do not occur until near the end of the plant's life. Also, data shows that Teflon used as a sealant has a radiation stability up to 2.7×10^6 Rads. The removal of Teflon tape in the manner described should be timely enough to avoid exposures that would cause the breakdown of Teflon tape. The initiation of this action would therefore preclude the necessity for a tracking mechanism."

6.1.2 Element 309.04 - Procedure Violations |R1

WBN

CATD No. 30904-WBN-01

CATD 30904-WBN-01 was issued to WBN line management noting that Maintenance Request (MR) forms do not provide for verification that the equipment or systems affected by the MR have been either returned to normal configuration or covered by a TACF at the time the MR is closed. The acceptable WBN line management response was as follows:

"Administrative Instruction (AI) 9.2 standardizes guidelines for the preparation and review of Maintenance Request (MRs). Step 17 requires that in the preparation of the MR, instructions be provided for return of equipment to normal status as required. When MR instructions are followed and block number 27 on the MR form is signed off, the equipment has been returned to normal, or the appropriate Temporary Alteration Control Form (TACF) is referenced. When mistakes are discovered they will be documented by a Corrective Action Report (CAR), or Deviation Report (DR), or Condition Adverse to Quality (CAQ) when applicable."

6.1.3 Element 309.05 - Engineering Training |R1

Six CATDs were issued to address the concern for inadequate formal training for engineers with system responsibility. One CATD was issued to Corporate Training and another to POTC. The remaining four CATDs were issued to WBN line management.

NPS

CATD No. 30905-NPS-01

CATD 30905-NPS-01 issued to Corporate Training noted that the WBN site procedure for technical staff training (AI-10.1) does not apply to site personnel from DNE, DNC, DNQA, or NS&L. Furthermore, the CATD noted that the AI is not responsive to the TVA upper tier procedure which specifies training for site assigned personnel (Area Plan 0202.17). Finally, the CATD noted that there were no responsibilities assigned to ensure that this training program is accomplished.

The response to CATD 30905-NPS-01 is as follows:

Excerpts from the memorandum from Pedde, Acting Director to Nuclear Construction to Johnson, DNT, dated May 21, 1987, states the responses to CATD 30905-NPS-01:

- "General - DNC has issued PMP 0202.17 as Construction/ Modification Interim Procedure CMIP-23.

- "Browns Ferry Nuclear Plant - Modifications (BFN-MODS) presently has 35 degreed engineers and nine managers within the scope of the required training specified by PMP 0202.17. Waivers will be initiated for those personnel who qualify in the areas listed as items b, c, and d, in section 6.2. Four engineers included in the count above have completed training Section 6.2.e.

- "Sequoyah Nuclear Plant - Modifications (SNP-MODS) has presently submitted their needs for training in PMP 0202.17 through the Site Director's Organization. To prevent a double count on your rolls, I refer you to the site director's identified training needs. Many of the MODS personnel have completed this required training.

- "Watts Bar Nuclear Plant - Modifications (WBN-MODS) intends to have approximately 130 managers and engineers trained to the requirements of Technical Staff and Manager Training for Nuclear Site Personnel by the end of the second quarter of 1988. By mid-July of this year, approximately 30 individuals will have completed four weeks of training. In addition, another 19 individuals will have completed the two-week Plant Systems Familiarization Course. R1

- "Bellefonte onsite engineer training is contingent on operational plant staffing."

THIS ITEM COMPLETED DATE: 7-20-88

Excerpts from the memorandum from Sain, Assistant Director, DNT to McAnally, Corrective Action Program Manager, WBN, dated July 7, 1987 states:

"Actions were set in motion April 8, 1987 to resolve this issue. By formal memorandum, each site director was requested to revise their respective training procedures to recognize the requirements in PMP 0202.17, "TECHNICAL STAFF AND MANAGER TRAINING FOR NUCLEAR PLANT SITE PERSONNEL," after which the DNT would provide a schedule for conducting the training following SQN Unit 2 restart. Additionally, the division directors of Nuclear Safety and Licensing, Nuclear Construction, Nuclear Quality Assurance, and Nuclear

Engineering were informed of the request to the site directors and these division directors were asked to supply the number and location (site) of the affected engineers from their respective divisions. They were advised of the tentative schedule to begin this training following SQN Unit 2 restart.

"The action plan described above is appropriate and adequate to resolve this issue. The training commitment in this area is long-term and with the incorporation of the requirements of PMP 0202.17 at each site the issue will be considered closed."

Excerpts from the memorandum from Johnson to Lagergren, CEG Head, ONP, WBN dated July 7, 1987, are as follows: R1

"Responses have been received by all divisions except DNE. A meeting was held by Leo Sain of my staff with DNE representatives Dick Thompson and Don Evans on July 30, 1987 to discuss DNE onsite engineers participation in the Tech Staff and Managers Orientation Training Program. An agreement was reached that DNE would define the onsite engineers that needed to participate in this training to DNT. DNE is presently evaluating their onsite engineers and has agreed to provide this information to DNT within three weeks. With this commitment from DNE, CATD 30905-NPS-01 and -02 should be closed."

CATD No. 30905-NPS-02

CATD 30905-NPS-02, which was issued to the POTC, noted that a section of Area Plan 0202.17 is not accurate in that responsibility has been transferred from Supervisor, Personnel Service Staff to POTC. The acceptable response received from the POTC was as follows:

"A revision to reflect proper responsibility in Section 4.4 of PMP 0202.17 will be submitted for approval by March 6, 1987."

WBN

CATD Nos. 30905-WBN-01,03

CATD 30905-WBN-01 issued to WBN line management noted that AI-10.1 does not implement the requirements of Area Plan 0202.17, and as a result, does not provide guidance for engineers. Also, CATD 30905-WBN-03 to WBN line management noted that AI-10.1 fails to provide sufficient detail on engineering training programs. The acceptable response received from WBN line management for these CATDs was as follows:

30905-WBN-01

THIS ITEM COMPLETED DATE 5/11/88

A revision to AI-10.1 will be submitted to PORC by May 29, 1987. This revision will implement the requirements of Area Plan 0202.17, such that the training requirements for Technical Staff and Managers are identified. This revision will reference Area Plan 0202.17 for the type and scope of training for Technical Staff and Managers.

30905-WBN-03

"Training for DNE personnel, regardless of location or assignment, is governed by DNE Procedure NEP-1.2, Training. DNE personnel located at each nuclear plant site are also subject to the General Employee Training (GET) requirements for the site, including those for Watts Bar Nuclear Plant specified in WBN AI-10.1. Technical training of DNE personnel is not governed by the site Administrative Instructions (AIs)."

8-24-88

CATD No. 30905-WBN-02, 04

CATD 30905-WBN-02 noted that the orientation phase course implemented under Area Plan 0202.17 had not been successfully completed by anyone via classroom attendance and examination. CATD 30905-WBN-04 to WBN line management noted that plant management is lax in sending plant personnel to required training programs. The unacceptable response to these two CATDs was as follows: |R1

30905-WBN-02

THIS ITEM COMPLETED DATE 8/1/88

"Technical Staff and Manager Orientation Training" (PMP 0202.17) is a four (4) week program that consists of four (4) separate courses; EGT319 - Plant Reference Material, Design Philosophy, and Organization Orientation, EGT320 - Nuclear Codes, Standards, and Regulations Orientation, EGT321 - Plant Modification and Work Control Orientation, and SYS301 - Basis Systems. Satisfactory completion of all four (4) segments has not been attained by any WBN personnel, in that to date, no one has attended all four courses. Site management is responsible for assigning personnel to attend these courses. This program is presently scheduled to be offered four times by the end of December, 1987. Additional classes will be scheduled based on POTC manpower availability. Lastly, it is proper for waivers to be granted to plant personnel who have completed training that exceeds the requirements of PMP 0202.17. |R1

30905-WBN-04

DATE 1-20-88

To ensure that proper attention and priority is placed on meeting training commitments, a memorandum will be sent from the Site Director to all WBN key managers stressing WBN's commitment to training. Each key manager will be asked to provide an assessment of their respective training program and the degree of compliance.

Further, the availability of training under AI 10.1 Technical Staff and Manager Training, will be noted and key managers encouraged to make personnel available for this training.

FILE COPY
DATE 7-20-88

6.2 Corrective Action at Subcategory Level |R1

No subcategory level findings were generated for this report for reasons discussed in Section 4.0. Therefore, there were no corrective actions at the subcategory level. |R1

7.0 ATTACHMENTS |R1

Attachment A - Subcategory Summary Table

Attachment B - Listing of Concerns by Issue

Attachment C - Checklist for Root Cause Analysis

Attachment D - Summary of Symptoms and Root Causes |

Attachment E - Graph of Symptoms versus Root Cause |

Attachment F - Bar Charts of Symptoms |

Attachment G - Bar Charts of Root Causes |R1

Attachment H - CATDs |

Attachment I - Evaluator List |

ATTACHMENT A

SUBCATEGORY SUMMARY TABLE

ATEGORY: OP PLANT OPER. SUPPORT
SUBCATEGORY: 309 TECHNICAL TRAINING

CONCERN NUMBER	CAT	SUB CAT	SHRD	PLT LOC	1 REPORT APPL 2 SAF RELATED BF BL SQ WB	HISTORICAL REPORT	CONCERN ORIGIN	CONCERN DESCRIPTION	REF. SECTIO CAT - OP SUBCAT - 30 Section/Issue
IN -85-495-00101 T50043	OP	30805	S	WBN	1 N N N Y 2 NA NA NA NO	IN-85-495-001	QTC	MORE TRAINING IS NEEDED FOR CRAFT AN D ENGINEERING PERSONNEL CONCERNING T HE TYPES OF EQUIPMENT FOUND IN THE P LANT. INVERTERS, BATTERIES AND GENE RATOR EXCITATION WERE REFERENCED AS EXAMPLES WHERE EQUIPMENT TRAINING IS NEEDED. NO FURTHER SPECIFICS ARE A VAILABLE.	3.1 309.05-1
02	OP	30905	S	WBN	1 N N N Y 2 NA NA NA NO				
IN -85-595-00801 T50056	OP	30901	N	WBN	1 N N N Y 2 NA NA NA NO		QTC	MANAGEMENT DID NOT REQUEST THE FIRE PROTECTION SYSTEM BE DRAINED PRIOR T O CRAFT DRILLING ON THE SHUTDOWN LIN ES. THIS PROCEDURE IF DONE WITH QA LINES AFTER OPERATION WAY HAVE SERIO US CONSEQUENCES.	3.1 309.01-1
IN -85-704-00201 T50064	OP	30901	N	WBN	1 N N N Y 2 NA NA NA NO		QTC	2ND AND 3RD SHIFTS OFTEN DO NOT HAVE ACCESS TO DRAWINGS RELATED TO INSTR UMENTATION ACTIVITIES. TVA NEEDS A LIBRARY WHICH IS AVAILABLE 24 HOURS A DAY.	3.1 309.01-3
IN -85-825-00201 T50086	OP	30801	S	WBN	1 N N N Y 2 NA NA NA SR	I-85-339-WBN	QTC	TVA HAS SEVERAL PROCEDURES WHICH NEE D TO HAVE PROTIONS REWRITTEN FOR CLA RITY OR MORE DEFINED CRITERIA. EXAM PLES ARE 11-27 PART 3 ("COGNIZANT EN GINEER SHALL DETERMINE ACCEPTANCE AS IT APPLIES...". NO METHOD OF DOCUM ENTING THIS ACCEPTANCE EXISTS.) MIA -14 ("COGNIZANT ENGINEER OR QUALIFIE D PERSONNEL CAN COMPLETE THE DATA SH EET AS APPROPRIATE".) NO DEFINATION OF " QUALIFIED PERSONNEL" EXISTS.	3.1 309.01-3
02	OP	30901	S	WBN	1 N N N Y 2 NA NA NA SR				
IN -85-977-00101 T50112	OP	30901	N	WBN	1 Y Y Y Y 2 SR SR SR SR	I-85-383-WBN	QTC	TVA MANAGEMENT HAS STATED THAT TEFLO N TAPE WHICH WAS USED ON THE REACTOR COOLANT SYSTEM (RCS) MUST BE IDENTI FIED AND REPLACED WITH ANOTHER TYPE OF TAPE, HOWEVER, NO PROGRAM TO ACCO MPLISH THIS TASK HAS STARTED. CI HA S NO ADDITIONAL INFORMATION. NO FOL LOW UP REQUIRED.	3.1 309.01-4

CONCERNS ARE GROUPED BY FIRST 3 DIGITS OF SUBCATEGORY NUMBER.

CATEGORY: OP PLANT OPER. SUPPORT
SUBCATEGORY: 309 PROCEDURE/VIOLATIONS

CONCERN NUMBER	CAT	SUB CAT	SHRD	PLT LOC	1 REPORT APPL 2 SAF RELATED BF BL SQ WB	HISTORICAL REPORT	CONCERN ORIGIN	CONCERN DESCRIPTION	REF. SECT CAT - SUBCAT - Section/Issu
IN -85-984-00201 T50154	OP	30904	N	WBN	1 N N N Y 2 NA NA NA SR		QTC	NUCLEAR POWER DEPARTMENT USES LAX INSPECTION CRITERIA - ITEMS ARE ACCEPTED THAT DO NOT MEET APPROVED DESIGN. EG: 1 - LADDERS ON FILTER CUBICLES IN UNIT #1 AND COMMON AUXILLIARY BLDG. AT 676', 692' AND 737' ELEVATIONS WERE CUT AND DIDN'T MEET DESIGN. EG: 2 - 3" THICK ENCLOSURE (4'0" X 3' 6"X5'0") AT A-6 AND U LINE WAS RE-ASSEMBLED BY NUCLEAR POWER BUT DIDN'T MEET APPROVED DESIGN (CLOSURE PLATE WAS LEFT OFF). CI HAS NO FURTHER INFORMATION. CONSTR. DEPT. CONCERN. CI HAS NO FURTHER INFORMATION.	3.2 309.04-1
IN -86-091-00101 T50118	OP	30905	N	WBN	1 N N N Y 2 NA NA NA NO		QTC	CI IS CONCERNED THAT PERSONNEL PERFORMING TECHNICAL REVIEWS OF TESTS/DATA ARE NOT TRAINED NOR HAVE THE EXPERTISE TO DO SO. (DETAILS KNOWN TO ERT, WITHELD TO MAINTAIN CONFIDENTIALITY). NUCLEAR POWER CONCERN. CI HAS NO FURTHER INFORMATION.	3.3 309.05-2
IN -86-209-00501 T50218	OP	30905	N	WBN	1 N N N Y 2 NA NA NA NO		QTC	ENGINEERS ASSIGNED SYSTEM RESPONSIBILITY SHOULD BE ABLE TO UNDERSTAND SYSTEM OPERATIONS. THERE HAS TO BE A FUNCTIONAL RELATIONSHIP BETWEEN HIS COMPREHENSION OF THE OPERATOR'S WORK AS IT RELATES TO SYSTEM DESIGN CONTROL. NEW AND INEXPERIENCED ENGINEERS WHO DO NOT HAVE THIS TRAINING COULD POTENTIALLY MAKE ERRORS, RESULTING IN NON-CONFORMING CONDITIONS AND REWORK OF MATERIAL/EQUIPMENT. THIS APPLIES TO NUC. POWER, CONSTRUCTION AND MAINTENANCE ENGINEERS. AT THIS TIME NO FORMAL TRAINING PROGRAM EX	3.3 309.05-3

CONCERNS ARE GROUPED BY FIRST 3 DIGITS OF SUBCATEGORY NUMBER.

REFERE - ECPS132J-ECPS132C
FREQUENCY - REQUEST
ONP - ISSS - RWM

TENNES VALLEY AUTHORITY
OFFICE OF NUCLEAR POWER
EMPLOYEE CONCERN PROGRAM SYSTEM (ECPS)
EMPLOYEE CONCERN INFORMATION BY CATEGORY/SUBCATEGORY

P -
RU TIME - 13:36:
RUN DATE - 04/24/

:ATEGORY: OP PLANT OPER. SUPPORT
SUBCATEGORY: 309 TECHNICAL TRAINING

CONCERN NUMBER	CAT	SUB CAT	SHRD	PLT LOC	1 REPORT APPL / 2 SAF RELATED BF BL SQ WB	HISTORICAL REPORT	CONCERN ORIGIN	CONCERN DESCRIPTION	REF. SECTI CAT - SUBCAT - Section/Issue
IN -86-209-01201 T50218	OP	30905	N	WBN	1 N N Y Y 2 NA NA SR SR		QTC	PERSONNEL PERFORMING STA (SHIFT TECHNICAL ADVISOR) TRAINING ARE ENGINEERS WITH LITTLE OR NOT EXPERIENCE AS AN STA THEMSELVES. IT HAS NOTED THAT TWO PERSONS THAT WERE BEING PROCESSED THROUGH A PARTICULAR STA CLASS, WERE SCHEDULED TO TEACH THE NEXT CLASS OF STA'S. ENGINEERS ARE BEING ASSIGNED THE TASK OF TRAINING STA'S IN PLANT OPERATIONS, OF WHICH THEY THEMSELVES HAVE LITTLE OR NO EXPERIENCE. CI HAS NO ADDITIONAL INFORMATION. NUC. POWER DEPT. CONCERN.	3.3 309.05-4
WBN-243NS	01	OP	30901	N	WBN	1 N N N Y 2 NA NA NA NO		OECP	TI'S ARE INCORRECT OR INCOMPLETE. FOR EXAMPLE, ON 1-LPF-1-116 & 1-LPF-1-115 THE OUTPUTS ARE SHOWN AS MILLIVOLTS WHEN THE ACTUAL OUTPUT IS KBH ON THE COMPUTER PRINTER; BOTH OUTPUTS SHOULD BE SHOWN ON THE TI'S.	3.1 309.01-5
XX -85-122-02301 T50214	02	OP	30804	S	BLN	1 N Y N N 2 NA SR NA NA		QTC	BELLEFONTE: OUT OF SERVICE TAGS FOR VALVES, ELECTRICAL EQUIPMENT, ETC., HAVE BEEN VIOLATED EVERYWHERE. THIS PRESENTS AN EXTREMELY SERIOUS PERSONNEL SAFETY PROBLEM. CI HAS NO FURTHER INFORMATION. ANONYMOUS CONCERN VIA LETTER.	3.2 309.04-2
	02	OP	30904	S	BLN	1 N Y N N 2 NA SR NA NA			

11 CONCERNS FOR CATEGORY OP SUBCATEGORY 309

CONCERNS ARE GROUPED BY FIRST 3 DIGITS OF SUBCATEGORY NUMBER.

ATTACHMENT B

LISTING OF CONCERNS BY ISSUE

The Engineering Subcategory (30900) is comprised of 11 concerns grouped into 3 elements addressing 11 issues.

Element 309.01 - Adequacy of Procedures

Issue 309.01-1	Management did not require Fire Protection System drained prior to maintenance. (IN-85-595-008)
Issue 309.01-2	Backshifts have no access to plant drawings. (IN-85-704-002)
Issue 309.01-3	Procedures lack clarity and acceptance criteria. (IN-85-825-002)
Issue 309.01-4	Teflon tape is not adequately controlled. (IN-85-977-001)
Issue 309.01-5	Technical Instructions are incorrect and incomplete. (WBN-243NS)

Element 309.04 - Procedure Violations

Issue 309.04-1	Lax inspection criteria (IN-85-984-002)
Issue 309.04-2	Violation of Out-of-Service tags. (XX-85-122-023)

Element 309.05 - Technical Training

Issue 309.05-1	Training on actual plant equipment. (IN-85-495-001)
Issue 309.05-2	Personnel performing technical reviews are not properly trained. (IN-86-091-001)
Issue 309.05-3	System Engineers do not get adequate formal training (IN-86-209-005)
Issue 309.05-4	Inexperienced Shift Technical Advisor (STA) Course Instructors. (IN-86-209-012)

Checklist for Root Cause Analysis

1. Procedure lacks specifics to perform task.
2. Personnel lack sufficient training in the applicability/use of procedure.
3. Lack of understanding regulatory requirements or commitments.
4. Lack of adequate system, process, or administrative controls to ensure commitments are reflected in procedures or processes.
5. Inadequate communication within functional group.
6. Inadequate communication between functional groups.
7. Management Assumed Risk.
8. Procedures incomplete or failed to incorporate all technical requirements.
9. Error in judgment by qualified individuals.
10. Unqualified individuals performing the task.
11. Insufficient time to perform task.
12. Inadequate prerequisites defined to ensure satisfactory completion of task.
13. Personnel performed task knowingly in violation of procedure/process.
14. Personnel error in following procedures.
15. Failed to identify root cause of previous deficiencies.
16. Failed to take appropriate action to preclude reoccurrence.
17. Inadequate process to detect adverse trends.
18. Inadequate acceptance criteria defined to ensure satisfactory task completion.
19. Management attentiveness to trends.
20. Lack of accessibility to documentation.
21. Inadequate controls for review of results to ensure compliance with commitments.
22. Timeliness of changes to commitments or changes to licensing/regulatory requirements.
23. Isolated incident.
24. Random error.
25. Other - i.e., equipment related failure.

ATTACHMENT D
SUMMARY OF SYMPTOMS AND ROOT CAUSES

|R1

Element 309.01, Adequacy of Procedures

For this element, there was the potential for negative findings at the subcategory level exhibited by the following symptom: Inadequate work control (use of consumables). This symptom appeared only in the evaluation for SQN. As this symptom was tested for root cause, the appropriate root causes and applicable plant site were judged to be as follows:

a. Procedures incomplete or failed to incorporate all technical requirements (SQN)

b. Failed to take appropriate action to preclude recurrence (SQN)

c. Inadequate controls for review of results to ensure compliance with commitments (SQN)

Element 309.04, Procedure Violations

For this element, there was the potential for negative findings at the subcategory level exhibited by the following symptoms: a) Inadequate Work Control (modification activities), and b) Inadequate Configuration Control (maintenance activities). As these symptoms were tested for root cause, the appropriate root causes and applicable plant site were judged to be as follows:

a. Lack of understanding regulatory requirements or commitments (WBN)

b. Lack of adequate system or administrative controls to ensure commitments are reflected in procedures or processes. (WBN)

c. Procedures incomplete or failed to incorporate all technical requirements (WBN)

d. Inadequate controls for review of results to ensure compliance with commitments (WBN)

Element 309.05, Engineering Training

For this element, there was the potential for negative findings at the subcategory level exhibited by the symptom of "procedural non-compliance (non-regulatory required training)." This symptom appeared only in the evaluation for WBN. However, based on the findings at WBN, additional evaluation will take place at SQN and BFN and will be reflected at category level. The testing of the symptoms led to the following two root causes for WBN:

a. Inadequate communication between functional groups (WBN Training Department with DNE, DNC, DNQA, DNS&L)

ATTACHMENT D (continued)

b. Procedures incomplete or failed to incorporate all technical requirements (WBN administrative instruction for technical staff training).

The analysis of the symptoms and root causes in the subcategory is depicted graphically in Attachments E, F, and G. Attachment E is a plot of each element's symptoms versus the root causes pointed out by the symptom. Root cause numbers on the horizontal axis correspond to the 25 items on the "Checklist for Root Cause Analysis" found in Attachment C. Attachment F contains bar graphs showing the number of times each of the symptoms identified for the subcategory occurs for the various plants. Symptom numbers on the horizontal axis in this attachment correspond to the symptoms as listed in Attachment E. Attachment G contains bar graphs showing the number of times each root cause appears in the subcategory for the various plants. |R1 |R1 |R1

Several observations can be made in studying the attachments and the findings section of this report. A shared symptom of Inadequate Work Control was found at SQN (use of consumables) as well as WBN (modification activities). Most significantly the two root causes of most frequent occurrence were a) procedures incomplete or failed to incorporate all technical requirements, and b) inadequate controls for review of results to ensure compliance with commitments. Each of these root causes appeared at two of TVA's four nuclear sites.

ATTACHMENT E
SYMPTOMS VS ROOT CAUSES
SUBCATEGORY 309

Symptoms

1. Inadequate Work Control (use of consumables, modification activities)
2. Inadequate Configuration Control (maintenance activities)
3. Procedural Non-compliance (non-regulatory required training)

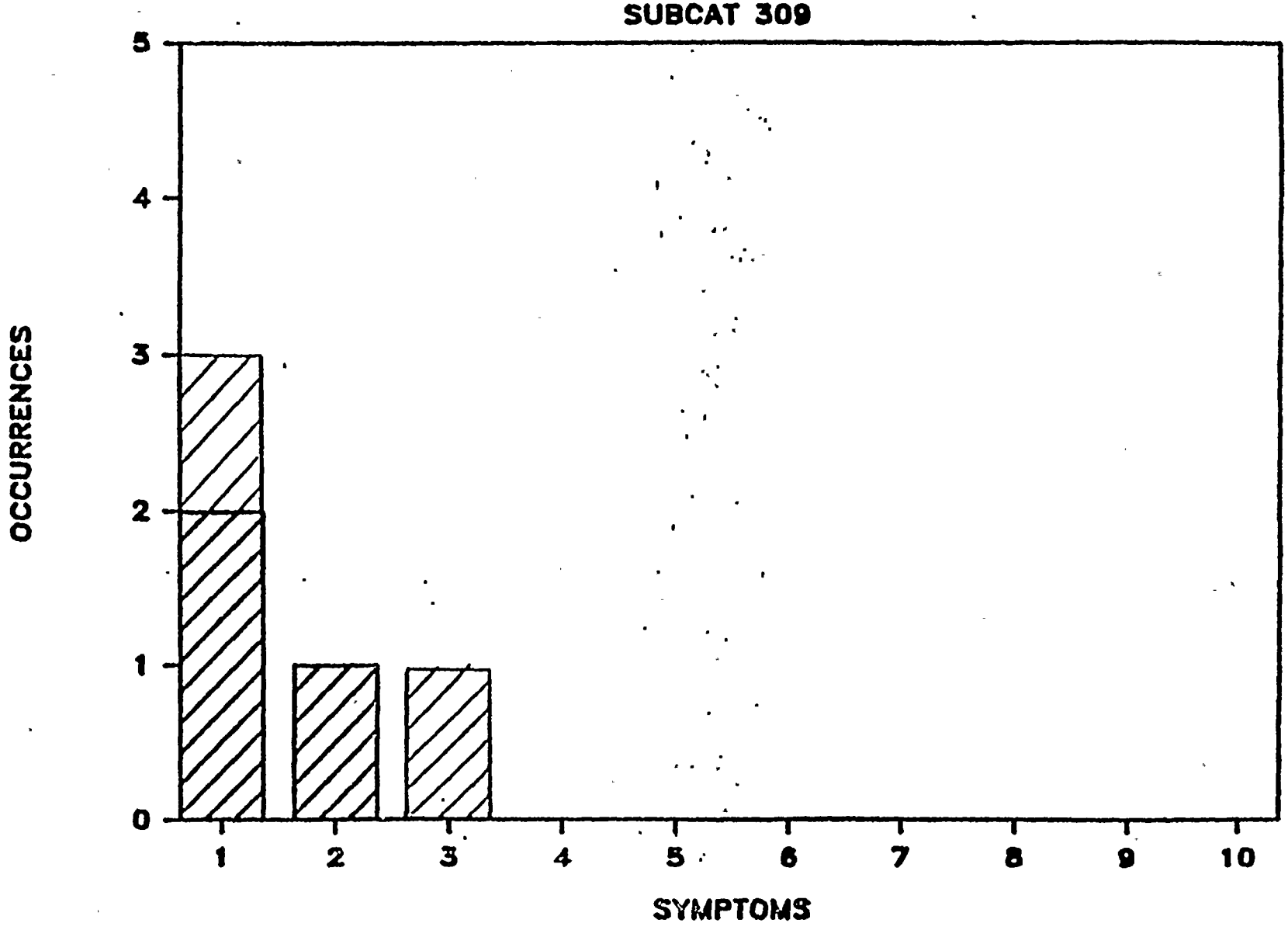
KEY: W = WBN
S = SQN
B = BFN

SYMPTOMS

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	2
Element 309.05 3						W		W																	
Element 309.04 2				W				W													W				
Element 309.01/ 309.04 1			W	W				S								S					W S				

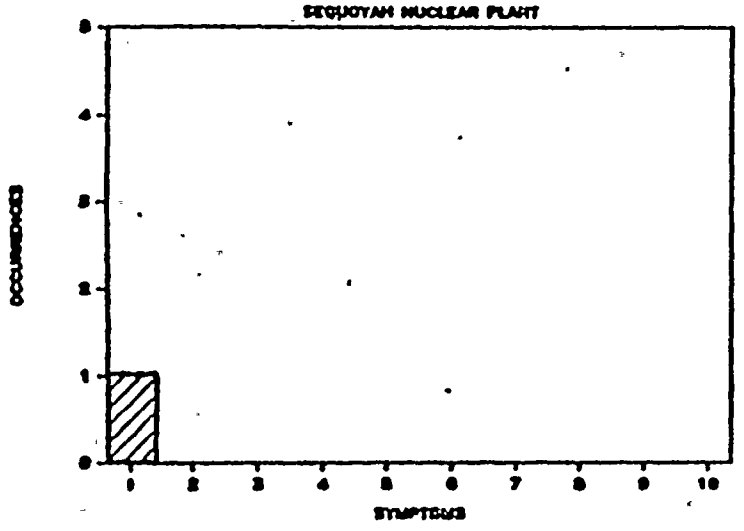
Root Causes

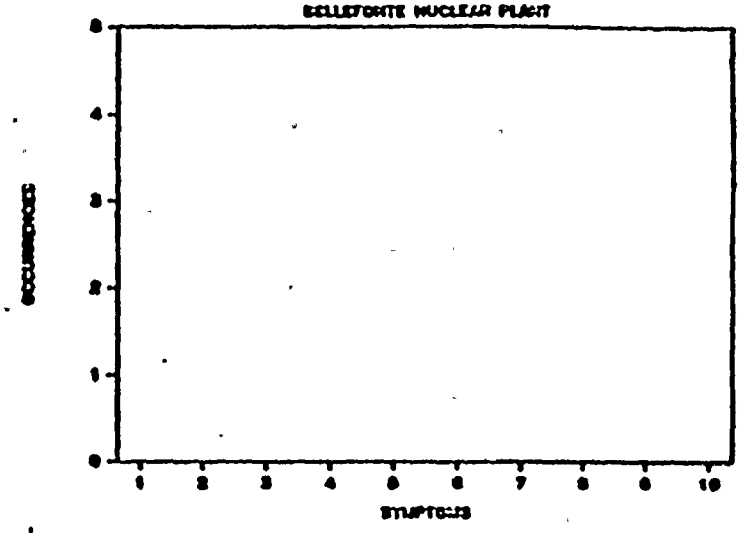
OCCURRENCES VS. SYMPTOMS

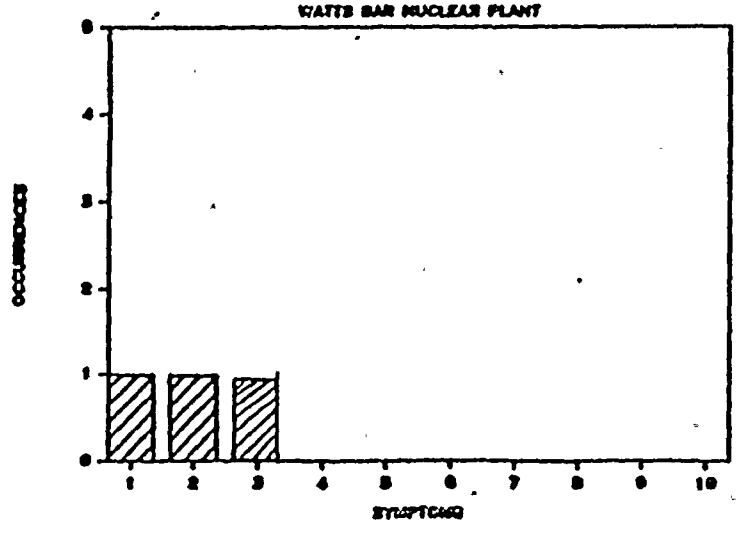


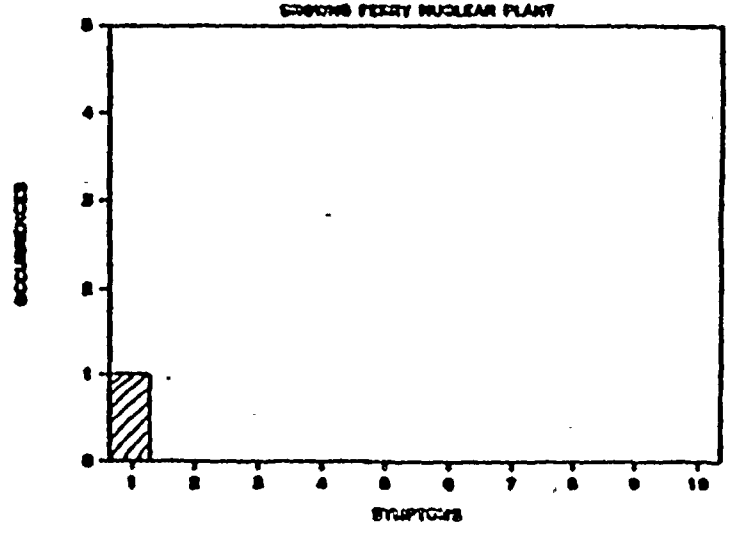
OCCURRENCES VS. SYMPTOMS

SUBCAT 309

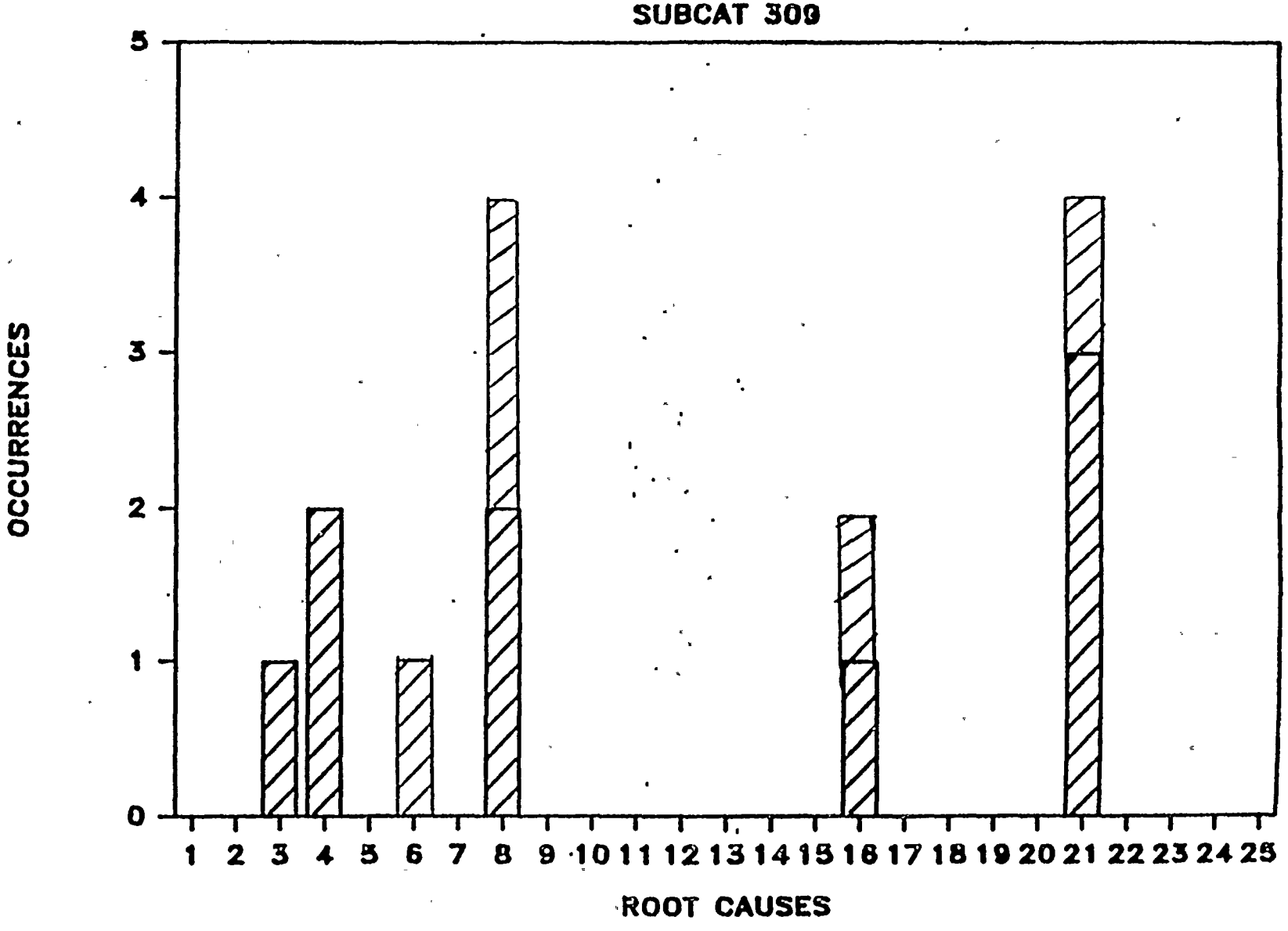








OCCURRENCES VS. ROOT CAUSES

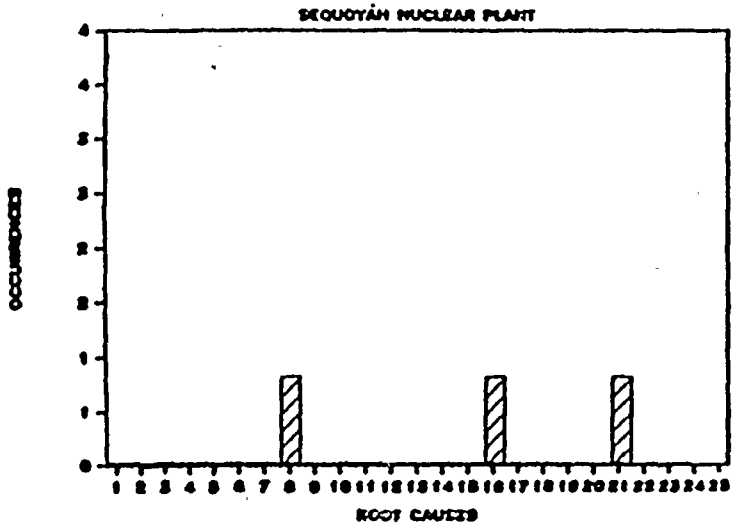


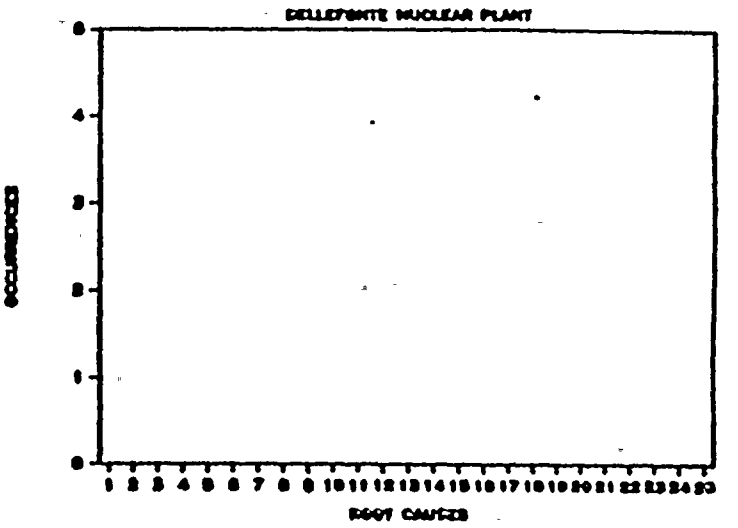
ATTACHMENT G
PAGE 1 OF 2

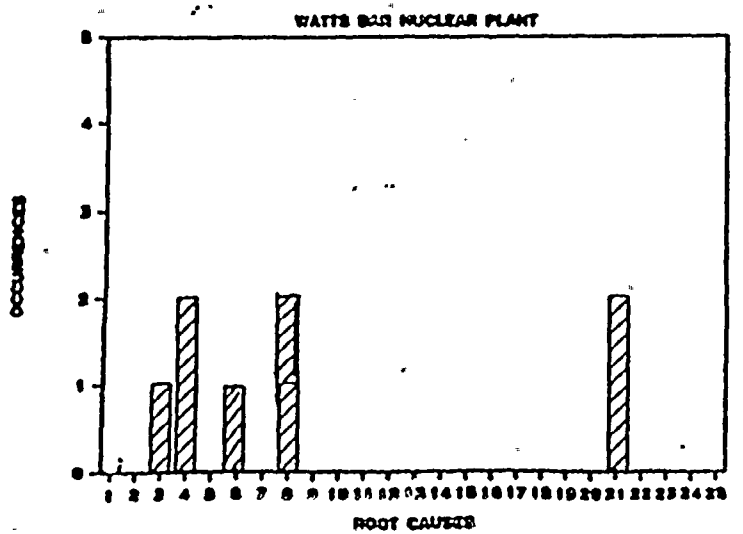
REvision 1
30900

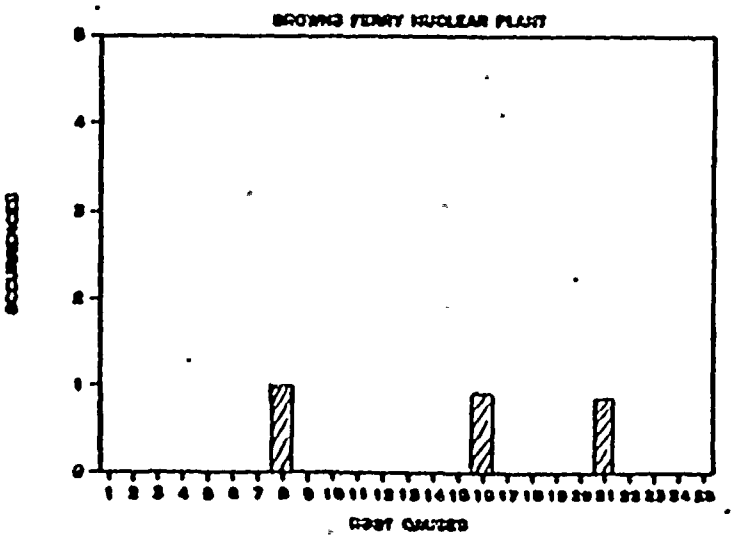
OCCURRENCES VS. ROOT CAUSES

SUBCAT 309









ATTACHMENT H

CORRECTIVE ACTION TRACKING DOCUMENTS (CATDs)

CATD NUMBER	CORRECTIVE ACTION PLAN RECEIVED/APPROVED	
30901-NPS-01	Yes	
30901-SQN-01	Yes	
30901-SQN-02	Not applicable (Tracking Only)	
30901-BFN-01	Yes	
30904-WBN-01	Yes	
30905-NPS-01	Yes	|R1
30905-NPS-02	Yes	
30905-WBN-01	Yes	
30905-WBN-02	Yes	
30905-WBN-03	Yes	
30905-WBN-04	Yes	

ECSP Corrective Action Tracking Document (CATD)

INITIATION Applicable ECSP Report No.: Fact Sheet 309.01-WBN, Revision 1

1. Immediate Corrective Action Required: ☐ Yes ☒ No
2. Stop Work Recommended: ☐ Yes ☒ No
3. CATD No. 30901-NPS-01 4. INITIATION DATE 3-12-87
5. RESPONSIBLE ORGANIZATION: Corporate
6. PROBLEM DESCRIPTION: ☐ QR ☒ NQR Identification of an acceptable substitute for teflon tape has not been aggressively pursued. Inconsistencies exist between WBN, BFN and SQN on the restrictions of use of teflon tape.

☒ ATTACHMENTS

7. PREPARED BY: NAME W. D. Elliott DATE: 3-16-87
8. CONCURRENCE: CEG-H Thomas F. Huth for WRL DATE: 3-16-87
9. APPROVAL: ECTG PROGRAM MGR. [signature] for DATE: 3/17/87

CORRECTIVE ACTION

10. PROPOSED CORRECTIVE ACTION PLAN:

See Attached CAP

☐ ATTACHMENTS

11. PROPOSED BY: DIRECTOR/MGR: [signature] DATE: 3/19/87
12. CONCURRENCE: CEG-H: W. P. [signature] DATE: 3-23-87
SRP: ______ DATE: ______
______ DATE: ______
______ DATE: ______
______ DATE: ______
ECTG PROGRAM MGR: ______ DATE: ______

VERIFICATION AND CLOSEOUT

13. Approved corrective actions have been verified as satisfactorily implemented.

______ SIGNATURE ______ TITLE ______ DATE

1934T

ECSP Corrective Action Tracking Document (CATD)

INITIATION Applicable ECSP Report No: 309.01 SQN

1. Immediate Corrective Action Required: ☒ Yes ☐ No
2. Stop Work Recommended: ☐ Yes ☒ No
3. CATD No. 30901-SQN-01 4. INITIATION DATE 11-12-86
5. RESPONSIBLE ORGANIZATION: Sequoyah
6. PROBLEM DESCRIPTION: ☒ QR ☐ NQR Familiarity with and/or procedural adequacy of SQA-160 is deficient as identified by interviews.

☐ ATTACHMENTS

7. PREPARED BY: NAME Tom Huth DATE: 11-12-86
8. CONCURRENCE: CEG-H W. L. [signature] DATE: 11-13-86
9. APPROVAL: ECTG PROGRAM MGR. [signature] for DATE: 4/7/87

CORRECTIVE ACTION

10. PROPOSED CORRECTIVE ACTION PLAN: Revise Standard Practice SQA160 to clarify limitations of Teflon tape. Issue memorandum to employees who may use Teflon tape advising of the restrictions on Teflon tape application. Items will be tracked by MATS 9357 and 9356.

During closure verify CAQR initiated. WRL 3-20-87

THIS ITEM COMPLETED DATE: 10/[illegible]/87

☐ ATTACHMENTS

11. PROPOSED BY: DIRECTOR/MGR: S [illegible] 303 861029 802 DATE: 11-04-86
12. CONCURRENCE: CEG-H: W. L. [signature] DATE: 11-13-86

SRP: DATE:

DATE:

DATE:

DATE:

ECTG PROGRAM MGR: DATE:

VERIFICATION AND CLOSEOUT

13. Approved corrective actions have been verified as satisfactorily implemented.

SIGNATURE	TITLE	DATE

2534T

ECSP Corrective Action Tracking Document (CATD)

INITIATION Applicable ECSP Report No.: 309.01 SQN

1. Immediate Corrective Action Required: ☐ Yes ☒ No
2. Stop Work Recommended: ☐ Yes ☒ No
3. CATD No. 30901-SQN-02 4. INITIATION DATE 3-12-87
5. RESPONSIBLE ORGANIZATION: Sequoyah
6. PROBLEM DESCRIPTION: ☒ QR ☒ NQR SQN has no consistent program or policy to identify, control and eliminate improper usage of teflon tape. This is identified in CAQR SQP-870155 and this CATD is issued to track the closure of this item.

☐ ATTACHMENTS

7. PREPARED BY: NAME [signature] DATE: 3-13-87
8. CONCURRENCE: CEG-H [signature] DATE: 3-13-87
9. APPROVAL: ECTG PROGRAM MGR. [signature] DATE: 3/16/87

THIS ITEM COMPLETED
DATE: 10-26-[illegible]

CORRECTIVE ACTION

10. PROPOSED CORRECTIVE ACTION PLAN:

☐ ATTACHMENTS

11. PROPOSED BY: DIRECTOR/MGR: [signature] DATE:
12. CONCURRENCE: CEG-H: [signature] DATE: [illegible]
SRP: DATE:
DATE:
DATE:
DATE:
ECTG PROGRAM MGR: DATE:

VERIFICATION AND CLOSEOUT

13. Approved corrective actions have been verified as satisfactorily implemented.

SIGNATURE	TITLE	DATE

1934T

ECSP Corrective Action Tracking Document (CATD)

INITIATION Applicable ECSP Report No: 309.01-BFN Draft

1. Immediate Corrective Action Required: ☐ Yes ☒ No
2. Stop Work Recommended: ☐ Yes ☒ No
3. CATD No. 30901-BFN-01 4. INITIATION DATE 1-23-87
5. RESPONSIBLE ORGANIZATION: BFN
6. PROBLEM DESCRIPTION: ☒ QR ☐ NQR Teflon thread sealing tape has been used in violation of General Construction Specification G-29M Process Specification A-M.1-1. No tracking mechanism is in place to ensure that the tape will be replaced before it begins to break down due to radiation dose in excess of 10^4 rads.

☒ ATTACHMENTS

7. PREPARED BY: NAME William L. Aycock DATE: 1-22-87
8. CONCURRENCE: CEG-H for Thomas E. Hyatt for WRL DATE: 1-29-87
9. APPROVAL: ECTG PROGRAM MGR. [signature] DATE: 2/4/87

CORRECTIVE ACTION

10. PROPOSED CORRECTIVE ACTION PLAN: See Attached

* During close verify that either a CAQR was initiated or that TVNP has made sufficient progress on identifying acceptable use locations for teflon tape.

☒ ATTACHMENTS

11. PROPOSED BY: DIRECTOR/MGR: [signature] for DATE: 4-10-87
12. CONCURRENCE: CEG-H: [signature] DATE: 4-20-87
SRP: _____ DATE: _____
_____ DATE: _____
_____ DATE: _____
_____ DATE: _____
ECTG PROGRAM MGR: _____ DATE: _____

VERIFICATION AND CLOSEOUT

13. Approved corrective actions have been verified as satisfactorily implemented.

* _____ _____ _____
SIGNATURE TITLE DATE

2182T

ECSP Corrective Action Tracking Document (CATD)

INITIATION Applicable ECSP Report No.: 309.04

1. Immediate Corrective Action Required: ☐ Yes ☒ No
2. Stop Work Recommended: ☐ Yes ☒ No
3. CATD No. 30904-WBN-01 4. INITIATION DATE 01-17-87
5. RESPONSIBLE ORGANIZATION: WBNP Maintenance Superintendent
6. PROBLEM DESCRIPTION: ☐ QR ☒ NQR ECTG evaluation (attached) revealed that Maintenance Request forms do not provide for verification that the equipment or system affected by the MR has been either returned to normal configuration or covered by a TACF at the time the MR is closed.

☒ ATTACHMENTS

7. PREPARED BY: NAME W. L. Aycock DATE: 01-15-87
8. CONCURRENCE: CEG-H Thomas F. Hurst for DATE: 2/5/87
9. APPROVAL: ECTG PROGRAM MGR. D. L. Stewart for DATE: 2/6/87

CORRECTIVE ACTION

10. PROPOSED CORRECTIVE ACTION PLAN:

☐ ATTACHMENTS

11. PROPOSED BY: DIRECTOR/MGR. DATE: 2/19/87
12. CONCURRENCE: CEG-H: DATE: 2-20-87
SRP: DATE:
DATE:
DATE:
DATE:
ECTG PROGRAM MGR: DATE:

VERIFICATION AND CLOSEOUT

13. Approved corrective actions have been verified as satisfactorily implemented.

SIGNATURE	TITLE	DATE

2965T

ECSP Corrective Action Tracking Document (CATD)

INITIATION Applicable ECSP Report No.: 309.05-WBN

1. Immediate Corrective Action Required: ☐ Yes ☒ No
2. Stop Work Recommended: ☐ Yes ☒ No
3. CATD No. 30905-NPS-01 4. INITIATION DATE 2-13-87
5. RESPONSIBLE ORGANIZATION: Corporate Training
6. PROBLEM DESCRIPTTON: ☐ QR ☒ NQR WBN AI-10.1 is not applicable to site personnel from DNE, DNC, DNQA, or NS&L. Further, AI-10.1 does not address Area Plan 0202.17 which specifies training for site assigned personnel from DNE, DNC, DNQA and NS&L. There is no direction or responsibility assigned to ensure that this training program is accomplished.

☒ ATTACHMENTS

7. PREPARED BY: NAME T. W. White DATE: 2-13-87
8. CONCURRENCE: CEG-H Thomas F. Huth WRL DATE: 2-14-87
9. APPROVAL: ECTG PROGRAM MGR. [illegible] DATE: 2-16-87

THIS ITEM CONCLUDED 2-20-88

CORRECTIVE ACTION

10. PROPOSED CORRECTIVE ACTION PLAN:
See attached memorandum R.J. Johnson to R.C. Mckay, March 3, 1987
The original response to this CATD (L47 870311 801) was determined to be unacceptable by the SPP. Additional information and commitments were obtained by DNT and transmitted via memorandum L47 870707 809. (attached) This plan has been determined to be acceptable.

Verbal concurrence by T. Huth ECTG to W. Griffin CATG 1430 12 March 87 w/ltr

☐ ATTACHMENTS

11. PROPOSED BY: DIRECTOR/MGR: [signature] for JLM C DATE: 3/13/87
12. CONCURRENCE: CEG-H: W. [signature] DATE: 3-17-87
~~SRP:~~ W.R. [signature] DATE: 7-9-87
WRL 7-7-87 NA DATE: NA
DATE:
DATE:
ECTG PROGRAM MGR: W.R. [signature] for DATE: 7-9-87

VERIFICATION AND CLOSEOUT

13. Approved corrective actions have been verified as satisfactorily implemented.

SIGNATURE	TITLE	DATE

3749T

ECSP Corrective Action Tracking Document (CATD)

INITIATION Applicable ECSP Report No.: 30905-WBN

1. Immediate Corrective Action Required: ☐ Yes ☒ No
2. Stop Work Recommended: ☐ Yes ☒ No
3. CATD No. 30905-NPS-02 4. INITIATION DATE 2-13-87
5. RESPONSIBLE ORGANIZATION: POTC
6. PROBLEM DESCRIPTION: ☐ QR ☒ NQR Area plan 0202.17 (revision 0, February 12, 1986), section 4.4 is not accurate; responsibility has been transferred from supervisor, Personnel Service Staff to POTC.

☒ ATTACHMENTS

7. PREPARED BY: NAME T. W. White DATE: 2-13-87
8. CONCURRENCE: CEG-H Thomas L Hutton for WRL DATE: 2-14-87
9. APPROVAL: ECTG PROGRAM MGR. O W Sturtevant Jr DATE: 2-16-87

CORRECTIVE ACTION

10. PROPOSED CORRECTIVE ACTION PLAN:

SEE ATTACHED CAP

☐ ATTACHMENTS

11. PROPOSED BY: DIRECTOR/MGR: [illegible] DATE: 2/27/87
12. CONCURRENCE: CEG-H: W. K. Sorrell DATE: 3-3-87
SRP: _____ DATE: _____
_____ DATE: _____
_____ DATE: _____
_____ DATE: _____
ECTG PROGRAM MGR: _____ DATE: _____

VERIFICATION AND CLOSEOUT

13. Approved corrective actions have been verified as satisfactorily implemented.

SIGNATURE	TITLE	DATE

3749T

ECSP Corrective Action Tracking Document (CATD)

INITIATION Applicable ECSP Report No.: 309.05-WBN

1. Immediate Corrective Action Required: ☐ Yes ☒ No
2. Stop Work Recommended: ☐ Yes ☒ No
3. CATD No. 30905-WBN-01 4. INITIATION DATE 2-13-87
5. RESPONSIBLE ORGANIZATION: WBN Site Director
6. PROBLEM DESCRIPTION: ☐ QR ☒ NQR WBN AI-10.1, "Plant Training Program," (revision 21, September 26, 1986) does not include the requirement to implement Area Plan 0202.17, "Technical Staff and Manager Training for nuclear plant site personnel." As a result, AI-10.1 does not provide guidance for engineers as required by 0202.17.

☒ ATTACHMENTS FS

7. PREPARED BY: NAME T. W. White DATE: 2-13-87
8. CONCURRENCE: CEG-H J.T. Huth DATE: 2/14/87
9. APPROVAL: ECTG PROGRAM MGR. [signature] for DATE: 2/16/87

CORRECTIVE ACTION

10. PROPOSED CORRECTIVE ACTION PLAN:

THIS ITEM COMPLETED
DATE: 5-11-88

SEE ATTACHED CAP

☐ ATTACHMENTS

11. PROPOSED BY: DIRECTOR/MGR: SEE ATTACHED CAP DATE:
12. CONCURRENCE: CEG-H: W.R. [signature] DATE: 3-2-87
SRP: DATE:
DATE:
DATE:
DATE:
ECTG PROGRAM MGR: DATE:

VERIFICATION AND CLOSEOUT

13. Approved corrective actions have been verified as satisfactorily implemented.

SIGNATURE	TITLE	DATE

3749T

ECSP Corrective Action Tracking Document (CATD)

INITIATION Applicable ECSP Report No.: 309.05-WBN

1. Immediate Corrective Action Required: ☐ Yes ☒ No
2. Stop Work Recommended: ☐ Yes ☒ No
3. CATD No. 30905-WBN-02 4. INITIATION DATE 2-13-87
5. RESPONSIBLE ORGANIZATION: WBN Site Director
6. PROBLEM DESCRIPTION: ☐ QR ☒ NQR Area Plan 0202.17, "Technical Staff and Manager Training for Nuclear Plant Site Personnel," (revision 0, February 12, 1986) was reviewed for implementation at WBN. At the time of this evaluation, the course had been offered twice in 1986. Data indicates that no one has successfully completed the course via classroom attendance and examination. Only five personnel have "completed" this course due to waivers based on having completed more stringent training, i.e. STA.

☒ ATTACHMENTS #3

7. PREPARED BY: NAME T. W. White DATE: 2-13-87
8. CONCURRENCE: CEG-H [signature] DATE: 2/14/87
9. APPROVAL: ECTG PROGRAM MGR. [signature] DATE: 2/16/87

CORRECTIVE ACTION

10. PROPOSED CORRECTIVE ACTION PLAN:

SEE ATTACHED CAP

☐ ATTACHMENTS

11. PROPOSED BY: DIRECTOR/MGR. SEE ATTACHED CAP DATE:
12. CONCURRENCE: CEG-H: [signature] DATE: 3-3-87
SRP: _____ DATE:
_____ DATE:
_____ DATE:
_____ DATE:
ECTG PROGRAM MGR: _____ DATE:

VERIFICATION AND CLOSEOUT

13. Approved corrective actions have been verified as satisfactorily implemented.

SIGNATURE	TITLE	DATE

3749T

ECSP Corrective Action Tracking Document (CATD)

INITIATION Applicable ECSP Report No.: 309.05-WBN

1. Immediate Corrective Action Required: ☐ Yes ☒ No
2. Stop Work Recommended: ☐ Yes ☒ No
3. CATD No. 30905-WBN-03 4. INITIATION DATE 2-13-87
5. RESPONSIBLE ORGANIZATION: WBN Site Director
6. PROBLEM DESCRIPTION: ☐ QR ☒ NQR WBN AI-10.1, "Plant Training Program," (revision 21, September 26, 1986) fails to provide sufficient detail on engineering training programs. This document should specify the type and scope of training for Technical Staff and manager as identified in Area Plan 0202.17.

☒ ATTACHMENTS

7. PREPARED BY: NAME T. W. White DATE: 2-13-87
8. CONCURRENCE: CEG-H [signature] DATE: 2-14-87
9. APPROVAL: ECTG PROGRAM MGR. [signature] DATE: 2-16-87

CORRECTIVE ACTION

10. PROPOSED CORRECTIVE ACTION PLAN:

SEE ATTACHED CAP

☐ ATTACHMENTS

11. PROPOSED BY: DIRECTOR/MGR: [signature] DATE: 3/27/87
12. CONCURRENCE: CEG-H: [signature] DATE: 3-3-87
SRP: DATE:
DATE:
DATE:
DATE:
ECTG PROGRAM MGR: DATE:

VERIFICATION AND CLOSEOUT

13. Approved corrective actions have been verified as satisfactorily implemented.

SIGNATURE	TITLE	DATE

3749T

ECSP Corrective Action Tracking Document (CATD)

INITIATION Applicable ECSP Report No.: 309.05-WBN

1. Immediate Corrective Action Required: ☐ Yes ☒ No
2. Stop Work Recommended: ☐ Yes ☒ No
3. CATD No. 30905-WBN-04 4. INITIATION DATE 2-13-87
5. RESPONSIBLE ORGANIZATION: WBN Site Director
6. PROBLEM DESCRIPTION: ☐ QR ☒ NQR From the evaluation performed on 309.05-WBN, it is determined that plant management is lax in sending plant personnel to required training programs.

☒ ATTACHMENTS F3

7. PREPARED BY: NAME T. W. White DATE: 2-13-87
8. CONCURRENCE: CEG-H Thomas J. Huth for WRL DATE: 2/14/87
9. APPROVAL: ECTG PROGRAM MGR. [signature] DATE: 2/16/87

CORRECTIVE ACTION

10. PROPOSED CORRECTIVE ACTION PLAN:
See attached memorandum R. J. Johnson to R. C. Mckay, March 3, 1987

Verbal concurrence by T. Huth ECTG to W. Griffin CATG 1430 12 March 87 WWG 3/12/87

☐ ATTACHMENTS

11. PROPOSED BY: DIRECTOR/MGR: [signature] DATE: 3/13/87
12. CONCURRENCE: CEG-H: W.R. [signature] DATE: 3-17-87
SRP: _____ DATE: _____
_____ DATE: _____
_____ DATE: _____
_____ DATE: _____
ECTG PROGRAM MGR: _____ DATE: _____

VERIFICATION AND CLOSEOUT

13. Approved corrective actions have been verified as satisfactorily implemented.

SIGNATURE	TITLE	DATE

3749T

ATTACHMENT I

LIST OF EVALUATORS BY ELEMENT/PLANT

R1

Element 309.01

WBN	SQN
G. Wenninger	T. Massey
R. Jones	T. Elliott

BFN	BLN
B. Aycock	J. Muir

Element 309.04

WBN	BLN
B. Aycock	J. Muir
J. Manuel	

Element 309.05

WBN	SQN
T. White	M. Murphy