

TVA EMPLOYEE CONCERNS
SPECIAL PROGRAM

REPORT NUMBER: 30800

REPORT TYPE: Subcategory

REVISION NUMBER: 2

TITLE: Maintenance

PAGE 1 OF 100

REASON FOR REVISION:

1. Reformat to conform with Revision 4 of ECT Program Manual and incorporation of SRP comments and inclusion of final corrective action plans.
2. Revised to incorporate comments from SRP and TAS.

PREPARATION

PREPARED BY: R. J. Sutt

SIGNATURE

DATE

PREPARED BY: T. W. White

SIGNATURE

July 31, 1987
DATE

(Note: Evaluator List in Attachment I)

1R1

REVIEWS

PEER:

SIGNATURE

8-3-87
DATE

TAS:

SIGNATURE

9/4/87
DATE

CONCURRENCES

CEG-H:

8/20/87

SRP:

9-4-87
DATE

SIGNATURE

DATE

SIGNATURE

DATE

APPROVED BY:

ECSP MANAGER

DATE

NA

MANAGER OF NUCLEAR POWER
CONCURRENCE (FINAL REPORT ONLY)

DATE

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

4343T

8709220535 870916
PDR ADOCK 05000259
P PDR

REFERENCE - ECPS132J-ECPS132C
 FREQUENCY - REQUEST
 INP - 1555 - RHM

TENNESSEE VALLEY AUTHORITY
 OFFICE OF NUCLEAR POWER
 EMPLOYEE CONCERN PROGRAM SYSTEM (ECPS)
 EMPLOYEE CONCERN INFORMATION BY CATEGORY/SUBCATEGORY
 SUBCATEGORY: 308 CORRECTIVE MAINTENANCE

PAGE - 1
 RUN TIME - 13:36:13
 RUN DATE - 04/24/88

CATEGORY: OP PLANT OPER. SUPPORT

CONCERN NUMBER	CAT	SUB CAT	S H R D	PLT LOC	1 REPORT APPL				HISTORICAL REPORT	CONCERN ORIGIN	CONCERN DESCRIPTION	REF. SECTIO CAT - OF SUBCAT - 30
					2	SAF	RELATED	BI				
WFNIESC-86-01 01	OP	30803	N	BFN	1	Y	N	N	N	OECP	MR A 592164 ISOLATION VALVE IN SWITC H YARD, FIRE HYDRANT NO.026505. THI S IS BELIEVED TO BE A CSSC SYSTEM O N WHICH A NON CSSC VALVE IS BELIEVED TO BE INSTALLED. THE MR THAT WAS W ORKED WAS NOT REVIEWED BY QC. PLEAS E LOOK INTO THIS AS THE VALVE MAY BE CHANGED OUT MONDAY MORNING 01-13-86	3.3 308.03-1
WPQCP10.35 1701	OP	30803	N	BLN	1	N	Y	N	N	OECP	BUTTERFLY VALVES IN WATER SYSTEMS LE AK SO THAT EQUIPMENT CAN'T BE SERVIC ED/REPAIRED WITHOUT SHUTTING DOWN A TRAIN OF ERCH. REPAIR PARTS ARE NOT READILY AVAILABLE AND GLUE USED TO PUT THE SEATS IN HAS LIMITED SHELF L IFE.	3.3 308.03-2
WHT-85-003 01	OP	30803	N	SQN	1	Y	N	Y	Y	OECP	INADEQUATE MAINTENANCE OF DOORS WHIC H ARE A PART OF ABSCE, FIRE DOORS, O R SECURITY DOORS.	3.3 308.03-3
WAC-85-007 01	OP	30805	N	SQN	1	Y	Y	Y	Y	OECP	MONORAIL CRANES IN AUXILLARY BUILDIN G ELEVATION 714 ARE SOMETIMES SIDE L OADED WHILE HANDLING MISSILE PLUGS F ROM FILTER CUBICLES.	3.5 308.05-1
WX-85-012-00101 150074	OP	30806	N	WBN	1	N	N	N	Y	EX-85-010-002 QTC	WATTS BAR-SUB-JOURNEYMEN ARE DOING T HE WORK OF QUALIFIED FITTERS. PER C /I, SUB-JOURNEYMEN ARE NOT CRAFTSMEN AND THEY DO NOT HAVE TRAINING AS QU ALIFIED FITTERS. 6 OR 8 SUB-JOURNEY MEN ARE DOING THE WORK OF FITTERS IN NUCLEAR POWER MAINTENANCE DEPT. (NO NAMES GIVEN.) C/I HAD NO FURTHER I NFORMATION.	3.6 308.06-1

CONCERNS ARE GROUPED BY FIRST 3 DIGITS OF SUBCATEGORY NUMBER.

ECSP Corrective
Action Tracking Document
(CATD)

INITIATION Applicable ECSP Report No: 308.07-SQN-R0

1. Immediate Corrective Action Required: Yes No
2. Stop Work Recommended: Yes No
3. CATD No. 30807-SQN-01 4. INITIATION DATE 10-20-86
5. RESPONSIBLE ORGANIZATION: SON
6. PROBLEM DESCRIPTION: QR NQR It appears as though SQN's clam control program does not clearly meet several commitments made to the NRC. These include documenting chlorination equipment failures and ERCW pipe inspections.

- | | |
|--|--------------------------------------|
| | <input type="checkbox"/> ATTACHMENTS |
| 7. PREPARED BY: NAME <u>F. W. Swearingen</u> | DATE: <u>10-20-86</u> |
| 8. CONCURRENCE: CEG-H <u>W.R. Swearingen</u> | DATE: <u>10-22-86</u> |
| 9. APPROVAL: ECTG PROGRAM MGR. <u>R. Watts</u> | DATE: <u>4/7/87</u> |

CORRECTIVE ACTION

10. PROPOSED CORRECTIVE ACTION PLAN: SON's Chemical Section has provided sufficient evidence to ensure commitments are being met. ERCW flow tests are performed which would detect flow degradation. The issue surrounding chlorination equipment was coupled with the Cl residue. Wording is in the SI to either flush or resume chlorination following residuals below minimum acceptable, after 14 days of low residuals.

- | | |
|--|--------------------------------------|
| | <input type="checkbox"/> ATTACHMENTS |
| 11. PROPOSED BY: DIRECTOR/MGR: <u>S03 860912 804</u> | DATE: <u>9-16-86</u> |
| 12. CONCURRENCE: CEG-H: <u>S53 861010 961</u> | DATE: <u>10-16-86</u> |
| CEG-H <u>JFH</u> -SRP: <u>W.R. Swearingen</u> | DATE: <u>10-22-86</u> |
| | DATE: _____ |
| | DATE: _____ |
| ECTG PROGRAM MGR: <u>James R. Rasmussen</u> | DATE: <u>9-10-87</u> |

VERIFICATION AND CLOSEOUT

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

SIGNATURE	TITLE	DATE

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Action Tracking Document
(CATD)

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- ATTACHMENTS
7. PREPARED BY: NAME F. W. Swearingen DATE: 10-20-86
 8. CONCURRENCE: CEG-H W.R. [Signature] DATE: 10-22-86
 9. APPROVAL: ECTG PROGRAM MGR. R. [Signature] DATE: 4/7/87

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- ATTACHMENTS
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 12. CONCURRENCE: CEG-H: S53 861010 961 DATE: 10-16-86
CEG-H JFH SRP: 2/14/87 W.R. [Signature] DATE: 10-22-86
 DATE: _____
 DATE: _____
 DATE: _____
 ECTG PROGRAM MGR: James R. [Signature] DATE: 9-10-87

VERIFICATION AND CLOSEOUT

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SIGNATURE

TITLE

DATE

Preface, Glossary, and List of Acronyms
for ECTG Subcategory Reports

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)

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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

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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

**TVA EMPLOYEE CONCERNS
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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
TVILC	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

MAINTENANCE

Subcategory Report 30800

Executive Summary

I. SUMMARY OF ISSUES

The Maintenance Subcategory is comprised of 76 employee concerns that raised 59 issues associated with plant support personnel and how they perform their tasks. The issues are related to the adequacy of procedures, preventive and corrective maintenance, training, program deficiencies, use of underqualified personnel to perform plant work, and clam control.

Twenty-seven issues were found to be not factually accurate. Four issues were factually accurate but did not require corrective action. Seventeen issues were factually accurate but the problems were being addressed before the employee concerns program. Eight issues were factual and presented problems for which corrective action either has been or is being taken as a result of the employee concerns program. Three issues did not present a problem in themselves; however, as a result of the employee concerns evaluation, a problem was discovered for which corrective action was initiated.

II. SUMMARY OF FINDINGS

Several conditions were found to exist in violation of design, construction, or operating requirements. Each of these conditions, called specific deficiencies, were noted as requiring short-term corrective measures:

1. At Browns Ferry Nuclear Plant (BFN) a problem was discovered with safety rigging of the main steam relief valves (MSRV).
2. At Bellefonte Nuclear Plant (BLN) a problem was found regarding hardening of grease in Limitorque valve operators.
3. Deficiencies were noted in updating and proper incorporation of vendor manuals at Watts Bar Nuclear Plant (WBN) and Sequoyah Nuclear Plant (SQN).
4. SQN and BFN have problems with the use of Furmanite (leak repair) and with related preventive maintenance instructions
5. Door maintenance and repair is a chronic problem at SQN, BFN and WBN.
6. Crane side pulls were performed in violation of procedure at SQN, BLN and BFN.

7. An evaluation is required at BFN concerning the removal and reinstallation of pipe hangers.
8. The Nuclear Managers Review Group for Maintenance noted numerous problems relating to this subcategory's major topics.

III. SUMMARY OF COLLECTIVE SIGNIFICANCE

Evaluation of the findings revealed the following areas of deficiency that reflect on management effectiveness at SQN, BFN, and WBN:

- a. Procedural inadequacies have been identified in TVA maintenance programs based on deficiencies found.
- b. The overall maintenance program including preventive, predictive and corrective aspects had no specific direction or overall policy to identify the goals and objectives the program should satisfy.
- c. The as-constructed configuration of plant equipment does not always reflect the vendor technical manuals controlled at the plants. The broad topic of configuration control is further discussed in subcategory 30700.
- d. The overall training of maintenance personnel had not included sufficient training in specific areas of specialized equipment or processes and general training for adequately documenting all work performed under the maintenance requests (MR) program.

IV. SUMMARY OF ROOT CAUSES

A review and analysis of the subcategory findings taken collectively pointed to three significant subcategory level-root causes as follows:

- Failure of the operating organization to incorporate design requirements into maintenance program and activities
- Inadequate maintenance program definition and inconsistency in implementation, of the respective program between sites
- Lack of clearly defined responsibilities and performance objectives for the maintenance program and lack of organizational accountability to ensure that an effective maintenance program is in place

V. SUMMARY OF CORRECTIVE ACTION

1. At BFN, the removal and installation of main steam relief valves will be improved through the addition of handling and rigging equipment, the addition of support beams, hoists and hatches in the grating and procedures/instructions for completing the task.

2. Program requirements at BLN to ensure proper lubrication of Limitorque actuators are being established in the Preventive Maintenance data base.
3. Control of vendor manuals is being addressed by ONP Document Control and Records Management Branch preparation of directives and standards for the control of vendor manuals and drawings. Among other features will be provisions for a periodic update with vendors to ensure that vendor manuals and drawings are current.
4. The use of Furmanite is now controlled and identified for permanent repair during scheduled maintenance/outages at SQN and BFN.
5. Door maintenance and repair problems at SQN, BFN and WBN are being corrected by program revisions to several procedures and processes, establishment and performance of specialized training for a dedicated door crew and other maintenance personnel. In addition, doors have been purchased and installed in some locations and an appropriate inventory of spare parts and hardware is being implemented.
6. Special training has been conducted at SQN and BFN for crane operators, riggers, supervisors and others in safe crane operations and, especially, side pulls.
7. At BFN, a new procedure has been developed for implementation before restart to control the removal and replacement of hangers.
8. Corrective actions at the plant sites are on-going based on the activities of the Employee Concerns Task Group, assessments made by NMRG and the commitments made in the Nuclear Performance Plan for TVA.

1.0 CHARACTERIZATION OF ISSUES

1.1 Introduction

The Maintenance Subcategory is comprised of 76 employee concerns which raised 59 issues concerning adequacy of preventive and corrective maintenance procedures, plant training, and use of unqualified personnel.

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.

1.2.1 Element 308.01 - Adequacy of Procedures

Issue 308.01-1 - Craft Not Allowed to Read Manuals to Perform Work

IN-85-129-003

CI stated that WBN supervisory person would not allow maintenance personnel to read manuals or instructions on how to perform work.

Issue 308.01-2 - Management Does Not Correct Identified Problems

IN-85-601-002

CI was concerned that WBN management does not correct problems identified when performing Maintenance Surveillance Instructions.

Issue 308.01-3 - Questionable Quality Review of Surveillance Instructions

IN-85-677-001

In this issue, the CI believed that the compliance review for the WBN surveillance instructions was not adequate.

Issue 308.01-4 - Procedures Need Clarification & More Defined Criteria

IN-85-825-002

At WBN, the CI stated that TVA work procedures need clarification and better defined criteria.

Issue 308.01-5 - Crafts Not Credited for Surveillance
Instruction Walkdowns

IN-85-889-X06

The CI at WBN was concerned that the crafts have done surveillance instruction walkdowns for engineers and have not received credit for a job well done.

Issue 308.01-6 - Work Packages Do Not Contain Sufficient
Information

IN-86-316-003 IN-86-316-005 IN-86-316-006
IN-86-316-007

Four concerns were made at WBN alleging that work packages do not contain sufficient information to perform required work and do not incorporate information identified from vendor manuals.

Issue 308.01-7 - Adequacy of Maintenance Instructions

MAS-85-004 MAS-86-001 SQP-86-009-004

This issue is made up of three concerns received at SQN questioning the adequacy of several Maintenance Instructions.

Issue 308.01-8 - Communications Between Craft & Foreman
Inadequate

SQP-86-014-001

In this SQN issue, the CI alleged that foremen do not always supply crafts with necessary information to perform required work.

Issue 308.01-9 - M&AI-9 Does Not Specify Torque Requirements
for Small Screws

TAK-85-002

The CI stated in this issue that SQN Modification and Addition Instruction (MA&I-9) does not specify torque requirements for small screws.

Issue 308.01-10 - MOV Limit Switch Lubrication Not Properly
Inspected

TAK-85-004

At SQN, a CI was concerned that lubrication of geared limit switches on motor operated valves was not properly inspected.

Issue 308.01-11 - Vendor Manuals Not Available

WBN-242

At WBN, a CI was concerned that instrument calibration manuals were not readily available to perform required work.

Issue 308.01-12 - Craft Not Provided With Sufficient Procedures

XX-85-016-001

This issue contains one BFN-specific concern in which the CI stated that maintenance personnel are not provided appropriate procedures for performance of work.

Issue 308.01-13 - Procedure Inadequate for Removal of MSR/V

XX-85-106-N02

This issue, specific to BFN, deals with the adequacy of procedures for removal of main steam relief valves from primary containment.

1.2.2 Element 308.02 - Preventive Maintenance

Issue 308.02-1 - PMs on Valves are Signed Off Without Being Performed

EX-85-053-011 EX-85-053-012

Two concerns stated that preventive maintenance work on valves at WBN was being signed off without work actually being performed.

Issue 308.02-2 - Supervisor Required Unnecessary Work to be Performed

IN-85-393-002

At WBN, a CI alleged that his supervisor required unnecessary maintenance to be performed.

Issue 308.02-3 - Work Performed Without MR in Possession

IN-86-103-003

Another WBN issue came from a CI who believed that the Maintenance Department was performing work without applicable maintenance requests (MRs) in their possession.

Issue 308.02-4 - Engineering Disregards Vendor Manuals for PM Program

IN-86-316-X09

This issue deals with preparation of instructions in maintenance at WBN specifically, the CI stated engineering disregards vendors manuals in developing preventive maintenance (PM) program.

Issue 308.02-5 - Hydrogen System PM is not Adequate

QCP10.35-8-19

A BLN CI believed that the PM program on hydrogen system valves is not adequate.

1.2.3 Element 308.03 - Corrective Maintenance

Issue 308.03-1 - Non CSSC Valve Installed in CSSC System

BFNIESC-86-01

In this issue, a BFN employee alleged that a non-CSSC valve had been installed in CSSC system.

Issue 308.03-2 - Butterfly Valves Leak and Spare Parts Not Available

BNPQCP10.35-17

A BLN employee alleged that butterfly valves leaked excessively and that spare parts were not available.

Issue 308.03-3 - Inadequate Door Maintenance

DHT-85-003

In this issue, a SQN CI alleged that inadequate maintenance had violated the operability of ABSCE, Fire, and Security doors.

Issue 308.03-4 - Need to Check Torque Wrench Calibration

GSB-85-001

This SQN issue related the CI's belief in the need to check torque wrench calibration.

Issue 308.03-5 - Maintenance Requests (MRs) Are Being Signed Off Complete Without Work Being Performed

In-85-025-005

In this issue, the CI at WBN alleged that Maintenance Requests (MR's) are being signed off complete without work being performed.

Issue 308.03-6 - Need to Secure Tubing in Accordance With Drawings

IN-85-108-X02

The WBN CI believed that a specific instrumentation tubing was not secured in accordance with the as-constructed drawing.

Issue 308.03-7 - Maintenance Request (MR) Safety Review Inadequate

IN-85-129-X05 IN-85-142-X10

The two CIs stated that the WBN Maintenance Request personnel safety review is inadequate.

Issue 308.03-8 - Maintenance Requests on Security Equipment Need to be Completed Promptly

IN-86-056-001

The CI believed that Maintenance Requests on security equipment is not being completed expeditiously.

Issue 308.03-9 - Sprinkler System Drainage Inadequate

IN-86-096-001

In this issue, the CI felt that plant operations could be enhanced by installation of a drain to remove water spilled during fire protection system tests.

Issue 308.03-10 - Maintenance Request Initiator Requests Work Update

IN-86-315-005

A WBN CI was concerned that the initiator of a Maintenance Request does not receive any notification that the work has been completed.

Issue 308.03-11 -Work Package Incomplete

IN-86-316-002

A WBN CI in this issue alleged that a work package he was involved with was incomplete.

Issue 308.03-12 - Supervisor Review of Work Package Required With Craft

SQP-86-014-002

A SQN CI alleged that the required supervisory review of work packages with craft was not being done.

Issue 308.03-13 - Questionable Hardware Repair Process

XX-85-071-003

In this issue, the CI questioned the SQN hardware repair process.

Issue 308.03-14 - Large Spill Was Misrepresented to NRC as Small Leak

XX-85-096-N07

At SQN, a large spill was misrepresented to NRC as a small leak, according to the CI.

Issue 308.03-15 - Thimble Guide Incident Recurrence

XX-85-096-005

This issue alleged that the April 1985 SQN thimble guide tube incident could recur.

Issue 308.03-16 - Repairs Not to ASME Requirements

2850162005

The CI in this issue alleged that repairs to piping and other systems are not in accordance with ASME requirements.

1.2.4 Element 308.04 - Program Deficiencies/Procedure Violations

Issue 308.04-1 - Foreman Using Verbal Hold Orders

EX-85-048-001

This issue concerns the CI's perception of a safety hazard caused by foremen using verbal hold orders at WBN.

Issue 308.04-2 - Potential Safety Hazard With Temporary Hose Drainage

I-86-233-SQN

The SQN employee related a potential safety hazard associated with temporary hose being used to replace piping.

Issue 308.04-3 - Inadequate Controls of Instrument Adjustments

IN-85-142-X11

Inadequate controls of instrument adjustments were the subject of this WBN concern.

Issue 308.04-4 - Check Valves Removed From Welding Gas Header

IN-85-338-001

A WBN employee alleged that check valves had been removed from a welding gas header in violation of procedure.

Issue 308.04-5 - TVA Rarely Consults Vendors for Repair

IN-85-463-005

A WBN CI reported that TVA rarely consults vendors, resulting in inadequate equipment repairs.

Issue 308.04-6 - Nuclear Power Responsible for Repairs/Modifications at Turnover

IN-85-553-001

In this issue, the CI felt that the WBN Division of Nuclear Power should be responsible for repairs/modifications at turnover.

Issue 308.04-7 - Fire Door Blocked Open Without Breach Permit

IN-85-895-002

The CI alleged that the elevation 713 airlock fire door at WBN had been blocked open without a breach permit for an extended period.

Issue 308.04-8 - Material Not Being Sufficiently Supplied to Craft

IN-85-905-001 IN-86-097-001

In this issue, two CIs were concerned that material was not being sufficiently and expeditiously supplied to craft.

Issue 308.04-9 - Configuration Control of Vendor Manuals

IN-86-073-002

In this issue, the CI feared that the lack of configuration control of vendor manuals at WBN could result in errors by maintenance personnel.

Issue 308.04-10 - Jackhammers Used During Ice Loading

IN-86-110-001

A WBN CI was concerned that jackhammers used during ice loading could have degraded the ice condenser's operability.

Issue 308.04-11 - Engineering Accepts Work Not Completed

IN-86-315-002

A concern from WBN alleged that engineering accepts work which was not completed.

Issue 308.04-12 - Workplan Signed Off Prematurely

JAN-86-001

An SQN concern stated that a workplan had been prematurely signed off.

Issue 308.04-13 - Motor Operator Grease Inspections Inadequate

JLH-86-001

An SQN CI alleged that grease inspections in motor operators were inadequate.

Issue 308.04-14 - MRs Are Signed Off Without Work Being Done

JLH-86-001

This issue covers a concern made at SQN that MR's are signed off without work being done.

Issue 308.04-15 - Non-QA Material Used in QA Applications

JLH-86-001

The CI alleged that non-QA material had been used in QA applications at SQN.

Issue 308.04-16 - Violation of Procedures

SQP-85-004-006

In this issue, the CI stated that craft personnel at SQN had been instructed to perform a job in violation of approved procedures.

Issue 308.04-17 - Hanger Removed and Not Replaced

XX-85-102-001

At BFN, a CI alleged that a hanger had been removed and not replaced.

Issue 308.04-18 - Out-of-Service Tags Being Violated

XX-85-122-023

In this issue, the CI reported that out of service tags were being violated at BLN.

1.2.5 Element 308.05 - Training Program Deficiencies

Issue 308.05-1 - Cranes Improperly Used

EAC-85-004 SQP-85-004-005

In this SQN issue, the CIs alleged that plant cranes are being improperly used.

Issue 308.05-2 - Plant Personnel Need More Training

IN-85-495-001 XX-85-016-001

This WBN issue involved a perceived need for more specific equipment training for craft personnel.

Issue 308.05-3 - Unqualified Personnel Operating MOVATS Equipment

IN-86-114-001

In this WBN issue the CI alleged that unqualified personnel are operating Motor Operated Valve Actuation Tests (MOVATS) equipment.

Issue 308.05-4 - Improper Lifting Rigging on RCPs

WBN-0217

This issue dealt with improper lifting rigging on Reactor Coolant Pumps (RCP's) at WBN.

1.2.6 Element 308.06 - Subjourneyman/Journeyman

Issue 308.06-1 - Unqualified Subjourneyman Performing Journeyman Work

EX-85-012-001	EX-85-054-002	IN-85-128-001
IN-85-130-001	IN-85-589-002	IN-85-729-001
IN-86-022-002	IN-86-210-002	PH-85-005-001

This issue contains nine concerns from WBN over unqualified subjourneymen performing journeymen work.

Issue 308.06-2 - Laborers Are Used to Perform Cement Mason Work

IN-85-693-003

This issue, raised at WBN, involves the use of laborers to perform cement mason work.

1.2.7 Element 308.07 - Clam Control

Issue 308.07-1 - Clams Clogging Heat Exchangers

IN-85-948-001 IN-85-948-002 IN-85-948-003

This issue involves three concerns made at WBN stating that TVA's clam control program is insufficient.

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 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.

2.2 Specific Methodology

During the element evaluations the evaluators reviewed applicable sections from the following baseline requirement documents: Title 10 Code of Federal Regulations, Part 50 (10 CFR50); TVA Nuclear Quality Assurance Manual (NQAM); applicable TVA General Construction Specifications; Final Safety Analysis Report (FSAR), plant Standard Practices; Technical Specifications, General Operating Instructions and plant Area Plans.

To ensure consistency and implementation of the requirements found in these documents, the evaluators reviewed applicable Administration Instructions (AI), Maintenance Instruction (MI) Surveillance Instructions (SI), Modification and Addition Instructions (M&AI), Preventative Maintenance Instructions (PMI), Engineering Change Notices (ECN), Section Instruction Letters (SIL), Material Section Letter (MSL), Maintenance Requests (MR) and various other maintenance instructions. Evaluators reviewed files which had been expurgated by the NRC, as well as applicable Licensee Event Reports (LER), vendor manuals, work packages and instructions, drawings, INPO reports and reports which had been previously evaluated by the Nuclear Safety Review Staff (NSRS).

Included in the baseline information was the Nuclear Manager's Review Group (NMRG) Report R-86-02-NPS. This report was the result of an overall evaluation and assessment of maintenance at each nuclear plant conducted by personnel experienced in conducting programmatic reviews. This report was thoroughly reviewed and compared to the findings and conclusions in this report.

The evaluators from each element review conducted informal interviews with cognizant personnel when required either to verify document-based findings or to provide nondocument-based evaluation input. Interviews were conducted at the various plant sites with personnel from Work Planning, Document Control, Maintenance, Electrical Maintenance personnel and Craft's General foremen. Evaluators also interviewed cognizant engineers in the Mechanical Maintenance, Instrument Maintenance Test, and Nuclear Engineering departments.

From their element evaluation findings, the evaluators identified specific deficiencies and analyzed them for perceived root causes at the element level as appropriate. 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 accordance with the Operations Category Evaluation Plan.

3.0 FINDINGS

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

On April 10, 1986 the Manager of Nuclear Power requested a comprehensive review of corrective and preventive maintenance be performed at Browns Ferry (BFN), Sequoyah (SQN), and Watts Bar (WBN) by the Nuclear Manager's Review Group (NMRG). This review was requested as a result of the current interest in maintenance practices within the nuclear industry as an area in need of improvements. The NMRG was staffed with 25 individuals with extensive experience in conducting programmatic reviews and/or in maintenance with expertise in the electrical, mechanical, or instrumentation disciplines. The maintenance evaluators were trained by an Institute of Nuclear Power Operations (INPO) evaluation team manager. The evaluation was performed using the INPO guidelines for corporate evaluation and the conduct of maintenance at nuclear power plants. These evaluations were performed at the sites encompassing several subject areas in maintenance as noted:

- Corporate Involvement in Maintenance
- Maintenance Organization
- Training and Qualifications
- Facilities, Equipment, and Tools
- Types of Maintenance
- Procedures
- Planning and Scheduling
- Control of Maintenance Activities
- Post Maintenance Testing
- Materials Suitability
- Maintenance History
- Quality Assurance

The NMRG results for each evaluation are incorporated into the maintenance categories established in the employee concerns as identified in section 1.0. The conclusions of the concerns are based on the findings discovered during each evaluation and the past findings and conclusions from the NMRG reports and Nuclear Safety Review Staff (NSRS) evaluations.

3.1 Element 308.01 - Adequacy of Procedures

Issue 308.01-1 - Craft Not Allowed To Read Manuals to Perform Work (WBN)

Concern IN-85-129-003 regarding craft personnel being prevented from spending a reasonable amount of time reading vendor manuals or work instructions required for that job assignment is not valid. Review of this concern by QTC could not identify any cases where Management prevented an instrument maintenance technician from spending a reasonable amount of time reading vendor manuals or work instructions. Supervisors require craft personnel to read and understand all information needed to perform the job properly. Craft personnel are to sign that they have accomplished this prior to starting work. In addition, Instrument Maintenance Instruction IMI-100 has been issued, which requires vendor manuals and instructions that are used to perform work during maintenance activities be documented on IMI-100 data sheets.

Conclusion

This issue was not verified as factual.

Issue 308.01-2 - Management Does Not Correct Identified Problems
(WBN)

Concern IN-85-601-002 regarding the lack of management efforts to correct procedural problems in the maintenance area is not valid. All new and revised maintenance procedures that requires actual work or inspections of CSSC equipment are reviewed by the craft who initially use the procedure. They are required, upon completion of the work, to record all problems and discrepancies on a feedback sheet. The supervisor reviews this document and initiates corrections as required. Quality Assurance reviews this document and ensures changes are made. Feedback sheets from 10 surveillance instructions were randomly selected and reviewed. All comments were resolved by explanation or by incorporation into the next revision.

This process adequately evaluates problems identified in surveillance instructions and allows for incorporation into revised procedures if necessary. These reviews are reviewed by Plant Quality Assurance (PQA) and become part of permanent plant records.

The NMRG report recommended a strengthening of feedback methods to identify and correct procedural errors and omissions after citing a few examples at WBN where a procedure was too restrictive and a violation which occurred as a result of not enough information being provided. Similar cases were not observed during the ECTG evaluation in January of 1987.

Conclusion

This issue was not verified as factual.

Generic Applicability

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

Issue 308.01-3 - Questionable Quality Review of Surveillance
Instruction (WBN)

Concern IN-85-677-001 regarding a quality review of surveillance instructions being sacrificed to meet startup schedule was valid. Since this concern was written, all SIs have been re-reviewed, revised if necessary, and tested to ensure that they are technically correct and in compliance with all regulatory requirements. This program was completed in the spring of 1986 and is awaiting an inspection from the NRC to ensure the SI program has complied with commitments made by WBN in response to a severity Level IV

violation. Completion of this activity is being tracked via CATD 30801-WBN-01. The adequacy of surveillance instructions is further evaluated in Subcategory Report 30700.

Conclusion

This issue was factual but corrective action was initiated before the evaluation of this issue.

Generic Applicability

The WBN evaluation of this concern determined the incident to be isolated to WBN as a result of attempts to ready for fuel load. No other site evaluations are necessary.

Issue 308.01-4 - Procedures Need Clarification and More Defined Criteria (WBN)

Concern IN-85-825-002 regarding several procedures needing portions rewritten for clarity or needing more defined criteria is not valid. The NSRS report (I-85-339-WBN) evaluated the two specific procedures TI-27 and MAI-14 identified in the concern and could not substantiate the allegation. Revisions to these procedures have been made as a normal part of the on-going evaluation of plant procedures and controls. The review of procedures includes the completion of a detailed evaluation criteria that is performed by the preparer and reviewer. Also included is a Quality Assurance review and a trial run of the procedures by the craft with feedback comments. Also a mandatory review of each procedure is required every two years. If specific portions of the procedure require clarification or changes due to new or revised upper-tier requirements, this program provides a system in which craft, engineering, or management personnel can request these changes for incorporation.

Conclusion

This issue was not verified as factual.

Generic Applicability

This issue was evaluated at the site of 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.

Issue 308.01-7 - Adequacy of Maintenance Instructions (SQN)

Concern MAS-85-004 regarding procedure MI-10.48 being inadequate is valid. This concern was identified by the Discrepancy Report (DR) SQ-DR-86-01-003R on January 10, 1986. The DR was resolved by writing specific procedures MI-15.2.1, 15.4.1 and 15.6.1 which address the individual requirements of different motor manufacturers. The generic procedure, MI-10.48 was canceled when it was verified that the new procedures adequately addressed all motors.

Concern MAS-86-001 regarding inadequacy of MI 6.20 is not valid. MI 6.20 meets the requirements of the NQAM. Additionally, this procedure meets the guidelines presented in INPO Guideline 85-017 Conduct of Operations, chapter 13, "Control of Temporary Modifications." A data sheet is provided in the instruction for entering configuration changes during performance of work per the MR, and instructions on how and when to fill out the data sheets are provided. This data sheet is attached to the MR and becomes the historical documentation of temporary modifications performed while working to the MR.

Concern SQP-86-009-004 that maintenance instructions are unclear and do not provide adequate instructions was found valid based on the findings in the Nuclear Managers' Review Group (NMRG) Report R-86-02-NPS. As a result of this study and S. A. White's Directive (001-86-1001-800), SQN has developed a Maintenance Procedure Enhancement Program that will require all maintenance procedures to eventually meet the requirements of a writer's guide based on INPO Guideline 85-026 and NUREG CR-1369. Maintenance has committed to complete this program in two phases. The first phase is procedures that are considered high priority as determined by maintenance management. This phase is to be completed 8 months after startup. The lower priority procedures in phase two are scheduled for completion 21 months after startup. This schedule will be tracked on the Management Action Tracking System (MATS).

Conclusion

Concern MAS-85-004 was factual but corrective action was initiated before the evaluation of the issue.

Concern MAS-86-001 was not verified as factual.

Concern SQP-86-009-004 was factual but corrective action was initiated before the evaluation of this issue.

Generic Applicability

Concern MAS-85-004 was evaluated at the site of concern (SQN) and found to involve a specific SQN procedure. No other site evaluations are necessary.

Concern MAS-86-001 was evaluated at the site of concern (SQN) and found not to be valid. No other site evaluations are necessary.

The SQN evaluation of Concern SQP-86-009-004 identified a corporate level effort to upgrade maintenance procedures at all sites. Evaluation of the effort at SQN identified an adequate effort. No other site evaluations are necessary.

Issue 308.01-8 - Communications Between Craft and Foreman Inadequate (SQN)

Concern SQP-86-014-001 that foremen do not always support the craft personnel in providing them with everything they need to do the job, such as required drawings, was not validated. SQM-2 controls the Work Request (WR) process at Sequoyah. Sequoyah utilizes planners (formerly craft personnel) to plan out the work requested by the WR/MR, which includes making up the WR package. The responsible foreman ensures the WR package is complete and all necessary instructions are included.

The foreman and the responsible craftsmen sign the Instruction Review Sheet verifying the instructions included are adequate for performing the work. The inclusion of necessary drawings in the WR package is not addressed in SQM-2. The planner only includes the required drawings in the WR package when he marks them up to provide instructions for that package (i.e., showing craft where to cut pipe). Normally the planner will only provide the drawing number either in the work package or the work instructions. Craftsmen are responsible for acquiring the drawings necessary to perform the work.

Conclusion

This issue was not verified as factual.

Generic Applicability

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

Issue 308.01-9 - MAI-9 Does Not Specify Torque Requirements for Small Screws (SQN)

Concern TAK-85-002 regarding M&AI-9 not specifying torque value for screws less than #10 is factually accurate but does not describe a problem. Procedure M&AI-9 is in complete agreement with General Construction Specification G-38. Section 3.5.6 of G-38 states that screws size #10 and smaller used in cable splice and termination shall be tightened to the point at which the lock washer is flattened. Since the NQAM specifies that Maintenance Instructions shall comply with General Specification requirements, M&AI-9.15 adequate. Also, interviews with craft personnel did not indicate any problem with this section of M&AI-9.

Conclusion

This issue is factual but does not require corrective action.

Generic Applicability

The SQN evaluation found this concern to be a statement of fact. However, no adverse effects could be attributed to this practice. No other site evaluations are necessary.

Issue 308.01-10 - MOV Limit switch Lubrication Not Properly Inspected

Concern TAK-85-004 regarding inadequate lubrication or indication of grease hardening in the geared limit switches of Limitorque operators was found valid only at BLN.

On February 9, 1979, the NRC issued Information Notice 79-03 describing the difficulties experienced by Commonwealth Edison with a number of geared limit switch assemblies supplied by Limitorque. A number of intermittent gears were broken causing turning difficulties of the intermittent gear shafts. The gear failures were caused by inadequate lubrication. Inspection of the grease found it "had dried out and become more consistent than it was when it was new."

WBN

The concern that the lubrication of general limit switches on MOV's is not being properly inspected was not validated. WBN Mechanical Maintenance Section has in place a Preventive Maintenance (PM) program that inspects all Limitorque operators every 18 months. A WBN internal letter to E. R. Ennis, Plant Manager (T10 860501 874) dated May 1, 1986, identifies the frequency and the scope of the inspection. Initially, all motor-operated valves (MOV's) were inspected when turned over from Construction to Operations. This

inspection required the removal of the old grease from the geared limit switch and repacking with Mobil 28. Presently, the PM program provides a comprehensive inspection procedure for Limatorque internals. Included in the inspection are instructions to determine the condition of the lubricant in the geared limit switch intermittent gear box for signs of hardening or contamination and to repack if necessary.

SQN

The concern that the lubrication of geared limit switches on MOVs is not being properly inspected was not validated. Limatorque has experienced problems with the lubricant Beacon 325, originally furnished in the geared limit switches of MOVs operators in high temperature environments. Per recommendations of Limatorque, installations which were found to contain hardened, discolored lubricant have been repacked with Mobil 28.

The grease on unit 2 MOVs' geared limit switches has been inspected and changed to Mobil 28 in all safety-related operators. Unit 1 has only a few operators remaining to be inspected but will be accomplished prior to startup. The SQN preventive maintenance program requires an inspection of the lubricant in the geared limit switches for quantity, quality, and consistency at 18 month intervals as recommended by Limatorque.

BFN

The concern regarding improper inspection of lubrication of limit switches on MOV Limatorque operators was not substantiated. BFN inspects the Lubrication in the Limatorque MOV's geared limit switch in accordance with the Electrical Maintenance Instruction, EMI-16 every 18 months. This procedure inspects for grease hardening and requires replacing the Beacon 325 grease with Mobil 28. This changeout was recommended by Limatorque as a result of NRC information notice 79-03 which found damaged gears in MOV's limit switch caused by hardened grease.

Units 1 and 3 have replaced all MOVs geared limit switch grease with Mobil 28. Unit 2 is scheduled to be completed prior to startup.

BLN

The concern that the lubrication of geared limit switches on MOV is not being properly inspected is valid. This is a safety-related concern. Neither the DNC nor the ONP PM programs for valves with Limatorque operators contained any requirements to inspect the lubricant in the limit switch gears of the operators. Changes to the DNC PM program to meet this requirement have already been turned

in, and the ONP PM program will be changed to include this inspection. These changes will be verified via CATD 30801-BLN-01.

Conclusion

This issue was found to be factual at BLN only. Corrective action is being taken as a result of the evaluation.

Issue 308.01-11 - Vendor Manual Not Available (WBN)

Concern WBN-242, addressing vendor manuals at WBN not being readily available for craft to perform their job expeditiously, was factual. This concern was previously raised via several Corrective Action Reports (CAR) and Discrepancy Reports (DR) in 1985. Many corrections have been implemented as a result of these reports such as Instrument Maintenance now controls commonly used vendor manuals in their shop. The manufacturer and any applicable information is input into a computer and can be sorted in several ways for easier manual retrieval.

Conclusion

This issue was factual but corrective action was initiated before the evaluation of this issue.

Issue 308.01-12 - Craft Not Provided With Sufficient Procedures (BFN)

Concern XX-85-016-001 that craft personnel are not provided with specific technical instructions for performance of work is a valid concern. NSRS Report I-85-379-BFN cited that procedure MAI-4 did not fully implement the upper-tier procedure, General Construction Specification G-32. This was identified in Corrective Action Report BF-CAR-84-706 and was corrected in December of 1985. Further evaluation found that procedure MAI-34 did not fully implement the requirements of G-2 and G-51. This was identified in BF-CAR-86-032 in March of 1986. The response to this CAR was that all MAIs are being revised to incorporate General Specifications. A procedural upgrade program identified in the BFN Nuclear Performance Plan is addressing this issue and has been or is revising procedures to incorporate requirements from General Construction Specifications. A review of five randomly selected MAIs found that all had recently been revised and fully incorporated G-Specs where required.

Conclusion

This issue was factual but corrective action was initiated before the evaluation was commenced.

Generic Applicability

This concern was shared with element 308.05, "Maintenance Training." Both evaluations found the issue to be unique to BFN. No other site evaluations are necessary.

Issue 308.01-13 - Procedure Inadequate For Removal of MSRV (BFN)

The NRC concern, XX-85-106-N02, that questioned the control and adequacy for handling maintenance of the Main Steam Relief Valves (MSRV) was found to be valid. Removal of the MSRVs is very difficult and potentially hazardous because of their location in the drywell. Each MSRV weighing approximately 1000 pounds must be pulled out of its permanent location, moved around the drywell, down a flight of stairs and out the equipment hatch. The removal and replacement of the MSRVs are performed in accordance with MMI-13, Main Steam Relief Valve. This procedure has a precaution for rigging valves in and out of drywell but does not have any guidelines for a safe removal. A task force requested by the BFN site director reviewed this problem and recommended the following action:

1. Develop a specific rigging procedure for the married-chain falls transfer of the valves.
2. Install a hatch in the grating in the vicinity of the equipment hatch in order to avoid the requirement for transport down and up the stairs.
3. Add additional jib cranes as required, identify dedicated rigging equipment, and provide specific instructions for operation of the equipment.

The results of the Task Force activities will be reviewed via CATD 30801-BFN-01.

Conclusion

The issue is factual and corrective action is being taken as a result of the evaluation.

Generic Applicability

This issue was evaluated at the site of concern (BFN) and found to address a specific design unique to that plant. No other site evaluations are necessary.

3.2 Element 308.02 - Preventive Maintenance (PM)

Issue 308.02-1 - PMs on Valves Are Signed Off Without Work Performed (WBN)

Concerns EX-85-053-011 and EX-85-053-012 specifically addressed falsification of signatures on preventive maintenance work packages to indicate that maintenance may not have been performed. The Office of Inspector General was assigned the task of evaluating the falsification and forgery issue. This evaluation examined the issue of preventive maintenance (PM) not being performed on valves; they were not validated.

The PM program is controlled in accordance with the requirements of AI-9.1, WBN Management Program. All PMs shall be identified and entered into a scheduling system within 30 days after tentative transfer of equipment from Construction. This schedule was reviewed for compliance to this program and for completeness of the list for turned over equipment. No discrepancies were identified.

The PM files were also evaluated for independent verification signoffs as required by AI-2.19, Independent Verification, for aligning equipment in off-normal configurations during PM work. In all cases reviewed, valves, breakers, etc., were realigned and independently verified before closeout of work package.

Interviews were conducted with cognizant personnel involved in the PM program including supervisors, engineers and craft. No one identified any PMs that were not complete and then signed off as complete.

The NMRG report did not identify any falsification problems during their investigation, however, deficiencies were identified with the PM program. One example identified that PM information that was included in the packages was based on configuration of the equipment at turnover. Any subsequent modifications to the equipment were not evaluated for impact on the program.

Management is currently restructuring the PM program over the next two years, identifying all equipment and PMs that have been omitted from the program. The program will also include a periodic review to ensure it remains current and effective. The PMs will be modified and their frequencies adjusted throughout the program, based on equipment performance.

The NMRG recommended assigning responsibility for this program development to a capable manager at each site to direct and coordinate this effort and to provide him with sufficient resources to support a timely upgrade of the PM effort.

The issue of falsification of preventive maintenance on valves could not be substantiated. Although weaknesses were identified by NMRG in the PM program, their recommendations and the ongoing upgrade activities are sufficient. No further corrective actions are required.

Conclusion

This issue was not verified as factual.

Generic Applicability

The WBN evaluation could not substantiate this concern. No other site evaluation are necessary.

Issue 308.02-2 - Supervisor Required Unnecessary Work To Be Performed (WBN)

Concern IN-85-393-002 regarding supervisors going against subordinates and that supervisors had wasteful and unnecessary maintenance done on plant equipment is not valid. The specific case identified in this concern was the use of flow meters in air ducts for duct flow calibration and testing methods used by a supervisor in the field. TVA supervisors are responsible for assuring that required activities are completed in the most beneficial manner for TVA. The supervisor has ultimate responsibility for resource utilization and work completion. Interviews with cognizant test engineers and craft personnel from the mechanical and instrument maintenance test sections revealed that there are no problems with the methods being used for measuring air flow in the ventilation systems. Responsible test engineers have been sent to special training or classes to ensure they have the special skills to measure air flow under the existing conditions. The methods used are in accordance with TVA General Construction Specifications.

Conclusion

This issue was not verified as factual.

Generic Applicability

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

Issue 308.02-3 - Work Performed Without MR in Possession (WBN)

The practice questioned by concern IN-86-103-003, of work being performed without maintenance request(s) (MR) in their possession is not valid. Instances where it is acceptable to work without an MR are identified in AI-9.2.

Interviews were conducted with several craftsmen, foremen and quality assurance which provided examples where work was performed without MRs: special situations such as emergencies and troubleshooting.

AI-9.2, Maintenance Request and Equipment Maintenance History, allows work to be performed under certain situations without an MR. The evaluation of this concern did not find violations where normal corrective maintenance was performed without proper documentation, therefore this concern could not be substantiated.

Conclusion

This concern is factual but what it identifies is not a problem.

Generic Applicability

The WBN evaluation determined that there were cases where it is acceptable, by procedure, to perform work without an MR in possession. No adverse effects were noted due to this practice and adequate compensatory controls were in place when used. No other site evaluations are necessary.

Issue 308.02-4 - Engineers Disregard Vendor Manuals for PM Program

WBN

Concern IN-86-316-X09 regarding engineers disregarding vendor manuals in the PM program of equipment is not substantiated. The reviews and evaluations of PM requirements from vendor manual control documents were found to meet all requirements, and no discrepancies were found. Also, a review and evaluation of 15 PM instructions on CSSC equipment showed that requirements as stated in the source document vendor manuals were implemented into the PM instructions. In addition to this, interviews with cognizant engineers and craft personnel found that, to their knowledge, no engineer(s) disregarded the use of vendor manuals in the performance of maintenance activities. The scope of this concern only addressed PMs not being incorporated from vendor manuals. Other vendor manual concerns are addressed in Element 308.04 and Subcategory 30700.

The NMRG report identified several areas in PM that require management attention. Overall, it recommended several changes to ensure all recommended PMs were incorporated into the program. Their report, however, did not specifically address the issue of engineers ignoring vendor manuals.

SQL

The concern that the PM program is not adequate because engineer(s) have disregarded the use of vendor manuals for safety related equipment was not substantiated. The PMs reviewed showed no discrepancies in implementing the vendor manual control requirements of AI-23 and SQM57. Interviews with cognizant engineers and craft personnel found that to their knowledge no engineer(s) disregarded the use of vendor manuals in the performance of preventive maintenance activities. The Generic Concern Task Force (GCTF) report for the subject concern found that "problems with engineers not using vendor manuals was not validated based on interviews with maintenance and modification craftworkers." This evaluation is in agreement with GCTF report. However, problems with the Vendor Manual Program previously identified by plant Quality Assurance and the NRC in Generic Letter 83-28 are currently being resolved via CATD 30802-SQN-02 and CATD 30802-SQN-03.

The identified problems with the Vendor Manual Control Program prior to the revision of AI-23 had the potential to be safety related with respect to performance of preventive maintenance on CSSC equipment. However, the review and evaluation of 15 preventive maintenance instructions on CSSC equipment, found that the requirements from the vendor manuals have been incorporated into those preventive maintenance instructions.

Although the NMRG did not identify any falsification of the PM program, they did identify that several components important to safe and reliable operation were not included in the PM program. There was an absence of PMs identified for non-safety related equipment that was essential to plant reliability. CATD 30802-SQN-01 was issued.

BFN

The concern that the PM program is not adequate because engineer(s) have disregarded the use of vendor manuals for safety-related equipment was not substantiated. The Preventive Maintenance Program (PM) was reviewed; a complete PM Program review was underway to verify that all vendor revision information was correct as referenced by the Mechanical Maintenance procedures. A review of

vendor recommendations from the vendor manuals against the Mechanical Maintenance procedures was conducted by the evaluator and no discrepancies were found. Interviews with cognizant engineers and craft personnel found that to their knowledge no engineer(s) disregarded the use of vendor manuals in the performance of Preventive Maintenance activities. Mechanical Maintenance procedures and Standard Practice procedures meet the requirements for vendor manual control. The Mechanical Maintenance procedures are presently being revised to ensure all procedures are in compliance with the Vendor Manual Control Program.

The Vendor Manual Control Program was implemented in response to NRC Generic Letter 83-28 to ensure that plant procedures are kept updated with current vendor information. This program will ensure (1) all controlled vendor manuals are maintained at the same revision level as the master controlled vendor manual, (2) all controlled vendor manuals are under revision control, and (3) all new vendor manuals and revisions are evaluated by the cognizant section(s) before utilization.

BLN

The concern that the PM program is not adequate because engineer(s) disregarded the use of vendor manuals was not substantiated. A review of BLN procedures addressed the integrated TVA Vendor Manual Program as described in the previous evaluations at the other sites. A review of several randomly selected PM instructions against their referenced vendor manuals found that the requirements as stated in the vendor manuals have been incorporated into the PM instructions. Interviews with cognizant maintenance personnel could not identify any instance in which engineers disregarded vendor manuals when preparing the PM instructions.

Conclusion

This issue was not verified as factual.

Issue 308.02-5 - Hydrogen System PM Not Adequate (BLN)

Concern BNP QCP-035-8-19 related to the lack of PM necessary to prevent rust buildup on hydrogen system needle valves was not substantiated. An interview with a cognizant systems engineer from the PM group was conducted. The cognizant engineer stated that he had recently performed system walkdown PM inspection as required by BLN Standard Practice BLM 3.5, "Performance of Preventive