EMPLOYEE CONCERNS

SPECIAL PROGRAM

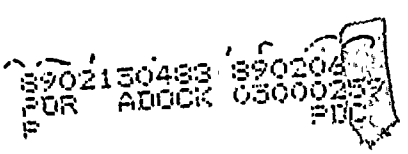
VOLUME 4
MATERIAL CONTROL CATEGORY

SUBCATEGORY REPORT 40300
MATERIAL CONTROL - INSTALLATION

UPDATED

TVA

NUCLEAR POWER



TVA EMPLOYEE CONCERNS
SPECIAL PROGRAM

REPORT NUMBER: 40300

REPORT TYPE: Subcategory
(Final)

REVISION NUMBER: 3

TITLE: Material Control - Installation

PAGE 1 OF 62

REASON FOR REVISION:

Revision 1: Revised to incorporate Senior Review Panel comments, incorporate corrective action, add Executive Summary, additional evaluation for issue 1.2.6, and add concern IN-85-339-003.

Revision 2: Revised to incorporate Senior Review Panel comments.

Revision 3: Deleted last sentence in corrective action section, page 5 of 5 of the Executive Summary Table; and corrected NCR number in section 7.2.1.1.2. R3

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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)

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

EXECUTIVE SUMMARY
MATERIAL CONTROL CATEGORY
SUBCATEGORY REPORT 40300 "INSTALLATION"

SUMMARY OF THE ISSUES

There are sixteen concerns in this subcategory. The sixteen concerns were grouped into ten issues to facilitate effective evaluation of similar concerns. These issues addressed 1) valves being substituted without revising drawings, 2) a valve on unit 1 pressurizer being cracked, 3) pipe fittings having low tensile strength, 4) pipe fittings not having NDE reports, 5) material from an uncertified vendor is installed in the steam generator blowdown system, 6) electrical cable issued from warehouse without vendor certification documentation, 7) scrapped material being installed in the plant, 8) Westinghouse material being received without proper documentation, 9) two different pipe sizes having the same heat number, and 10) structural steel was found to be laminated and steel with the same heat number is installed in plant. Three of the ten issues were found to be current problems during the evaluation. One of the three problems was caused by isolated error. See attached summary table (page 1 of 5 thru 5 of 5).

MAJOR FINDINGS

1. Valves have been replaced and/or substituted without drawing revision or design approval. In some cases the impact on design baseline is not known. Procedures were not in place to control this.

2. Material was retrieved from the scrapyard and installed at Watts Bar Nuclear Plant (WBN). All four nuclear plants had weak scrap and surplus material control programs.

COLLECTIVE SIGNIFICANCE OF MAJOR FINDINGS

1. Because of the lack of procedural control for valve substitution or replacement at WBN, the design base line for safety-related systems could be affected. This issue was also considered at SQN. Because valve procurement practices for SQN (different than for WBN) would minimize this potential problem and because the inspection/installation documentation agreed with the as-constructed drawings, this issue was determined not to be a problem at SQN. This issue dealt with a WBN specific concern.

2. Safety-related items scrapped or not maintained in their proper storage environment can be degraded and could have the potential to degrade safety-related systems at WBN. However, the impact of the safety of the plant is minimized by the construction, preoperational, startup tests and surveillance and inspection programs in place. Actual problems were identified only at WBN although scrap and surplus material control programs at other nuclear plants were weak.

CAUSES OF THE MAJOR FINDINGS

The cause for both of the major problems was a lack of management attention and procedural control.

CORRECTIVE ACTION ON MAJOR FINDINGS

1. NCR 6773, for unit 2, was initiated to identify all substituted/replaced safety-related valves and to revise inspection procedures to ensure valves installed agree with design drawings. Reference CATD number 40300-WBN-02

   SCR number WBN WBP 8725 has been initiated to document this problem and to control corrective action. Corrective action will require a review of unit 1 safety-related valves to ensure that the installed valves satisfy applicable design requirements and are adequately reflected in the associated design and as-constructed documents. DNE will provide a walkdown procedure to verify actual valve installation, to determine what valves have been replaced or substituted, to verify if the design baseline has been affected and that documentation adequately reflects the as-constructed condition. Appropriate corrective action will be taken to resolve all problems identified. DNE will provide requirements to be implemented in appropriate DNE, DNC, and Maintenance procedures to effectively control and verify valve replacements and substitutions to maintain the design baseline. DNE, DNC, and Maintenance will issue the subject procedures and conduct appropriate personnel training to implement this program. Reference CATD number 40300-WBN-01 (unit 1).

2. Nonconformance reports have been initiated at WBN requiring engineering evaluation of items retrieved from the scrapyard and installed in the plant. WBN and SQN are revising procedures to control material. They are purging field storage areas to minimize the availability of questionable material. Procedures will be put in place to adequately control material. Scrapyards are being locked and controlled. The corporate issue corrective action plan will further strengthen controls at all four plants. Reference CATD numbers 40300-NPS-01, 40300-WBN-05 (unit 2), 40300-WBN-06 (unit 1), and 40307-SQN-01.

EXECUTIVE SUMMARY
Subcategory 40300
Summary Table

ISSUES	SR	NS	FINDINGS	CAUSE	CORR ACT.	SIGNIFICANCE	COLLECTIVE SIGN.
Valve Substitution	X		Valves have been substituted for the valves required on the DNE drawing in units 1 and 2 at WBN.	Failure by DNE and DNC Management to implement a program to control valve substitutions.	DNE to review all safety-related valves that have been substituted at WBN to determine their suitability for service and to revise the applicable documents to reflect the actual valves installed. DNE to determine the required corrective action for any valves identified that are found not to be suitable for service. This is documented on NCR 6773 and SCR WBN WBP 8725.	The suitability for service as well as the design baseline for valves that have been substituted is indeterminate.	Two significant deficiencies were identified by the evaluations done for this subcategory. These findings indicate a lack of communication as well as a lack of attention to detail by mangement. It should be noted that the impact of the findings related to scrap material have been minimized by the inspections and tests that are performed. The cause for

1015T

EXECUTIVE SUMMARY
Subcategory 40300
Summary Table

ISSUES	SR	NS	FINDINGS	CAUSE	CORR ACT.	SIGNIFICANCE	COLLECTIVE SIGN.
							the other concerns this sub-category addresses being gener-ated is a failure by mangement to properly inform per-sonnel.
Valve Cracked	X		There is not a cracked 3-inch valve at the top of the unit 1 pressurizer at WBN.	NA	NA	NA	
Fittings (M(-157)	X		The tensile strength on this WBN was below the min-imum for heat code M-157.	Isolated error	NCR 6771 has been generated for this problem. Additional test data has been received from the vendor showing this material meets the requirements.	None	
Fittings (witout NDE reports)	X		It is not a requirement for NDE reports to be with cer-tification documentation.	NA	NA	NA	
Material From Uncertified Vendors	X		This problem had been iden-tified before this concern being issued. All of the	NA	NA	NA	

1015T

EXECUTIVE SUMMARY
Subcategory 4Q300
Summary Table

ISSUES	SR	NS	FINDINGS	CAUSE	CORR ACT.	SIGNIFICANCE	COLLECTIVE SIGN.
			subject material was evaluated and allowed to remain installed if in nonsafety-related low pressure areas; otherwise it was replaced.				
Cable	X		It is not a requirement for vendor certification documentation to be onsite before releasing cable for installation.	NA	NA	NA	
Scrapped Material	X		At WBN items were identified as having been scrapped and retrieved from the scrap pile for use. At the other TVA nuclear plants a lack of control for excess, retired and scrap material was identified but no case of material being taken from the scrap pile for use was found.	At WBN the problem identified was caused by a failure by TVA management to implement a program to have adequate control of material. The findings at the other TVA nuclear plants was caused by a failure by TVA management to	DNC has generated NCRs 6837 and 6839 to identify and implement corrective action as required for past practice at WBN unit 2. Procedures will be revised and/or issued to control material. These NCRs were upgraded to significant and SCRs 6837-S and 6839-S are noted as having generic implications. Corrective Action for these SCRs will include WBN Unit 1 items. SQN corrective action: procedures are to be	The findings for this issue at WBN has resulted in the suitability for service for items that had been scrapped to be indeterminate. At the other plants no conditions that would affect the suitability for service were identified but a lack of control for left-over, excess and retired material was identified.	

1015T

EXECUTIVE SUMMARY
Subcategory 40300
Summary Table

ISSUES	SR	NS	FINDINGS	CAUSE	CORR ACT.	SIGNIFICANCE	COLLECTIVE SIGN.
				implement a program to control leftover, excess and retired material.	revised to ensure that section maintained spare parts meet storage requirements that canabilized, scrapped or leftover material be evaluated before use and the statement in SQN-148 that use of scrap is a common maintenance practice is to be removed. ONP Standard 1.2.28, "Saleable Scrap - Identification, Segregation, Storage, Control, and Sale," which will supersede the present procedure, DPH N72A14, section II, part II, "Saleable Scrap - Sale, Grading, Segregating, Storage, and Control," will be written to define the requirements and responsibilities for the control of scrapped material at all TVA nuclear facilities. The standard will		

1015T

EXECUTIVE SUMMARY
Subcategory 40300
Summary Table

ISSUES	SR	NS	FINDINGS	CAUSE	CORR ACT.	SIGNIFICANCE	COLLECTIVE SIGN.	
					regulate the handling of scrap or retired material from the work area through the removal from the site.			R3
Westinghouse Material	X		Although Westinghouse material has been delivered to WBN without the required documentation, appropriate corrective action was taken and the problem corrected.	NA	NA	NA		
Pipe Material	X		This issue was factual but not a problem. The fact that 3/4-inch and 1/2-inch pipe have the same heat number does not constitute a problem.	NA	NA	NA		
Beam	X		This issue was factual but not a problem. DNE evaluation determined that only the pieces of material where the lamination interfere with constructability were not acceptable.	NA	NA	NA		

1015T

TABLE OF CONTENTS

TABLE OF CONTENTS (CONTINUED)

TABLE OF CONTENTS (CONTINUED)

TABLE OF CONTENTS (CONTINUED)

TABLE OF CONTENTS (CONTINUED)

TABLE OF CONTENTS (CONTINUED)

1.0 CHARACTERIZATION OF ISSUES

1.1 Introduction

There are sixteen concerns in the subcategory Installation. All the concerns in this subcategory deal with installed material that is questionable.

The concerns addressed by this report were placed in ten groups. These groups are referred to here after as issues for the purpose of evaluation. These issues are described in greater detail below in section 1.2.

1.2 Description of Issues (As originally perceived)

1.2.1 Valve Substitution (1 concern) EX-85-181-001

Valves have been substituted (from what the drawing requires) without the Bill of Materials showing the change. There is no other documentation to show the change.

1.2.2 Valve Cracked (1 concern) PH-85-035-002

At WBN there is a 3-inch valve located at the top of the unit 1 pressurizer in system 68 (Reactor Coolant) with a crack or lamination in the valve body that runs into the weld area.

1.2.3 Fittings (Heat Code M-157) (1 concern) IN-85-012-X02

Fittings with Heat Code M-157 have a tensile strength reported on the CMTR that is below the minimum and some of these fittings are installed.

1.2.4 Fittings (Without NDE Reports). (1 concern) IN-86-282-005

There are approximately 2,000 1 1/2-inch or 2-inch ASME class 1, 90-degree elbows that do not have NDE reports with the material certification documentation.

1.2.5 Material From Uncertified Vendors (1 concern) IN-85-086-001

Noncode material may still exist in the Steam Generator Blowdown system.

1.2.6 Cable (1 concern) IN-85-170-001

In 1979 cable was released for installation before receipt and approval of the vendor certification documentation.

1.2.7 Scrapped Material (7 concerns) IN-85-291-001, WI-85-091-014, IN-85-339-002, IN-85-339-003, SQP-5-004-003, PH-85-003-009, IN-85-624-003

Material that was scrapped may have been used in permanent plant installations.

1.2.8 Westinghouse Material (1 concern) IN-85-336-002

Prior to June 1982, Westinghouse materials were received without the procurement documents and no one has verified that these documents were received.

1.2.9 Pipe (1 concern) IN-85-453-005

Some of the 3/4-inch pipe that was installed had the same heat number as 1/2-inch pipe.

1.2.10 Beam (1 concern) IN-85-460-001

A section of 6 or 8-inch beam was found to be laminated and material with the same heat number is installed in the plant.

2.0 SUMMARY

2.1 Summary of Issues

The perceived problem expressed in the concerns in this subcategory report is that some of the materials installed at SQN and WBN may not be capable of performing their intended function safely or may not have acceptable documentation.

2.2 Summary of Evaluation Process

The employee concerns addressed by this subcategory were evaluated in accordance with revision 1 of the Evaluation Plan for Construction and Material Control Categories. Since each element was evaluated as a independent entity, the specific evaluation methodology varied due to the nature of each element. In general, the evaluation methodology consisted of the following steps:

a. Obtained additional information on the specific concerns where available [i.e. reviewed expurgated files and contacted QTC].

b. Interviewed personnel knowledgable of the perceived problems addressed by this subcategory report.

c. Reviewed documentation, applicable site procedures and upper tier requirements related to the perceived problems.

d. Performed field observations as required to determine existing conditions.

2.3 Summary of Findings

Of the ten elements addressed by this report, three were found to be factual and required corrective action. Three of the elements addressed by this report were evaluated at TVA nuclear plants other than WBN. The remainder of the elements addressed specific issues of hardware at WBN and the evaluation findings determined that these issues were not generic to other TVA nuclear plants.

Below is a summary of the findings for each of the ten elements addressed in this subcategory.

2.3.1 Valve Substitution

This was determined to be a Class D issue at WBN and a Class E at SQN.

This concern was WBN-specific and found to be factual and a problem at WBN. At WBN, valves have been substituted for the valves required on the drawing without the required document changes being implemented. This was evaluated at SQN and found not to be factual. However, a CATD (CATD 40301-SQN-01) was issued for SQN since it was found that the work control procedures did not reference the procedure to be used for material substitution. It should be noted that this report addresses only the portion of this concern that is underlined on Attachment A of this report. (CATDs 40300-WBN-01 and 40300-WBN-02)

2.3.2 Valve Cracked

<u>This was found to be a Class A issue at WBN and a Class E issue at SQN</u>.

This concern was specific to WBN and found not to be factual. There is not a crack or lamination in one of the 3-inch valves at the top of the pressurizer at WBN unit 1 and the valves that were previously installed in this location and are still in use do not contain a crack or lamination. Because one of the valves involved was transfered to SQN from WBN, the valve at SQN was evaluated and found not to contain a crack or lamination. However, due to the restrictive criteria for inspection of these valves, proper evaluation of the indication in the subject valve can not be performed at SQN and this needs to be addressed. (CATD-40302-SQN-01)

2.3.3 Fittings (Heat Code M-157)

<u>This was found to be a Class D issue</u>.

This concern was specific to WBN and found to be factual and a problem. The tensile strength on this WBN CMTR was determined to be below the minimum. A retest had been performed on this material that shows it meets the requirements, but this retest documentation was not available at WBN. Corrective action for this concern is implemented by NCR 6771. (CATD-40300-WBN-03)

2.3.4 Fittings (Without NDE Reports)

<u>This was found to be a Class B issue</u>.

This concern was specific to WBN and found to be factual but not a problem because it is not a requirement for NDE reports to be with the material certification documentation. The documentation on this material assures that it meets the code and purchasing contract requirements.

2.3.5 Material From Uncertified Vendors

This was found to be a Class B issue.

This concern was specific to WBN and found to be factual but not a problem. This problem had been identified by NCR GEN MEB 8301 before this concern was issued. All of the subject material was evaluated and was allowed to remain installed if in nonsafety-related low pressure areas; otherwise, it was replaced. It should be noted that Material Control Subcategory Report 40200 addresses the aspects of this concern as related to purchasing. It should be noted that this report addresses only the portion of this concern that is underlined on Attachment A of this report.

2.3.6 Cable

This was found to be a Class B issue.

This concern was specific to WBN and was found to be factual but not a problem. The vendor certification documentation for cable was not required to be onsite. Permanent documents were received by TVA Inspection and Testing (I&T) Branch. Procedures were in place to control cable released for installation and evidence exists that cable not meeting the requirements was nonconformed. It was also found that the Watts Bar Environmental Qualification Project was reviewing all safety-related cables installed in a harsh environment and the completion of this effort would assure this cable was qualified for installation.

2.3.7 Scrapped Material (TVA Usage-Excess, Surplus, Leftover, Etc.)

This was found to be a Class D issue at WBN and a Class E Issue at SQN, BFN and BLN.

This issue was comprised of six WBN-specific concerns and one SQN-specific concern and was found to be factual and a problem at WBN. No TVA procedures for WBN, were in place to prevent usable material from being scrapped and retrieved from scrap collection areas for use in QA or safety-related applications. Corrective actions have been initiated at WBN and are discussed in section 4.7. Based on the fact that the

existing program at WBN did not provide adequate control of material and specific items were identified as having been scrapped and retrieved for installation, WBN DNC has initiated two NCRs (NCR 6837 and 6839) for unit 2 addressing this condition. These NCRs address any past conditions that may have resulted from an inadequate program for scrap material. This concern was evaluated at SQN, BFN, and BLN and no specific items were identified as having been scrapped and retrieved for installation; but the programs in place to control material were found to be in need of improvement.

TVA has no written or definitive programmatic criteria in place to establish a method of determining when an item should be placed in scrap and how this material should be controlled to prevent its possible use. It should be noted that the subcategory "Material Waste and Availability As Related to Management and Personnel," (Report 71100) addresses the non-QA aspect of this issue. The findings in Report 71100 agree with this report. It should be noted that, this report addresses only the portion of concern WI-85-091-014 that is underlined on Attachment A of this report (CATDs 40300-WBN-04, 40300 WBN-05, 40307-SQN-01 and 40300-NPS-01).

2.3.8 Westinghouse Material

This was found to be a Class A issue.

This perceived problem was WBN-specific and found not to be factual. Although Westinghouse material was delivered to WBN without the required documentation in the subject timeframe (before June 1982) the DNC engineers responsible for this material initiated NCRs when this occurred. These NCRs required receipt of the required documentation and this had been completed.

2.3.9 Pipe

This was found to be a Class B issue.

This concern was WBN-specific and found to be factual but not a problem. The fact that 3/4-inch pipe has the same heat number as 1/2-inch pipe does not constitute a problem. This occurs because both sizes of the pipe were manufactured from the same bulk material with a singular heat number. This does not violate any site procedure or upper-tier requirement.

Heat numbers are verified at weld fitup inspection. The adequacy of this program is addressed in the Material Control Subcategory Report 40700 "Procedural Control."

2.3.10 Beam

This was found to be a Class B issue.

This concern was WBN-specific and found to be factual but not a problem. A section of beam was found that contained laminations and material with this same heat number was allowed to remain installed. However, when this section of beam was found, an NCR (NCR 5942) was written to identify and correct this condition. DNE performed an evaluation of this material and determined that only the pieces of material where the laminations interfere with the constructability were not acceptable. It should be noted that laminations in material is addressed in a broader scope in Material Control Subcategory Report 40600 "Quality of Materials."

2.4 Summary of Collective Significance

Of the ten issues addressed in this report, two were found not to be valid situations. Five of the issues were valid situations but did not represent a problem (two had been previously identified and corrective action completed and three did not violate any commitment or requirement).

Three of the issues addressed in this report were found to be problems but one of the these was an isolated case. With the specific exception identified, TVA had programs in place to assure that material used in plant installations meets quality requirements and personnel involved in the work processes would identify and correct problems found with material.

2.4.1 Management Effectiveness

The subcategory findings for some issues indicated a failure to implement a review of procedures to verify that upper-tier requirements and commitments would be implemented, a failure to make personnel aware of what the actual requirements and commitments are, as well as ineffective communication.

2.4.2 Employee Effectiveness

The subcategory findings for some issues indicate a lack of knowledge and understanding of procedures as well as upper-tier commitments and requirements. This can be attributed to inadequate training of personnel caused by a lack of management awareness.

2.4.3 Technical Adequacy

The subcategory findings in this report do point out areas in which technical effectiveness is suspect. Incidences such as unauthorized valve substitution and lack of a program to control scrap material has caused the technical adequacy to become inadequate or questionable in those areas.

2.5 Summary of Causes

Below is a summary of causes for these elements for which corrective action is required.

2.5.1 Valve Substitution

Failure by DNE and DNC management to have adequate communication and implement a valve program that would be effective and meet commitments.

2.5.2 Valve Cracked (Side Issue)

The problem identified as a side issue at SQN (see 2.3.2) was caused by a failure to implement criteria for determining the acceptability of the subject valves.

2.5.3 Fittings (Heat Code M-157)

Based upon the fact that these CMTRs were reviewed by a TVA engineer as well as an Authorized Nuclear Inspector, the apparent cause for this problem was isolated human error.

2.5.4 Scrapped Material

Failure by management to implement a program to control material, to issue TVA procedures for controlling material at WBN, and to have adequate procedures at SQN, BLN, and BFN for controlling material.

2.6 Summary of Corrective Action Taken

Below is a summary of corrective actions already initiated for the elements found to be substantiated and side issues identified in this report.

2.6.1 Valve Substitution

DNC has generated NCR 6773 to address this problem in unit 2 at WBN. This NCR requires DNC to supply a list of all valves that have been substituted to DNE for review to determine if the substituted valves are acceptable. CATD 40300-WBN-02

The Office of Nuclear Power (ONP) is addressing this problem for WBN unit 1. SCR WBN WBP 8725 has been initiated to document this problem and control corrective action. CATD 40300-WBN-01

The following was identified as a side issue.

SQN needs to address the fact that procedural control of work involving/controlling materials substitution is not cross-referenced between AI-11, AI-19 and SQM 2 as recommended by GCTF Report EX-81-181-001, revision 1. CATD 40301-SQN-01

Line response:

Since cross-referencing every procedure used during the work process would be confusing and would not ensure any better compliance with requirements no procedure revision is required.

2.6.2 Valve Cracked

The following was identified as a side issue.

SQN needs to obtain information to show that indications in the subject valves are a result of the valve construction, and this does not represent defects. CATD 40302-SQN-01

A memorandum requesting vendor certification to the acceptability for use "as-is" has been initiated. (Memo S53 861022 834)

2.6.3 Fittings (Heat Code M-157)

DNC has generated NCR 6771 to identify and correct this problem. CATD 40300-WBN-03

Corrective action for NCR-6771, R0 has been completed.

2.6.4 Scrapped Material

DNC corrective action for WBN unit 2 per CATD 40300-WBN-05.

DNC has generated NCRs 6837 and 6839 to identify and implement corrective action as required for past practice at WBN unit 2. Procedures will be revised and/or issued to control material.

DNC (for ONP) corrective action for WBN unit 1 per CATD 40300-WBN-06.

Two NCRs were written to address this issue for WBN unit 2. These NCR's were upgraded to significant and SCRs 6837-S and 6839-S are noted as having generic implications. Corrective Action for these SCR's will include WBN unit 1 items. The programmatic problems identified relate to the construction program and are not applicable to the current unit 1 program.

SQN corrective action provided per CATD 40307-SQN-01.

Procedures are to be revised to ensure that section maintained spare parts meet storage requirements; that canabilized, scrapped, or left over material be evaluated before use; and the statement in SQA-148 that use of scrap is a common maintenance pratice is to be removed.

TVA corrective action provided per CATD 40300-NPS-01.

ONP Standard 1.2.28, "Saleable Scrap - Identification, Segregation, Storage, Control, and Sale," which will supersede the present procedure, DPM N72A14, Section II, Part II, "Saleable Scrap - Sale, Grading, Segregating, Storage, and Control," will be written to define the requirements and responsibilities for the control of scrapped material at all TVA nuclear facilities. The standard will regulate the handling of scrap or retired material from the work area through the removal from the site.

3.0 EVALUATION PROCESS

3.1 Evaluation Methodology

The various issues raised by the employee concerns addressed by this report were evaluated in accordance with the Construction and Material Control Category Evaluation Plan. The following is a summary of the specific evaluation methodology utilized in the evaluation of the issues contained within the ten elements comprising this subcategory.

3.1.1 Valve Substitution

3.1.1.1 WBN

a. Contacted QTC for additional information, by written request and telephone conversations with the QTC contact.

b. Reviewed expurgated file for subject concern to determine if any additional information was available.

c. Reviewed WBN QCP 4.10-9, revision 7, the construction valve inspection procedure relative to valve installation to determine what the inspection/verification requirements are for valve installation relative to this perceived problem.

d. Interviewed seven WBN construction personnel (five mechanical engineering and two mechanical inspectors) and two DNE personnel (one system engineer and one supervisor) to determine what past practice has been for valve substitution and if this has been a problem in the past.

e. Reviewed a sample of documentation and drawings for valves:

   65 of 75 valves in unit 2 system 15; 30 of 295 in unit 2 system 62 valves and 8 of 303 unit 2 system 63 valves.

This review consisted of comparing the valve inspection records to the design drawing and certifying documents.

f. Reviewed Generic Concerns Task Force (GCTF) report EX-81-181-001, revision 1, and related documents.

3.1.1.2 SQN

a. Reviewed GCTF report EX-85-181-001, revision 1, and related documents for determining the validity of this report's findings and conclusions.

b. Determined if any other investigations had been conducted regarding the subject concern.

c. Interviewed personnel involved with valve installation during the construction and operation of SQN to determine how the construction valve program was implemented. (one Constructing Engineer, one Mechanical Maintenance Engineer, one SQN DNE Engineer, and one Power Stores Purchasing Agent.)

d. Reviewed the construction and current program related to valve installation to determine if a program was implemented that would require adequate documentation for valve substitution.

e. Reviewed a sample of (30) 47W piping drawings to determine if there was evidence of valve substitution on the drawings and how the valve identifier program functions.

f. Reviewed construction valve documentation for 200 valves to determine if valve substitution was done during construction of SQN.

3.1.2 Valve Cracked

3.1.2.1 WBN

a. Contacted QTC for additional information by written request and telephone conversation with the QTC contact.

b. Reviewed expurgated file for additional information.

c. Reviewed DNE drawings to identify all valves that could be the subject valve.

d. Made personal observation of the area described in the subject concern.

e. Reviewed documentation of all valves identified that could be the subject valve.

f. Had all valves (identified as possibly being the subject valve) visually examined by Level II NDE inspectors with indications found further examined by Level III NDE inspectors.

g. Interviewed three individuals in WBN construction mechanical engineering to obtain information about past problems found with the subject valves.

3.1.2.2 SQN

a. Reviewed element report MC-40302 and the subject case file to determine what additional action was required in order to adequately address this concern for SQN.

b. Witnessed the visual inspection, as performed by both level II and level III NDE inspectors, for indications of cracks or laminations.

3.1.3 Fittings (Heat Code M-157)

a. Contacted QTC for additional information by written request.

b. Reviewed expurgated file for additional information.

c. Reviewed NSRS report I-85-164-WBN and related documents.

d. Interviewed two DNE personnel (one contract engineer and one codes and standards engineer) and two DNC personnel in code data report unit.

e. Reviewed documentation on the subject Heat Code. This consisted of comparing the subject CMTR to the code requirements.

3.1.4 Fittings (Without NDE Reports)

a. Contacted QTC for additional information by written request.

b. Reviewed expurgated file for additional information.

c. Interviewed personnel knowledgeable about the area of the perceived problem (two WBN DNC personnel in the code data report unit, one former supervisor of Mechanical Engineering and three DNE Contract Engineering personnel).

d. Reviewed ASME code 1971 through summer of 1973 addendum (Section III).

e. Reviewed documentation (CMTRs) on ASME class 1, 1 1/2-inch and 2-inch 90-degree elbows.

3.1.5 Material From Uncertified Vendors

a. Contacted QTC for additional information by written request.

b. Reviewed expurgated file for additional information.

c. Reviewed Employee Response Team (ERT) Investigation report IN-85-086-001 and related documents.

d. Interviewed three WBN individuals in the construction engineers organization knowledgable in the area addressed by the perceived problem (one former Mechanical Engineering Unit supervisor and two members of the Code Data Report Unit).

3.1.6 Cable

a. Contacted QTC for additional information by written request.

b. Reviewed expurgated file for additional information.

c. Reviewed upper-tier requirements for electrical material documentation.

d. Interviewed one WBN Construction Craft Supervisor (responsible for cable installation in the subject timeframe) and five WBN Construction Engineers who have been or now are in the Electrical Engineering Unit (EEU), five DNE engineers, and one TVA Inspection and Test Branch (I & T) engineer.

e. Reviewed the construction NCR log and NCR's written for cable in the subject timeframe.

f. Reviewed the documentation for five cable contracts received in the subject timeframe.

g. Reviewed procedures that address cable at WBN in the subject timeframe.

3.1.7 Scrapped Material

3.1.7.1 WBN

a. Contacted QTC for additional information by written request.

b. Reviewed expurgated file for additional information.

c. Reviewed site procedures related to scrap material.

d. Interviewed eight DNC personnel knowledgable about the processes involved in scrapping material. These people were group leaders or supervisors for hanger, civil, electrical, instrumentation, mechanical engineering and project management.

e. Reviewed NSRS report I-85-713-WBN and the DNC response to this report.

f. Made observations of areas where scrapped material was kept until disposal and areas where scrap material was collected.

3.1.7.2 SQN

a. Reviewed expurgated files that were available for additional information.

b. Determined if additional investigations had been conducted regarding subject concerns.

c. Reviewed site procedures and upper-tier documents to determine the requirements for scrapped material and if scrapped material is adequately controlled.

d. Interviewed ten personnel that are now or have been associated with material installation to determine if material had been scrapped and later retrieved for installation. Six of these people were in project engineering during construction, two are craft supervisors (currently), the power stores supervisor, and an individual in QA that works in this area.

e. Determined by personal observation if adequate control is in place for scrapped material.

f. Reviewed Element report MC-40307 to determine if the findings in this report for WBN were related to SQN.

g. Reviewed NSRS report I-86-164-SQN and related documents to determine if it adequately addresses the perceived problem of material being scrapped and later retrieved for installation.

3.1.7.3 BFN

a. Reviewed applicable reports (MC-40307, supplement for SQN, and NSRS report I-86-164-SQN) and determined how these relate to BFN.

b. Reviewed site procedures to determine the requirements for scrapped material and if scrapped material is adequately controlled.

c. Interviewed ten personnel associated with material installation to determine if a material has been scrapped and later retrieved for installation (six maintenance or modifications supervisors and four craftsmen).

d. Determined by personal observation if adequate control is in place for scrap material.

3.1.7.4 BLN

a. Reviewed applicable reports (MC-40307) including the supplement for SQN and NSRS report I-86-164-SQN and determined how these related to BLN.

b. Reviewed site procedures to determine if scrapped material is adequately controlled.

c. Interviewed 11 DNC personnel associated with material installation to determine if material has been scrapped and later retrieved for installation (four electricians, three pipefitters, hanger engineering supervisor and group leader, welding engineering supervisor and instrumentation craft general foreman).

d. Determined by personal observation if scrap material is adequately controlled.

3.1.8 Westinghouse Material

a. Contacted QTC for additional information by written request.

b. Reviewed expurgated file for additional information.

c. Interviewed two DNC personnel knowledgable about the area of the perceived problem (one Quality Managers Office NCR reviewer and one receiving inspector).

d. Reviewed site procedures for receiving inspection in the subject timeframe.

e. Reviewed NCR log to identify NCRs written for this perceived problem in the subject timeframe.

f. Reviewed NCRs written that address the perceived problem.

3.1.9 Pipe

a. Contacted QTC for additional information by written request.

b. Reviewed expurgated file for additional information.

c. Interviewed eight WBN personnel knowledgable in the area of the perceived problem (two DNC Mechanical Engineering Unit personnel, the supervisor of the code data report unit, two craftsman, two general foremen and one modifications engineer).

d. Reviewed site procedures related to the perceived problem.

e. Reviewed ASME Code Section III 1971 through summer 1973 addendum.

f. Reviewed WBN Heat Code program to identify cases where 3/4-inch pipe and 1/2-inch pipe had the same heat number.

3.1.10 Beam

a. Contacted QTC for additional information by written request.

b. Reviewed expurgated file for additional information.

c. Reviewed DNC response on the subject concern and related documents.

d. Interviewed five WBN DNC personnel knowledgable about the area of the perceived problem. (The person that wrote the DNC response to this concern, two craftsmen, one member of the Civil Engineering Unit [responsible for material], and the Assistant Construction Engineer over hanger and civil engineering).

e. Reviewed NCR log for NCRs on this and similar problems.

3.2 Requirements or Criteria Established for Individual Issues

3.2.1 Valve Substitution

3.2.1.1 WBN

a. WBN-QCP-4.10-9 revision 7
b. WBN-QCI-1.13 revision 14
c. OC-QAP-3.1 revision 9
d. TVA piping drawings (47W series)
e. TVA flow diagrams (47W series)
f. TVA Bill of Materials drawing (47BM)
g. Title 10 of the Code of Federal Regulations Chapter I part 50 (10 CFR 50) Appendix B, Criterion II, III, V, VI, VII, VIII, and X.

3.2.1.2 SQN

a. SNP II Number 42
b. SQNP AI-11
c. Nuclear Quality Assurance Manual (NQAM), Part 3
d. Westinghouse E-Specification 677473
e. TVA piping drawings (47 series)
f. TVA flow diagrams (47W series)
g. 10 CFR 50 Appendix B, Criterion II, III, V, VI, VII, VIII, and X.

3.2.2 Valve Cracked (WBN and SQN)

a. 47W435 TVA drawings (piping)
b. 47W813 TVA drawings (flow diagrams)
c. American Society of Mechanical Engineers (ASME) Code for Nuclear Power Plant Components, Section III, Articles NB-2500 and NA-3300

3.2.3 Fittings (Heat Code M-157)

a. ASME Code 1971 through Summer of 1973 Addendum Section II Part A, SA-105

3.2.4 Fittings (Without NDE Reports)

a. ASME Code 1971 through Summer of 1973 Addendum Section III

3.2.5 Material From Uncertified Vendors

a. ASME Code 1971 through the Summer of 1973 addendum Section III

3.2.6 Cable

a. 10 CFR 50
b. WBNP QCP 3.1 revision 1 thru revision 13
c. TVA Topical Report TR-75-1A R/8
d. ANSI N45.2-1971
e. EN DES QAP 5.2 Revision 0 thru 4

3.2.7 Scrapped Material (WBN, SQN, BFN, and BLN)

a. 10 CFR 50 Appendix B, Criterion XIII

3.2.8 Westinghouse Material

a. WBNP-QCP 1.06, revisions 0 through 18
b. 10 CFR 50 Appendix B, Criterion VII

3.2.9 Pipe

a. WBNP-QCI-1.45 revision 5
b. WBN-QCP-4.13 FV&VM revision 7
c. ASME Code 1971 through Summer of 1973 Addendum Section III

3.2.10 Beam

a. WBN QCP 1.06 revision 18
b. TVA General Construction Specification G-29C

3.3 Justification of Evaluation Process

The process used in this evaluation resulted in gaining as much knowledge about the perceived problems as possible, finding factual evidence, and documented conditions during the timeframe of the concern and what presently exists. The items that still were not completely addressed after the above steps were taken were then examined by physical observation, a review of procedures, and/or interviews.

4.0 FINDINGS

4.1 Valve Substitution

4.1.1 Generic Applicability

The issue in the subject concern addressed in the evaluation was site specific to WBN. However, the GCTF evaluated this concern at SQN relative to the ONP program. The related issue was evaluated at SQN to determine the adequacy of the GCTF report and if this issue was valid during construction. Validation of the related concern was not established from the review, but work control procedures do not reference the procedure for material substitution.

4.1.2 Plant-Specific Applicability

4.1.2.1 WBN

a. The additional information obtained from QTC was that unit 2 system 15 (blowdown) was the area of concern.

b. A review of the expurgated file revealed that the information found in step a. was correct.

c. Reviewed WBNP-QCP-4.10-9 revision 7 and earlier revisions and found that at installation valve mark numbers were not verified by QC as being in accordance with the drawing. Valves were verified as meeting the requirements supplied by project engineering for identification.

d. It was concluded from the personnel interviewed that valve substitution was a common practice, and the documentation in some cases was not

completed. These substitutions were made by Project Engineering personnel based on a notation on the Bill of Materials drawing that specified the valve "or equal." It was learned by interviews with DNE personnel that "or equal" was used on these drawings for procurement purposes.

e. It was learned by the drawings and documentation reviewed that valves had been substituted. The mark number on the inspection record did not, in all cases, agree with the mark number shown on the piping drawing.

Conclusion:

This was found to be a Class D issue.

Valves have been substituted from what the drawing requires without appropriate documentation. This has resulted in inaccurate "as constructed" drawings, the probability of having valves installed without the proper documentation for the specific service, and the possibility that some valves may not be suitable for service at their installed location.

4.1.2.2 SQN

a. This was found to be a Class E issue.

It was determined by reviewing TVA SQN GCTF report EX-85-181-001, revision 1, and related documents that the findings, conclusions, and recommendations were adequate. SQN does have a program in place to control valve substitutions.

b. No additional investigations were found for the subject concern.

c. It was learned by the interviews conducted that all safety-related valves at SQN received a unique identifier and the program required a FCR to be written for valve substitution. (Note: FCRs result in drawing revisions.)

d. It was determined by reviewing the mechanisms used to control valve installation (inspection procedure, design drawings and valve index) that the program used prevented improper valve installation. This is based on the following:

   1. The valve inspection procedure (SNP Inspection Instruction Number 42) required verification that the valve installed was the correct valve (per the drawing).

   2. The valve identifiers on the piping drawings were similar to the identifiers on the WBN piping drawings. However, safety-related valves for SQN were supplied by Westinghouse Electric Corporation and Westinghouse E-Spec 677473 gives an explanation of valve indices used to identify valves. It was found, by reviewing this, that where valves were physically the same they were given the same Westinghouse identification number. This in itself would prevent the problems found at WBN from occurring at SQN.

e. It was determined, by reviewing 30 piping drawings, that when valves were substituted at SQN the substitution was documented. This is based on the fact that 6 of the drawings reviewed showed areas circled that indicated the drawing had been revised to change valve identifiers. There was no indication on the other 24 drawings reviewed that valves had been substituted.

f. It was found by reviewing construction valve installation inspection documentation for 200 valves that valves were not substituted without the required documentation during the construction phase of SQN. The valve inspection documentations used can be found in the case file.

Conclusion:

Based on the above the concern addressed in this element is not valid at SQN. However a CATD was issued for SQN since it was found that the work control procedures did not reference the procedure to be used for material substitution.

During the construction phase of SQN, the valve installation program maintained adequate control of valve substitution and the program currently used was found to be adequate.

4.2 Valve Cracked

4.2.1 Generic Applicability

The concern addressed by the evaluation of this issue was site-specific to WBN. During the evaluation it was found that one of the valves in question had been removed for repair and was now installed at SQN. The evaluation revealed that none of the valves in question were cracked or had laminations therefore this concern was not valid at other TVA nuclear plants.

4.2.2 Plant-Specific Applicability

4.2.2.1 WBN

a. QTC provided no additional information on the subject concern.

b. No additional information was obtained from the expurgated file for the subject concern.

c. It was determined by reviewing the DNE drawings that the subject valve was one of four valves based on the description and location stated in the subject concern.

d. It was found by personal observation that other 3-inch valves do not exist in the area described in the subject concern.

e. It was determined by reviewing the documentation on the valves identified in the steps above:

   1. All of the valves in question were TVA Class A (ASME Class 1) valves.

   2. The vendor furnished documentation for the valves in question was complete, adequate, and indications of cracks or laminations could not be found.

   3. Problems had been identified on 2 of these valves (PORVs) in the past. The valve seats were found to contain cracks. This resulted in all of valves supplied to TVA for this application at WBN and SQN being returned to the vendor for repair. When the subject valves were returned they were not installed in the original locations. This resulted in one of the original unit 1 WBN valves being installed in unit 2 at WBN and the other valve being installed at SQN. Since no timeframe could be identified for the subject concern, all of the valves that had been installed at the subject location and were still in service required examination. At WBN this required examination of five valves for cracks or laminations.

f. It was found, by the examinations conducted of the subject valves, that there were indications in the subject valves. These could be mistaken for cracks or laminations but further examination and evaluation revealed that these indications were surface scratches or marks left by the manufacturing process of these valves. It should be noted that Level II NDE inspectors performed the initial examination. The additional examinations involved four Level III NDE inspectors (one TVA DNC Level III NDE, one TVA DNE Level III NDE, one Level III NDE from the manufacturer of three of the subject valves, and one Level III NDE from a contract NDE company). The initial examinations were visual examinations and the additional examinations included visual exams, penetrant test and radiography. None of the Level III NDE personnel involved found evidence of a condition that would affect the safe operation of these valves or of a crack or lamination. (Reference memorandums B48 '860718 003 and B45 '860703275)

4.2.2.2 SQN

a. Based on a review of element report MC-40302 and the subject case file, it was concluded that Target Rock Valve serial number 1983-3 was the only valve at SQN that required examination for cracks or laminations.

b. Spare Valve serial number 1985-10 was visually examined for cracks or laminations and none were found. This valve was then placed in service replacing the subject valve (serial number 1983-3). The subject valve received a visual inspection by a Level II NDE inspector of the interior and exterior of the valve body, and no indication of cracks or laminations were found in the weld areas. However, there was an elliptical shaped indication on the interior surface of the outlet side of the valve body adjacent to the indicator tube. This was further evaluated by a Level III NDE inspector and determined not to be a crack, but the

specific nature of the indication and the valves suitability for service was not determined (Note: This valve is no longer installed). The indication identified occurred in the valves that were examined at WBN and were evaluated and found not to be detrimental to the valves safe operation. Work Requests (WRs) B-115224 and 115223 authorized this work and documented the inspections performed.

Conclusion

This was found to be a Class A issue at WBN and a Class E issue at SQN.

Based on the above and the information learned during the inspection of the other three Target Rock valves that were examined at WBN, the indications found in the subject valves were not in the weld area as stated in the concern, and these indications are inherent to the manufacturing process for these valves and not a crack or lamination. Therefore, the concern is not factual. Because of the restrictive criteria for inspection of these valves, the proper evaluation of the indication could not be performed at SQN. It is line management's responsibility to address this situation.

4.3 Fittings (Heat Code M-157)

4.3.1 Generic Applicability

The concern addressed in this issue was site-specific to WBN. Although this concern was found to be valid, the cause for this problem was found to be isolated human error. Therefore, there is no reason to believe that this problem exists at other TVA nuclear plants.

4.3.2 Plant-Specific Applicability

4.3.2.1 WBN

a. QTC provided no additional information on the perceived problem.

b. No pertinent information was obtained by reviewing the expurgated file.

c. The findings of NSRS report I-85-164-WBN, showed that a retest had been performed prior to the concern being expressed and the material was acceptable. This report however, did not address the mechanism used to document the retest.

d. It was determined by the interviews conducted that the retest of this material was not properly documented.

e. A review of the documentation for the subject Heat Code revealed that the documentation was incomplete. There was no indication in this documentation that a retest had been performed. Additional documentation review revealed that CMTRs are reviewed for acceptability and the fact that this heat code did not have the required tensile strength on the CMTR was caused by isolated human error. These CMTRs were reviewed by a TVA engineer and an Authorized Nuclear Inspector.

Conclusion:

<u>This was found to be a Class D issue</u>.

This concern was factual and a problem. The tensile strength on the CMTR was below the minimum and the retest performed had not been properly documented. This needs to be addressed by line management.

4.4 <u>Fittings (Without NDE Reports)</u>

4.4.1 Generic Applicability

The concern addressed in this issue was site-specific to WBN and during this evaluation there was no indication that this problem exist at other TVA nuclear plants.

4.4.2 Plant-Specific Applicability

4.4.2.1 WBN

a. No additional information was provided by QTC.

b. No pertinent information was obtained by reviewing the expurgated file.

c. It was determined, from the interviews conducted, that NDE test reports were not always stored with the material certification documentation. However, the ASME code of record for WBN (1971 through summer of 1973 addendum) and the contracts this material was purchased by do not require the NDE test reports to be included with the material certification documentation.

d. It was concluded from the review of the ASME code that it is not a requirement for the NDE reports to be part of the material certification documentation for the subject material.

e. Reviewed the printout of Class 1, 1-1/2-inch or 2-inch 90-degree elbows and the documentation for 18 for these heat numbers. It was found that all of these heat numbers met the requirements of the ASME code of record for WBN and the purchasing contracts. The CMTRs contained one of the following:

1. NDE Reports.

2. A statement that the material meets ASME Section III, Class 1 requirements.

3. A TVA NDE report for upgraded material.

Conclusion:

<u>This was found to be a Class B issue</u>.

This concern is factual but not a problem. NDE reports are not available onsite for all the subject material; however, this is not a requirement of TVA Specification 1521 or Article NB-2000 of the ASME code of record for WBN.

4.5 Material From Uncertified Vendors

4.5.1 Generic Applicability

The concern addressed in this issue was site-specific to WBN and was found to be valid, but not substantiated.

4.5.2 Plant-Specific Applicability

4.5.2.1 WBN

a. The information provided by QTC related that the reference on the concern to System 32 was a mistake, the concerned individual had been contacted; and System 15 (Steam Generator Blowdown) was the only system of concern.

b. No pertinent information was obtained by reviewing the expurgated file.

c. The review of ERT Investigation Report IN-85-086-001 and related documents revealed the following:

The perceived problem as stated on the concern did exist at WBN; however, NRC IE bulletin 83-06 which resulted in NCR GEN MEB 8301 being generated March 23, 1983, to identify this problem and determine the required corrective action. As a result of this NCR, it was determined that this material installed in a high pressure system (design pressure greater than 150 lb/in^2) which was safety-related and could not be isolated from other portions of the system was to be replaced.

Tests were performed for both physical and chemical properties. The results of these tests (Appendix A of NCR GEN MEB 8301) showed that most of the fittings were acceptable and did comply at least with ASTM specifications in a manner which would allow them to be certified to ASTM criteria.

Material installed in a nonsafety, low pressure (150 lb/in^2), design pressure or less was allowed to remain installed. The remaining material not installed was returned to the vendor. DNC generated site NCRs to assure all of the above was accomplished.

d. It was learned by the interviews conducted that this problem received high visibility, was controlled and documented.

Conclusion:

<u>This was found to be a Class B issue</u>.

This concern was factual but not a problem. This problem had been identified and corrected prior to the concern being issued. The material installed in the Steam Generator Blowdown System is acceptable either by initial purchase or by the disposition of NCR GEN MEB 8301. It should be noted the Material Control Subcategory 40200 addresses the aspects of this concern related to purchasing.

4.6 <u>Cable</u>

4.6.1 Generic Applicability

The concern addressed in this issue was site-specific to WBN and was found to be factual but not a problem; therefore, there is no reason to believe this is a problem at other TVA nuclear plants.

4.6.2 Plant-Specific Applicability

4.6.2.1 WBN

a. QTC provided the name of the one of the individuals involved in the release of this cable.

b. The information obtained by reviewing the expurgated file was that verbal orders were followed for the release of the subject cable and this was an isolated case.

c. It was found by a review of documentation requirements that complete documentary evidence that the material conforms to the procurement requirements is to be available prior to installation or use the material. (10 CFR 50 Appendix B criterion VII and ANSI N45.2-1971).

d. It was found by the interviews conducted that, in the subject timeframe (1979), cable was received onsite based on receiving a TVA I&T QC checklist and shipping release. The cable was placed in segregated storage and was not to be issued for use until notification that the "documentation is complete" was received onsite. In addition, this notification was also sent to the Electrical Engineering Branch (EEB) for review and approval.

e. It was found by reviewing the NCR log and the NCR's written for cable in the subject timeframe (1979), that one NCR had been written for cable being received without the I&T QC checklist and shipping release (NCR 1423). This NCR, however, did not indicate that the cable had been released for installation.

f. It was found, by reviewing five contracts for cable in the subject timeframe, that the I&T QC checklist and shipping release and the I&T notification that the "documentation is complete" had been received. In addition to this, an approval memo from EEB had been received.

g. A review of the applicable site procedures revealed that the I&T QC checklist and shipping release was required to have been received prior to the cable arriving on site or was to accompany the cable shippment. Cable was not to be released for installation prior to a favorable I&T certification status report being received. Warehouse personnel were responsible for segregating cable and construction Electrical Engineering Unit personnel were responsible for advising warehouse personnel of the cable class as well as assuring the proper documentation had been received.

Conclusion:

This was found to be a Class B issue.

Cable was released for installation without the vendor certification documentation being onsite. This however, was not a requirement. Cable was released for installation based on complete documentary evidence that it conforms to the procurement requirements. This evaluation was unable to identify any instances where cable was released without the required documentation.

4.7 Scrapped Material

4.7.1 Generic Applicability

This issue addresses seven concerns, six of these were site-specific to WBN and one was site-specific to SQN. The evaluation at WBN revealed that there was not an adequate program in place to control material. Based on the fact that many of the personnel at WBN responsible for the material program have been at other TVA nuclear plants this problem could exist at other sites and therefore was made generic to all TVA nuclear plants.

4.7.2 Plant-Specific Applicability

4.7.2.1 WBN

a. No pertinent information was obtained from QTC.

b. No pertinent information was obtained from the expurgated files for the subject concerns.

c. No governing site procedures were found for scrap material.

d. It was learned from the interviews conducted that hanger parts, structural steel, and piping components have been sent to the scrap yard by mistake, retrieved and installed without documenting that the material had been out of its required level of storage.

e. It was found that NSRS Report I-85-713-WBN and the DNC response did not address snubbers being scrapped.

f. It was found, by observation, that although the scrap yard is a fenced area, there is not a gate or any other means of controlling access to the scrap yard. Portions of the material in the scrap yard were in usable condition, and it was questionable if some of this material should have been scrapped.

Conclusions:

<u>This was found to be a Class D issue</u>.

There is a lack of control of material sent to the scrap yard and no mechanism in place to prevent this material from being used in the plant. This could result in material being installed in the plant that had not been stored in accordance with the requirements of the ANSI N45.2.2-1972.

4.7.2.2 SQN

a. Reviewed the expurgated files and found they did not provide any additional information.

b. The only investigations found to have been conducted for the subject concerns were NSRS Report I-86-164-SQN and WBN ECTG Element Report MC-40307 which had been previously identified.

1. A review of Element Report MC-40307 revealed that site procedures at WBN did not address scrap material and access to scrap material was not controlled. This resulted in material being scrapped (not in its required storage environment) by mistake and then being retrieved and installed.

2. It was determined by reviewing NSRS report number T-86-164-SQN that the report adequately addressed the specific concern and there were no findings or recommendations. However, the overall program for the control of scrap material is not addressed.

c. A review of site procedures and upper-tier requirements revealed that:

1. During the construction phase of SQN there were no procedures that directly addressed scrap material. However, SQN Construction Procedure P-11 addressed stock piling material and this would require excess or leftover material to be properly handled at the completion of a work process.

2. There are currently procedures in place addressing scrap material. SQA-45 R/21 "Quality Control of Material and Parts and Services," Section 13.1 requires QA Level I, II, or III materials leftover or recovered in connection with maintenance, operation, or retirement of property shall be returned for credit or scrapped. However, SQA-148 R/0 "Saleable Scrap," Section 2.0, states "It is common place practice to retrieve from scrap metal piles materials which may be needed for use in plant maintenance work." This could result in material that was scrapped being used in plant installations based on the fact that traceability of material was maintained after it had been scrapped.

3. 10 CFR 50, Appendix B, Criterion XIII, requires measures to be established to control the storage of material and equipment to prevent damage or deterioration.

d. From the interviews it was found that:

1. During the construction phase of SQN, material was on occasion scrapped, its traceability maintained, and therefore retrieved for installation at a later time. However, no specific items could be identified.

2. Currently, material leftover or retired from repair or maintenance operations is on occasion kept for possible future use on non-Quality Assurance (QA), non-Critical Structure System or Component (CSSC) work. This practice occurs because it is difficult to return these items to Power Stores.

e. It was determined by personal observation that material placed in the Power Stores scrap yard could not be retrieved for future use without making Engineering aware of the need for the material. This is based on the fact it is placed in a fenced and locked area, and access is controlled by the Power Stores Supervisor. However, material leftover or retired from maintenance and modification operations in some cases is not returned to Power Stores for credit nor put in the Power Stores scrap yard. Some of this material is placed in in-house storage areas for possible future use. These storage areas are not controlled, the material is not identified as being acceptable for non-QA use only, and the storage conditions for some of this QA material is questionable.

Conclusions:

<u>This was found to be a Class E issue</u>.

Specific items were not identified as having been scrapped and retrieved from the scrap yard for installation at SQN. The program controlling material however, needs to be strengthened.

Conditions that would affect the safe operation of the plant have not been identified to date. Therefore, the perceived problem could not be validated.

4.7.2.3 BFN

a. It was determined, by reviewing the ECTG evaluation for WBN and SQN related to this issue, that the problems identified, have been created by the fact that there was not adequate control of material during and at the completion of the work process.

b. It was found by reviewing site procedures that scrap material is not addressed by the procedures governing the work process.

c. It was learned by the interviews conducted that leftover and/or retired material was not scrapped often and the disposition of leftover material is in most cases decided by the craftsmen.

d. It was found by personal observation that material to be scrapped was placed in collection areas (dumpsters) until there was sufficient quantity to justify sending this material to the Power Stores scrap yard. Access to those dumpsters is not controlled and some material found in the dumpsters had maintained its traceability (i.e. code valves still had identification plates).

Conclusions:

<u>This was found to be a Class E issue</u>.

During the evaluation, no items specific were identified as having been scrapped and retrieved from the scrap yard for installation. Therefore, the perceived problem could not be validated. A condition that would affect the safe operation of the plant has not been identified to date. However, a program controlling scrap (excess) material needs to be implemented.

4.7.2.4 BLN

a. It was determined by reviewing previous ECTG evaluations on this issue that the problems identified at other TVA nuclear plants were a result of inadequate procedures addressing this issue/element.

b. A review of site procedures revealed that a procedure for leftover material being returned to the warehouse exist (BNP-QCP-10.12). Preventing reuse of scrap material is not addressed in this procedure, or in any other site procedure.

c. It was learned by the interviews conducted that scrapping material was controlled by the craft and that material that was potentially reusable was not scrapped but kept for possible reuse.

d. It was determined by personal observation that material that was scrapped was unusable and that many items leftover from past work and retired items were often kept by the craft, in material staging areas.

Conclusions:

This was found to be a Class E issue.

During the evaluation, no items were identified as having been scrapped and retrieved from the scrap yard for installation. Therefore, the perceived problem could not be validated.

Conditions that would affect the safe operation of the plant have not been identified to date. However, a program controlling scrap material needs to be implemented.

4.8 Westinghouse Material

4.8.1 Generic Applicability

The concern addressed in this element was site specific to WBN and the evaluation revealed that this concern was not factual, therefore, this issue is not generic to other TVA nuclear plants.

4.8.2 Plant-Specific Applicability

4.8.2.1 WBN

a. No additional information was obtained from QTC.

b. No pertinent information was obtained by reviewing the expurgated file.

c. It was concluded from the interviews conducted that Westinghouse material was delivered to WBN without the required documents in the timeframe (prior to June 1982) involved; however, the construction engineers responsible for the delivered material identified these problems and generated Nonconforming Conditions Reports (NCRs) to identify and correct these problems.

d. It was determined by reviewing WBN-QCP-1.06 R/0 effective June 17, 1975 through R/9 effective April 19, 1982, that QA Westinghouse material received without the required documentation was to be nonconformed.

e. It was determined from the review of the NCR log that Westinghouse material received without the required documents in the subject timeframe was properly nonconformed (78 NCRs before 1982) and the closure of these NCRs requires these documents.

Conclusions:

<u>This was found to be a Class A issue</u>.

Based on the above, Westinghouse material was delivered to WBN without the required documents; however, this material was identified, NCRs written and the condition was corrected. Therefore, this concern is not factual. No specific case was identified where documentation was not verified to have been eventually received.

4.9 Pipe

4.9.1 Generic Applicability

The concern addressed in this issue was site specific to WBN and the results of the evaluation showed that this concern is factual, but not a problem, and is not generic to other TVA nuclear plants.

4.9.2 Plant-Specific Applicability

4.9.2.1 WBN

a. No additional information was obtained from QTC.

b. The information obtained by reviewing the expurgated file was that the subject heat code was not in the printout for 3/4-inch pipe.

c. It was determined from the interviews conducted that 3/4-inch and 1/2-inch pipe having the same heat number did not constitute a problem. Piping installed on a safety-related system would have the heat number verified when weld fitup inspection was performed and this was reviewed prior to preparation of the code data report by the N5 group. Based on the location of the storage rack, this is related to the construction department. No specific location, system, timeframe or event was identified.

d. Based on a review of site procedures, there is a program in place to assure that safety-related pipe is installed with heat numbers that meet code requirements. The adequacy of this program is addressed in Material Control Subcategory Procedural Control (MC-40700).

e. No requirements were found in the ASME code that would prevent 3/4-inch pipe and 1/2-inch pipe from having the same heat number.

f. A review of the WBN Heat Code Program identified 45 heat codes that were the same for 1/2-inch and 3/4-inch pipe.

Conclusions:

This was found to be a Class B issue.

Based on the above, the fact that 3/4-inch pipe and 1/2-inch pipe have the same heat number is not a problem. Therefore, this concern is factual but not a problem. This occurs because both sizes of pipe were manufactured from the same bulk material with a singular heat number. This does not violate any site procedures or upper tier requirements. The statement in the concern that a 12 foot length was partially installed before the problem was discovered indicates that the program being used was working.

4.10 Beam

4.10.1 Generic Applicability

The concern addressed in this element was site-specific to WBN and was found to be factual, but not a problem; therefore, it is not generic to other TVA nuclear plants.

4.10.2 Plant-Specific Applicability

4.10.2.1 WBN

a. No additional information was obtained from QTC.

b. No pertinent information was obtained by reviewing the expurgated file.

c. It was determined by reviewing the DNC response and related documents that they adequately address this problem. NCR 5942 was written (February 2, 1985) in the timeframe involved and addresses laminated W6 x 20 wide flange. The disposition of this NCR allowed all of this material (same heat number) other than the 40-foot section identified during fabrication to be used.

d. It was found in the interviews conducted that:

1. QTC had provided additional information to the DNC person investigating this problem. According to this individual, the CI was providing second hand information and the date of occurrence was approximately April 1985.

2. A problem was encountered with some 6-inch wide flange beam in the hanger shop in the timeframe of this problem. Project Engineering was notified and the section found to have laminations during fabrication was destroyed.

3. The only laminated beam that could be identified in the timeframe involved was the W6 x 20 found in the hanger shop in February 1985, and addressed on NCR 5942 dated February 2, 1985. The disposition of this NCR required that only the piece the lamination was discovered in, be destroyed.

e. It was found by a review of the NCR logs (for the entire construction phase) that other material had been identified with similar problems during construction of WBN and NCRs were written for these.

Conclusion:

<u>This was found to be a Class B issue</u>.

This concern was found to be factual but not a problem. The problem with the laminated beam concern has been adequately addressed and the required corrective action taken. Past practice at WBN has been to address problems similar to this in the same manner. Based on the information available at the time of this report, this is not a problem. NCRs have been initiated for this condition and the disposition has been "use-as-is" except for the specific laminated piece. It should be noted that control of laminations is addressed in Material Control Subcategory MC-40600 "Quality of Material."

This evaluation found that procedures were in place to ensure that structural steel received which did not meet contractural requirements was identified and properly dispositioned by NCRs. Procurement documents were originated by design engineers who took into account the fact that certain defects were allowable according to the applicable industry standards.

5.0 COLLECTIVE SIGNIFICANCE

5.1 Significance of Each Issue

5.1.1 Valve Substitution

This concern was found to be factual and a problem at WBN, but not at SQN. The problem at WBN unit 2 has been addressed by NCR 6773. Since the same procedure was used for WBN unit 1, the accuracy of documentation, as well as suitability for service for the safety-related valves is questionable.

5.1.2 Valve Cracked

Based on the fact that this issue was found not to be factual, and that several Level III NDE specialists from separate organizations and independent of one another concurred on this finding, this is not a problem. It appears this concern was generated because someone involved in the installation, repair or maintenance of these valves observed one of the indications that is present in these valves and was unable to determine the significance of the indications.

5.1.3 Fittings (Heat Code M-157)

Although this is a factual issue, it was revealed that the root cause was isolated human error. Therefore, this is not a significant issue.

5.1.4 Fittings (Without NDE Reports)

This issue was found to be factual, but not a problem, by the evaluation conducted. Therefore, this issue has no significance. It appears that the concern this issue addresses was generated because the individuals involved in the work process are not aware of upper tier requirements and how they were implemented in the past.

5.1.5 Material From Uncertified Vendors

Although the evaluation of this issue revealed that this did occur at WBN, the program implemented by TVA had previously identified this problem and adequate corrective action had been taken. Therefore, there is no significance to this issue. It appears that the concern this issue addresses was generated because the individuals involved in the work processes are not aware of upper-tier requirements and how they were implemented in the past.

5.1.6 Cable

This issue was found to be factual but not a problem by the evaluation conducted; therefore, no significance can be assigned. It appears that the concern this issue addressed was generated because individuals involved in the work process are not aware of upper-tier requirements and how they are implemented.

5.1.7 Scrapped Material

This issue was addressed at all TVA nuclear plants. At WBN, cases were identified were material was scrapped and retrieved for use in permanent plant features. No instances of this occurring were identified at other TVA nuclear plants. However, it was evident by the evaluations conducted that leftover, retired and excess material was not adequately controlled at all TVA nuclear plants.

Despite the fact that specific cases were not identified where scrapped material was used in QA applications, the program in place is inadequate. TVA has no written or definitive program criteria in place to establish a method of determining how to address material that is leftover or retired at the end of the work process. This has resulted in each plant developing their own method of addressing leftover and retired material. The term scrap has not been clearly defined and is used differently at some plants.

This lack of program criteria has resulted in inadequate control of leftover and retired material at the conclusion of the work process. (When material is scrapped, it is not required to be unusable; and efforts to save this material for possible future use has resulted in many of the storage problems identified by the "Material Control" Subcategory

"Storage and Handling" [40400], as well as the side issue identified at BLN by the construction subcategory "Hangers and Supports" [11100].)

It should be noted that the problem identified at WBN was that usable material was being put in the scrap pile by mistake and then retrieved for use. This happened to a limited number of items and procedures were in place to prevent unqualified material from being used.

5.1.8 Westinghouse Material

The concern addressed by this issue was found not to be factual. Therefore, this issue has no significance. It appears that the concern this issue addresses was generated because the individuals involved in the work process are not aware of upper-tier requirements and how they were implemented in the past.

5.1.9 Pipe

This issue was found to be factual, but not a problem. It appears that the concern this issue addresses was generated because the individuals involved in the work process are not aware of upper-tier requirements.

5.1.10 Beam

This issue was found to be factual but not a problem by the evaluation conducted. Therefore, this issue has no significance. It appears that the concern this issue addresses was generated because the individuals involved in the work processes are not aware of upper-tier requirements and how they are implemented.

5.2 Collective Significance of the Subcategory

5.2.1 Management Effectiveness

This subcategory addresses ten issues, of which three were factual and represent a problem. Two of the problems identified could be attributed to a lack of effective

management. The findings for the scrap material issue indicate that management failed to implement programs to control leftover, excess and retired material at the conclusion of the work process as well as preventing the inadvertent scrapping of material during housecleanings. The findings for the valve substitution issue indicate that DNE and DNC management failed to establish a good line of communication. This resulted in a failure to establish a valve program that would maintain the design baseline, meet commitments and requirements for WBN, and provide DNC with a workable program.

In addition to the above, management's failure to make employees aware of commitments and requirements caused several of the concerns addressed by this report to be generated. If employees had been made aware of commitments and requirements, the valve substitution problem might not have occured. It should be noted that management effectiveness was impacted by the fact that requirements and commitments changed at each TVA nuclear plant, and that decisions based on experiences at other plants were not always appropriate.

5.2.2 Employee Effectiveness

The findings for this subcategory indicate that employees were effective in that procedures were adhered to and that an effort was made to prevent wastefulness. It was apparent however, that while procedures were followed, there was a lack of knowledge and understanding of programs, requirements, and commitments. This can be attributed to inadequate training caused by a lack of management awareness.

5.2.3 Technical Adequacy

The subcategory findings in this report do point out areas in which technical effectiveness is suspect. Unauthorized valve substitution at WBN has resulted in the design baseline for valves to be questionable, as well as the suitability for service to be indeterminate for these valves. The practice of scrapping material and retrieving it from the scrap yard for use has resulted in the suitability for service for this material to be questionable at WBN. Overall, the technical adequacy for the issues addressed by this subcategory was found to be acceptable.

6.0 CAUSE

6.1 Valve Substitution (Issue 1.2.1)

The inspection procedure (WBN-QCP-4.10.9) used for verifying that the correct valve was installed did not require verification by QC to the design requirements. This procedure required verification that the valve installed was the valve specified by the DNC engineer. This indicates that the review of this procedure was inadequate. In addition to the above, the procurement practices used by DNE were found to be very restrictive. This resulted in valves that were physically identical to have unique identification and the Bill of Materials drawings specified the valve but contained a notation "or equal." The "or equal" notation was required for procurement, but DNC interpreted this as allowing construction to substitute valves, which precipitated valve substitution. All of the problems identified above can be attributed to a failure by DNE and DNC management to effectively communicate. Effective communication would have resulted in procedures and a valve identification program that would meet the commitments and requirements but allow construction as much flexibility as possible with the correct interpretation of "or equal" on the Bill of Materials drawing.

6.2 Valve Cracked (Side Issue)

The problem identified as a side issue at SQN (see 4.2.2.2) was caused by a failure to implement criteria for determining the acceptability of the subject valve. It should be noted that these valves do not normally receive this type of examination.

6.3 Fittings (Heat Code M-157) (Issue 1.2.3)

The evaluation determined that there was and is a program in place for verification of CMTRs. A review of the other heat numbers on the involved CMTRs found no additional errors. A review of NCRs found 5 in 500 to be for similar problems. The result of these findings indicate that problems similar to this are being identified and corrected, and this specific problem was caused by isolated human error.

6.4 Scrapped Material (Issue 1.2.7)

Failure by TVA to implement a program that would control leftover, excess or retired material so as to prevent material from being retrieved from scrap for use in the plant and a failure at WBN to have a material control program in place to prevent usable material from being scrapped and material in the scrap pile from being removed for use.

7.0 CORRECTIVE ACTION

7.1 Corrective Action Already Taken or Planned

7.1.1 Plant-Specific

7.1.1.1 Valve Substitution (Issue 1.2.1)

7.1.1.1.1 WBN

Unit 1

SCR number WBN WBP 8725 has been initiated to document this problem and control corrective action. Corrective action will require a review of unit 1 safety-related valves to ensure that the installed valves satisfy applicable design requirements and are adequately reflected in the associated design and as-constructed documents. DNE will provide requirements to verify actual valve installation in order to determine what valves have been replaced or substituted, to verify if the design baseline has been affected, and to verify if documentation adequately reflects the as-constructed condition.

Appropriate corrective action will be taken to resolve all problems identified. DNE to provide requirements to be implemented in appropriate DNE, DNC, and Maintenance procedures to effectively control and verify valve replacements and substitutions to maintain the design baseline. DNE, DNC, and Maintenance will issue the subject procedures and conduct appropriate personnel training to implement this program. CATD 40300-WBN-01

Unit 2

The corrective action for this CATD (40300-WBN-02) will be the completion of corrective action and closure of NCR 6773 R3 (includes Attachment A).

Correction Method:

1. Perform a documentation review of all unit 2 valves, within the scope of the WBN quality assurance program, that have been documented as installed and accepted to verify the valve mark number listed by design drawings. Part of this review is to be performed as part of the interface walkdown program that is in progress. Any additional discrepancies found will be added to Attachment A after completion of the walkdown program.

2. List on Attachment A all valve mark numbers verified by inspection that are not as specified by design drawings.

3. DNE evaluate the valves listed on Attachment A and determine if they are acceptable.

4. WBN replace any valve found to be unacceptable by DNE.

5. WBN revise QCP 4.10-9 to require verification of correct valve according to design drawing.

6. Perform a supplemental valve inspection, for valves listed on Attachment A, according to revised QCP 4.10-9 to verify correct valve installed. CATD 40300-WBN-02

7.1.1.1.2 SQN

THIS ITEM COMPLETED DATE 1/13/88

Since cross-referencing every procedure used during the work process would be confusing and would not ensure any better compliance with requirements no procedure revision is required. CATD 40301-SQN-01

7.1.1.2 Valve Cracked (Issue 1.2.2)

7.1.1.2.1 SQN

THIS ITEM COMPLETED DATE 5/4/87

Certification by memorandum attesting to the acceptability of the subject valve to be obtained from the vendor. CATD 40302-SQN-01

7.1.1.3 Fittings (Heat M-157) (Issue 1.2.3)

7.1.1.3.1 WBN

DNC has initiated NCR 6771 to identify and correct this problem. CATD 40300-WBN-03

7.1.1.4 Scrapped Material (Issue 1.2.7)

7.1.1.4.1 WBN

DNC has initiated NCRs 6837 and 6839 to identify this problem for WBN unit 2 and closure of this NCR will resolve past problems.

7.1.2 Generic

None

7.2 Corrective Action Required As A Result of This Evaluation

7.2.1 Plant-Specific

7.2.1.1 Valve Substitution (Issue 1.2.1)

7.2.1.1.1 WBN (unit 1)

SCR number WBN WBP 8725 has been initiated to document this problem and

control corrective action. Corrective action will require a review of unit 1 safety-related valves to ensure that the installed valves satisfy applicable design requirements and are adequately reflected in the associated design and as-constructed documents. DNE will provide reqirements to verify actual valve installation in order to determine what valves have been replaced or substituted, to verify if the design baseline has been affected, and to verify if documentation adequately reflects the as-constructed condition. Appropriate corrective action will be taken to resolve all problems identified. DNE to provide requirements to be implemented in appropriate DNE, DNC, and Maintenance procedures to effectively control and verify valve replacements and substitutions to maintain the design baseline. DNE, DNC, and Maintenance will issue the subject procedures and conduct appropriate personnel training to implement this program. CATD 40300-WBN-01

7.2.1.1.2 WBN (unit 2)

The corrective action for this CATD (40300-WBN 02) will be the completion of corrective action & closure of NCR 6773 R3 (includes Attachment A of NRC) |R3

Correction Method:

1. Perform a documentation review of all unit 2 valves, within the scope of the WBN quality assurance program, that have been documented as installed and accepted to verify the valve mark number listed by design drawings. Part of this review is to be performed as part of the interface walkdown program that is in progress. Any additional discrepancies found will be added to Attachment A after completion of the walkdown program.

2. List, on Attachment A, all valve mark numbers verified by inspection that are not as specified by design drawings.

3. DNE evaluate the valves listed on Attachment A and determine if they are acceptable.

4. WBN replace any valve found to be unacceptable by DNE.

5. WBN revise QCP 4.10-9 to require verification of correct valve per design drawing.

6. Perform a supplemental valve inspection, for valves listed on Attachment A, per revised QCP 4.10-9 to verify correct valve installed. CATD 40300-WBN-02

7.2.1.1.3 SQN

THIS ITEM COMPLETED
DATE 5-13-88

Since Class-determining every procedure used during the weld process would be confusing and would not ensure any better compliance with requirements no procedure revision is required. CATD 40301-SQN-01 revision 0

7.2.1.2 Valve Cracked (Issue 1.2.2)

7.2.1.2.1 SQN

THIS ITEM COMPLETED
DATE 5-4-88

Certification by memorandum attesting to the acceptability of the subject valve to be obtained from the vendor. CATD 40302-SQN-01

7.2.1.3 Fittings (Heat Code M-157) (Issue 1.2.3)

7.2.1.3.1 WBN

The corrective action to this concern is the dispostion of NCR 6771 R0 which states "Obtain corrected CMTR from Capitol Manufacturing Co." Although the

manufacturer sent a copy of actual analysis report instead of a revised CMTR to show the actual tensile strength of the material, the analysis report is the actual documentation of the material analysis and not the copied manufacturers report. On this basis, the report dated February 4, 1987, showing the tensile strength as 79,700 psi should be used since the NCR was closed on this basis.

The revised CMTRs (analysis report) have been placed in the vault with all the referenced NCRs. CATD 40300-WBN-03

7.2.1.4 Scrapped Material (Issue 1.2.7)

7.2.1.4.1 WBN (unit 1)

Two NCRs were written to address this issue for WBN unit 2. These NCRs were upgraded to significant and SCRs 6837-S and 6839-S are noted as having generic implications. Correction action for these SCRs will include WBN unit 1 items.

The programmatic problems identified; relate to the Construction program and are not applicable to the current unit 1 program. In addition to this, a directive was issued from the Manager of Nuclear Power that requires each site to implement programs to control material. The program currently in place requires that the source of obtaining materials be stated in the workplan. This places positive control on material to prevent the inadvertent scrapping of usable material and requires a CAQR for material that is inadvertently scrapped. (See AI-8.8 and AI-2.8.5). CATD 40300-WBN-06

7.2.1.4.2 WBN (unit 2)

Control of QA material from entering, and/or leaving the scrap yard will be accomplished with WBN-QCI-1.60 R1, (Work Control); WBN-SOP-32 R3, (Administrative Control of Unit 2 Material) and the closure of SCR 6839-S R0.

1. The Work Control, and the Standard Operating Procedures closely control the issuance, and the return of material to, and/or from the warehouse.

2. QCI-1.60 was a major improvement, not only in the retrieval of material, but in controlling the installation of it. It is now being revised, and the revision will further strengthen our ability to control work in the future.

3. SOP-32 has recently been revised implementing a section 6.7 on returning material to the warehouse. This will control material of completed workplans, and workplans that have been suspended for an indefinite period of time, strengthening management's ability to control material that in the past would have been left in the Powerhouse. This in the past, through indiscriminate building cleanups, resulted in QA material being placed in the scrap yard.

4. Part of the correction method for SCR 6839-S R0 addresses the method of retrieving QA material that still, in one way or another, might have been placed in the scrap yard. This material could then only be retrieved with a CAQR, in accordance with, CEP 1.02 R0 (Corrective Action) this strengthens our assurance that if this

material is installed in a safety system that it is acceptable material.

5. The closure of NCRs 6837 and 6839 will resolve the implications this has on past installations.

7.2.1.4.3 SQN

SQN site procedures SQM-1, SQM-2 and SQA-148 will be revised to define the requirements and responsibilities to control the use of scrap, cannibalized, and left-over material with respect to traceability and storage requirements.

CATD 40307-SQN-01

7.2.2 Generic

7.2.2.1 Scrapped Material (Issue 1.2.7)

ONP Standard 1.2.28, "Saleable Scrap - Identification, Segregation, Storage, Control, and Sale," which will supersede the present procedure, DPM N72A14, section II, part II, "Saleable Scrap - Sale, Grading, Segregating, Storage, and Control," will be written to define the requirements and responsibilities for the control of scrapped material at all TVA nuclear facilities. The standard will regulate the handling of scrap or retired material from the work area through the removal from the site. CATD 40300-NPS-01

8.0 ATTACHMENTS

Attachment A List of Concerns By Issue Indicating Safety Relationship and Generic Applicability

Attachment B Summary of Issues and Problem Identified

Attachment C List of Concerns by Issue

ATTACHMENT A

LIST OF CONCERNS INDICATING SAFETY RELATIONSHIP AND GENERIC APPLICABILITY — Page 1 of 6
CATEGORY: HC ADEQUACY OF MATERIAL SUBCATEGORY: 40300 INSTALLATION (USE) — Revision 3

CONCERN NUMBER	CAT	SUB CAT	PLT LOC	GENERIC APPL B F	B L	S Q	W B	QTC/NSRS INVESTIGATION REPORT	P* S R	CONCERN DESCRIPTION	REFERENCE SECTION # CATEGORY - HC SUBCATEGORY - 40300
:X-85-181-001 T50225	HC HC HC	402 403 405	WBN	N	Y	Y	Y	FOR SUBCATEGORY 40300 THIS CONCERN WAS GENERIC TO WBN AND SQN ONLY. SUBCATEGORY 40300 ADDRESSES ONLY THE PORTION OF THE CONCERNED THAT IS UNDERLINED. REPORT	SR	ON VALVE INSPECTIONS (TEST 70), QC VERIFIES THE PROPER VALVE BY THE MARK NUMBER TAG WHICH IS INSTALLED BY THE WAREHOUSE OR VENDOR AND IS OFTEN JUST A PAPER OR METAL TAG WHICH CAN BE REMOVED OR REPLACED BY ANYONE. IF THE VALVE HAS BEEN SUBSTITUTED FROM WHAT THE DRAWING LISTS, THE BILL OF MATERIALS DOES NOT PROPERLY REFLECT THE CHANGE. NO PAPERWORK IS PROVIDED TO WATTS BAR ENGINEERING TO DOCUMENT THAT IT IS AN ACCEPTABLE REPLACEMENT. MANY SUBSTITUTES HAVE COME IN FROM HARTSVILLE, PHIPPS BEND, YELLOW CREEK AND ARE A DIFFERENT TYPE THAN WHAT THE DRAWING CALLS FOR. CHECK UNIT 2, STEAM GENERATOR BLOWDOWN SYSTEM AS AN EXAMPLE. CONSTRUCTION DEPT CONCERN. CI HAS NO ADDITIONAL INFORMATION.	1.2.1, 2.3.1, 2.5.1, 2.6.1, 3.1.1, 3.2.1, 4.1, 5.1.1, 6.1, 7.1.1.1, and 7.2.1.1
IN-85-012-X02 T50039	HC	403	WBN	N	N	N	N	REPORT	I-85-164-WBN	SR	THE TENSILE STRENGTH OF 105 SMALL FITTINGS, WITH HEAT CODE #M157, DOES NOT MEET ASME SECTION II MATERIAL SPECIFICATION REQUIREMENTS. THESE FITTINGS WERE INSTALLED IN SYSTEM 70 IN UNIT #1 WHICH IS AN ASME CODE CLASS 2 SYSTEM. THESE FITTINGS (WITH HEAT CODE #M157) HAVE A TENSILE STRENGTH REPORTED ON CMTR THAT ARE FAR BELOW MINIMUM TENSILE STRENGTH REQUIREMENTS OF THE MATERIAL SPECIFICATION THEY WERE MANUFACTURED TO. NO NOTATION HAS BEEN MADE IN THE MATERIAL HEAT NUMBER/CODE LOG TO REFLECT THE TENSILE STRENGTH PROBLEM.	1.2.3, 2.3.3, 2.5.3, 2.6.3, 3.1.3, 3.2.3, 4.3, 5.1.3, 6.3, and 7.1.1.3

CONCERN NUMBER	CAT	SUB CAT	PLT LOC	GENERIC APPL B B S W F L Q B	QTC/NSRS INVESTIGATION REPORT	P* S R	CONCERN DESCRIPTION	REFERENCE SECTION # CATEGORY - MC SUBCATEGORY - 40300
N-85-086-001 T50001	MC MC	402 403	WBN	N N N N REPORT	IN-85-086-001 Sucategory 40300 addresses only the portion of concern that is underlined. The portion of this concern dealing with falsification will be addressed by "The Office of the Inspector General."	SR	STEAM GENERATOR BLOWDOWN MATERIALS PURCHASED FROM UNCERTIFIED VENDOR. OCCURRED SUMMER 1983. CONCERNED IF ALL NONCODE MATERIAL WAS REMOVED. ALSO CONCERNED WITH VENDOR FALSIFICATION OF CMTV OR CERTIFICATE OF CONFORMANCE "SYSTEM 32."	1.2.5, 2.3.5, 3.1.5, 3.2.5, 4.5 and 5.1.5
N-85-170-001 T50155	MC	403	WBN	N N N N REPORT	I-85-597-WBN	SR	CRAFT SUPERINTENDENT (NAME KNOWN) DIRECTED THE RELEASE OF ELECTRICAL CABLE FROM WAREHOUSE SEGRAGATION HOLD AREA PRIOR TO RECEIPT AND APPROVAL OF VENDOR CERTIFICATION DOCUMENTATION. THIS OCCURRED IN 1979. CONSTR DEPT CONCERN. ADDITIONAL INFORMAITON IN FILE, WITHHELD DUE TO CONFIDENTIALITY. NO FOLLOWUP REQUIRED.	1.2.6, 2.3.6, 2.5.5, 2.6.4, 3.1.6, 3.2.6, 4.6, 5.1.6,, 6.4, and 7.1.1.4

CONCERN NUMBER	CAT	SUB CAT	PLT LOC	GENERIC APPL B F	B L	S Q	W B	QTC/NSRS INVESTIGATION REPORT	P* S R	CONCERN DESCRIPTION	REFERENCE SECTION # CATEGORY - MC SUBCATEGORY - 40300
IN-85-291-001 T50041	HC	403	WBN	Y	Y	Y	N	REPORT	SR	VALVES, PIPE, HANGER MATERIAL, ETC. ARE RETRIEVED FROM SCRAP PILE FOR USE IN PLANT (GOOD MATERIAL THAT HAD BEEN THROWN AWAY PER EMPLOYEE). NO DOCUMENTATION REQUIRED. MATERIAL MAY HAVE BEEN THERE FOR QUITE SOME TIME OUT OF THE CONTROLLED STORAGE LEVEL.	1.2.7, 2.3.7, 2.5.4, 2.6.5, 3.1.7, 3.2.7, 4.7, 5.1.7, 6.5, 7.1.1.5, 7.2.1.4, and 7.2.2.1
IN-85-336-002 T50195	HC	403	WBN	N	N	N	N	REPORT	SR	WESTINGHOUSE NSSS MATERIALS WERE RECEIVED AT WBNP, PRIOR TO JUNE 1982, WITHOUT THE PROCUREMENT DOCUMENTS AVAILABLE TO SPECIFY THE APPROPRIATE DOCUMENTATION REQUIREMENTS. NO ONE HAS VERIFIED THAT THE SPECIFIED DOCUMENTATION HAS BEEN RECEIVED FROM WESTINGHOUSE. UNIT 1 & 2. CONSTRUCTION DEPT CONCERN. CI COULD NOT PROVIDE ANY ADDITIONAL INFORMAITON.	1.2.8, 2.3.8, 3.1.8, 3.2.8, 4.8, and 5.1.8
IN-85-339-002 T50039	HC	403	WBN	Y	Y	Y	N	REPORT	SR	FOREMAN (NAME KNOWN) ADMITTED TO THE INDIVIDUAL THAT A HANGER BASEPLATE HAD BEEN PROCURED, AT HIS ORDER, FROM THE STEAMFITTER SCRAPYARD AND INSTALLED WHEN THE CONCERNED INDIVIDUAL WAS NOT AT WORK. LOCATION WAS GIVEN AS UNIT 2, ELEV. 786', ROD CONTROL ROOM, ON THE CEILING. TIMEFRAME WAS FIRST 6 MONTHS OF 1981.	1.2.7, 2.3.7, 2.5.4, 2.6.5, 3.1.7, 3.2.7, 4.7, 5.1.7, 6.5, 7.1.1.5, 7.2.1.4, and 7.2.2.1

CONCERN NUMBER	CAT	SUB CAT	PLT LOC	GENERIC APPL B F	B I	S Q	W B	QTC/NSRS INVESTIGATION REPORT	P* S R	CONCERN DESCRIPTION	REFERENCE SECTION # CATEGORY - HC SUBCATEGORY - 40300
IN-85-339-003 T50039	HC CO IH	403 113 604	WBN WBN WBN	Y	Y	Y	Y	This report addresses only the portion of the concern that is underlined.	SR	A FOREMAN, EMPLOYED AT WBNP FOR 4 YEARS (NAME KNOWN) WAS ALLEGED TO HAVE ROUTINELY ORDERED CRAFT PERSONNEL UNDER HIS SUPERVISION TO VIOLATE PROCEDURE REQUIREMENTS, AND TO BYPASS INSPECTION HOLD POINTS RELATIVE TO ANCHOR PULL TESTS. FOREMAN ALSO HAD A HABIT OF ROUTINELY UTILIZING SCRAP METAL IN SAFETY-RELATED WORK (UNITS 1 & 2) AND OF EXTRMEHE HARASSMENT OF CRAFT WHO QUESTIONED HIS ORDERS TO VIOLATE BYPASS PROCEDURE REQUIREMENTS. TIMEFRAME WAS 1978-1982.	1.2.7, 2.3.7, 2.5.4, 2.6.5, 3.1.7, 3.2.7, 4.7, 5.1.7, 6.5, 7.1.1.5, 7.2.1.4, and 7.2.2.1
IN-85-453-005 T50105	HC	403	WBN	N	N	N	N	REPORT	SR	UNKNOWN QUANTITY OF 3/4" STAINLESS STEEL PIPE WAS WORKED WITH THE HEAT NUMBER OF 1/2" STAINLESS STEEL PIPE. A 12' LENGTH WAS PARTIALLY INSTALLED BEFORE THE PROBLEM WAS DISCOVERED, THEN PIPE WAS REMOVED. OTHER LENGTHS OF THE 3/4" PIPE WERE NOT REMOVED FROM STORAGE (POSSIBLY 3-4 LENGTHS IN ONE PIPE RACK HOLDING SMALL BORE PIPE IN STORAGE AREA ACROSS FROM SUPERINTENDENTS' OFFICE NEAR THE BRASS ALLEY.) CI HAD NO FURTHER INFORMATION.	1.2.9, 2.3.9, 3.1.9, 3.2.9, 4.9, and 5.1.9

CONCERN NUMBER	CAT	SUB CAT	PLT LOC	GENERIC APPL B F	B S I	W Q	QTC/NSRS INVESTIGATION REPORT	P* S R	CONCERN DESCRIPTION	REFERENCE SECTION # CATEGORY - MC SUBCATEGORY - 40300
IN-85-460-001 T50035	MC MC	403 406	WBN	N	N	N N	IN-85-460-001 Subcategory 40300 addresses only the portion of the concern that is underlined.	SR	POOR QUALITY 6" or 8" BEAM STRUCTURAL STEEL FROM JAPAN THAT IS LAMINATED. THIS STEEL WAS BEING USED IN NONCODE SYSTEM WHEN THE LAMINATION WAS DISCOVERED. ALL OF THIS STEEL MAY NOT HAVE BEEN IDENTIFIED AND REMOVED.	1.2.10, 2.3.10, 3.1.10, 3.2.10, 4.10, and 5.1.10
IN-85-624-003 T50060	MC	403	WBN	Y	Y	Y N	REPORT	SR	MATERIAL HAS BEEN TAKEN FROM THE SCRAP YARD BACK TO THE PLANT (NAMES KNOWN TO QTC).	1.2.7, 2.3.7, 2.5.4, 2.6.5, 3.1.7, 3.2.7, 4.7, 5.1.7, 6.5, 7.1.1.5, 7.2.1.4 and 7.2.2.1
IN-86-282-005 T50250	MC	403	WBN	N	N	N Y	REPORT	SS	REQUIRED DNE TEST REPORTS (EITHER RT OR PT) ARE REPORTEDLY MISSING FROM MATERIAL CERTIFICATION DOCUMENTATION APPLICABLE TO EITHER 1 1/2 OR 2" DIAMETER STAINLESS STEEL FORGED, CLASS I, 90 DEG ELBOWS. APPROXIMATELY 2000 ELBOWS ARE POTENTIALLY AFFECTED BY THIS DISCREPANCY. DETAILS KNOWN TO QTC, WITHHELD DUE TO CONFIDENTIALITY. NO FURTHER INFORMATION AVAILABLE IN FILE. NO FOLLOWUP REQUIRED.	1.2.4, 2.3.4, 3.1.4, 3.2.4, 4.4, and 5.1.4
PH-85-003-009 T50106	MC	403	WBN	Y	Y	Y N	REPORT	SR	VALVES THAT HAD BEEN SCRAPPED WERE USED FOR INSTALLATION IN 1980. CI HAS NO MORE INFORMATION NO FOLLOWUP REQUIRED.	1.2.7, 2.3.7, 2.5.4, 2.6.5, 3.1.7, 3.2.7, 4.7, 5.1.7, 6.5, 7.1.1.5, 7.2.1.4, and 7.2.2.1

ATTACHMENT A

LIST OF CONCERNS INDICATING SAFETY RELATIONSHIP AND GENERIC APPLICABILITY — Page 6 of 6
CATEGORY: MC ADEQUACY OF MATERIAL SUBCATEGORY: 40300 INSTALLATION (USE) — Revision 3

CONCERN NUMBER	CAT	SUB CAT	PLT LOC	GENERIC APPL B F B I S Q W B	QTC/NSRS INVESTIGATION REPORT	P* S R	CONCERN DESCRIPTION	REFERENCE SECTION # CATEGORY - MC SUBCATEGORY - 40300
WH-85-035-002 T50194	MC	403	WBN	N N Y Y REPORT		SR	THE 3" SS VALVE LOCATED ON THE TOP OF THE PRESSURIZER IN UNIT 1, SYSTEM 68, HAS A LAMINATION CRACK RUNNING THROUGH THE VALVE BODY INTO THE WELD ZONE ON WELD UPSTREAM FROM VALVE. CONSTRUCTION DEPT CONCERN. CI HAS NO FURTHER INFORMAITON.	1.2.2, 2.3.2, 2.5.2, 2.6.2, 3.1.2, 3.2.2, 4.2, 5.1.2, 6.2, 7.1.1.2, and 7.2.1.2
SQP 5-004-003 T50229	MC	403	SQN	Y Y N Y REPORT	I-86-164-SQN	SR	SEQUOYAH: NEW MATERIAL HAS BEEN ORDERED SCRAPPED BY A SUPERVISOR AND LATER RETRIEVED BY A DIFFERENT GROUP. THIS COULD REPRESENT A LACK OF CONTROL REGARDING SCRAPPED MATERIAL. NAMES/DETAILS KNOWN TO QTC AND WITHHELD TO MAINTAIN CONFIDENTIALITY. NO FURTHER INFORMATION MAY BE RELEASED. NUCLEAR POWER CONCERN. CI HAS NO FURTHER INFORMATION. NO FOLLOWUP REQUIRED.	1.2.7, 2.3.7, 2.5.4, 2.6.5, 3.1.7, 3.2.7, 4.7, 5.1.7, 6.5, 7.1.1.5, 7.2.1.4, and 7.2.2.1
WI-85-091-014 T50197	MC MC MP	403 404 711	WBN	Y Y Y N REPORT	I-85-713-WBN Subcategory 40300 addresses only the portion of the concern that is underlined.	SR	TVA HAS VERY POOR CONTROL OVER SNUBBERS IN THE MANNER IN WHICH THEY ARE STORED AND HANDLED. <u>THESE EXPENSIVE SNUBBERS ARE FREQUENTLY SCRAPPED AND LATER RETRIEVED FROM THE SCRAPYARD FOR INSTALLATION</u>. CI HAS FURTHER INFORMATION. CONSTRUCTION DEPT CONCERN.	1.2.7, 2.3.7, 2.5.4, 2.6.5, 3.1.7, 3.2.7, 4.7, 5.1.7, 6.5, 7.1.1.5, 7.2.1.4 and 7.2.2.1

16 Concerns FOR CATEGORY MC SUBCATEGORY 403.

*PSR CODES:
SR--NUCLEAR SAFETY-RELATED
SS--NUCLEAR SAFETY SIGNIFICANT
NO--NOT NUCLEAR SAFETY-RELATED

ECSP REPORT 40300
ATTACHMENT B

SUMMARY OF ISSUES AND PROBLEMS IDENTIFIED

ISSUE	DESCRIPTION	ASSOCIATED PROCEDURES, REQUIREMENTS, STANDARDS	(a)	(b)	COMMENTS	CORRECTIVE ACTIONS
1. Valve Substitution	Substitution of valves w/o bill of materials or other documentation	WBN-QCP-4.10-9 AI-11 (at SQN)	yes	yes	Valve substitution w/o proper doc. and w/o drawing revs. was observed at WBN and not SQN. NCR 6773 issued by TVA	Corrective action pending approval & disposition of NCR 6773 and SCR WBN WBP 8725 for WBN.
2. Valve Cracked	A crack or lamination was observed in a 3-inch valve.	ASME Code	no	no	The anomaly observed in a subject valves was from the fabrication process and not an adverse conditon.	N/A
3. Fittings (M157)	Installed fittings have a less than minimum tensile strength.	ASME Code	yes	yes	NCR 6771 issued by TVA. This was an isolated occurance.	Additional documentation has been obtained and placed in the the records vault.
4. Fittings (w/o NDE Reports)	Approx. 2,000 1 1/2-inch ASME Class, 1, 90 deg elbows that do not have NDE reports with mtl cert docs.	ASME Code	no	no	NDE reports are not required to be furnished with the Certified Material Test Reports (CMTRs)	N/A

ECSP REPORT 40300
ATTACHMENT B

SUMMARY OF ISSUES AND PROBLEMS IDENTIFIED

ISSUE	DESCRIPTION	ASSOCIATED PROCEDURES, REQUIREMENTS, STANDARDS	(a)	(b)	COMMENTS	CORRECTIVE ACTIONS
5. Mtl from uncert vendors	Non code material exists in the SG Blow-down system.	ASME Code	yes	no	NCR GEN MEB 8301 addressed this problem before concern was issued	N/A
6. Cable	Cable was released for instal. before receipt and approval. of vendor cert doc. in 1979.	10 CFR 50	yes	no	Vendor certification documentation was not required to be onsite prior to release for installation.	N/A
7. Scrapped Material	Scrap material may have been used in perm. plant installations.	SQA-148 MC-40600	yes	yes	No procedures for handling scrap material exist at WBN and BFN. Procedures do exist at SQN. NCRs 6837 and 6839	Corrective action pending approval & disposition of NCRs 6837 and 6839 and corporate action

ECSP REPORT 40300
ATTACHMENT B

SUMMARY OF ISSUES AND PROBLEMS IDENTIFIED

	ISSUE	DESCRIPTION	ASSOCIATED PROCEDURES, REQUIREMENTS, STANDARDS	(a)	(b)	COMMENTS	CORRECTIVE ACTIONS
8.	Westinghouse material	Material received w/o procur. docs & no verif. of doc. receipt.	10 CFR 50 App B	yes	no	West. mtl was delivered to WBN w/o req'd doc. however verif. of doc. was performed at a later date.	N/A
9.	Pipe	3/4-inch and 1/2-inch pipe found with same heat nos.	ASME Code	yes	no	N/A	N/A
10.	Beam	Material installed in plant with same heat no. as that for beam found with laminations.	WBN-QCI-1.02	yes	no	N/A	N/A

(a) Validation. Yes means the concern has been observed
(b) Substantiation. Yes means a violation of a procedure, requirement or standard has occurred.

LIST OF CONCERNS BY ISSUE
ECSP REPORT 40300

Attachment C

Concern Number	Issue
EX-85-181-001	Valve Substitution (1.2.1)
PH-85-035-002	Valve Cracked (1.2.2)
IN-85-012-X02	Fittings (Heat Code M-157) (1.2.3)
IN-86-282-005	Fittings (Without NDE Reports) (1.2.4)
IN-85-086-001	Material From Uncertified Vendors (1.2.5)
IN-85-170-001	Cable (1.2.6)
IN-85-291-001	Scrapped Material (1.2.7)
IN-85-339-002	Scrapped Material (1.2.7)
IN-85-339-003	Scrapped Material (1.2.7)
IN-85-624-003	Scrapped Material (1.2.7)
SQP-5-004-003	Scrapped Material (1.2.7)
WI-85-091-014	Scrapped Material (1.2.7)
PH-85-003-009	Scrapped Material (1.2.7)
IN-85-336-002	Westinghouse Material (1.2.8)
IN-85-453-005	Pipe (1.2.9)
IN-85-460-001	Beam (1.2.10)