

CONSTRUCTION  
SUBCATEGORY EVALUATION  
PLANS

TVA  
Employee Concerns  
Task Group

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TO NRC REVIEWERS:

This volume contains the following information for your review:

- A) The generic evaluation plan governing both the Construction and Material Control categories under M. U. Rudlophi.
- B) Initial evaluation plans prepared by each evaluator for the construction subcategories. Note: When additional information is obtained during the conduct of the evaluation, appropriate evaluation plan adjustments can be made to ensure necessary flexibility. Deviations from the plan will be documented in the case file.
- C) A cross-reference matrix for each subcategory to indicate those concerns which had (A) a previously completed NSRS or QTC investigation report or (B) a previously submitted line response.
- D) A synopsis of each concern contained in the construction category.

CATEGORY EVALUATION GROUP  
(CEG)  
EVALUATION PLAN  
FOR  
CONSTRUCTION AND MATERIAL CONTROL  
CATEGORIES

APPROVED:

*Richard L. Harris* 4/16/86

ECTG Manager

Date

SUBMITTED:

*M. V. Ruffini* 4-12-86

CEG Head

Date

REVISION :

0

# HISTORY OF REVISION

Revision Number	Date	Revised By	Reason for Revision
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0187T



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INCLUDES, BUT NOT LIMITED TO:

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RESOURCE REQUIREMENTS

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### II. CATEGORY REPORT

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I. GENERIC EVALUATION

PLAN

## PROCEDURE

### GENERIC EVALUATION PLAN

#### 1.0 PURPOSE AND SCOPE

- 1.1 This document describes the method to be used in the preparation of subcategory Evaluation Plans. The instructions herein will be applied to the Watts Bar Employee Concerns Special Program concerns (including concerns/issues identified in the "Systematic Analysis of Identified concerns/issues at TVA" performed by Stone and Webster) which have been categorized as Construction and Material Control Items.

Organizational structure for accomplishing these tasks is shown in Attachment A.

#### 2.0 REFERENCES

- 2.1 Employee Concerns Task Group (ECTG) Program Manual

#### 3.0 DEFINITIONS

- 3.1 Element - The feature/commodity which is affected by the concern. Normally, the feature can be classified as hardware, i.e., structure, system, or component. In the instance of non-hardware-related concerns, the Element may be a major process or operation which may or may not affect the physical condition of permanent plant hardware.
- 3.2 Attributes - A characteristic of an individual feature which can be isolated and verified, or a definable portion of a process or operation.
- 3.3 Evaluation Plan (EP) -
- 3.3.1 Initial - A work process document which is prepared to accomplish the initial phase of evaluation activities. Specifically excluded are reinspections and other activities requiring personnel certifications.
- 3.3.2 Final - A continuation of the work process document (Initial-EP) which is prepared to accomplish any surveillances or tests/reinspections identified during the implementation of the Initial-EP.
- 3.4 Homogeneous group - A grouping of features/items with similar and/or identical suspected problems. Common features/items shall be consolidated to maximize the number of problems addressed by each group.

- 3.5 Incomplete item - An item for which an attribute is shown in applicable status programs as being complete and acceptable but for which the attribute does not comply with current OE approved drawings.
- 3.6 Observations - Apparent deviations from design drawings and specifications which are identified by surveillance or test/reinspection.
- 3.7 Employee Concern Program System (ECPS) - Used for statusing the ECTG effort.
- 4.0 PROCEDURE (See flow diagram, Attachment E "Material Control Program Description").
- 4.1 Subcategory Determination
- Concern Evaluation Group-Head (CEG-H) and/or Category Leader
- 4.1.1 Review each Concern (EC) to preliminarily subcategorize the EC's based on perceived similar concerns.
- 4.1.2 Review each EC's and identify applicable elements.
- 4.1.3 Determine the attributes addressed by the select attributes based on their:
- o Requirement by applicable codes and standards.
  - o Potential effect on an item's ability to perform its safety-related design function.
  - o Being currently observable.
- 4.1.4 Subcategorize the concerns as follows:.
- o Similar concerns requiring similar evaluation activities
  - o Concerns the same or similar to the other concerns (same elements and/or attributes).
  - o So when the subcategory evaluation is completed in accordance with the evaluation plan the concern, as stated, will be specifically and clearly addressed both in the evaluation and in the subcategory evaluation report.
- 4.1.5 Define each subcategory based on 4.1.4. Include a justification for each subcategory breakdown.
- 4.1.6 Verify that items in the subcategory meet the subcategory definitions. Adjust to correct any irregularities.
- 4.1.7 Establish priority of evaluation of subcategories and for the overall completion of the category.

## 4.2 Background Research

### Category/Subcategory Leader and/or Evaluator

- 4.2.1 Obtain applicable NSRS/QTC/ERT investigation reports and line responses, etc., for the concerns being addressed. Obtain additional information from available files to better define the concern, i.e., time frame, item, procedure number, other persons involved (names).

Note: No attempt will ever be made to obtain the concerned individual's name.

- 4.2.2 Determine pertinent program (ONP, OC, ASME, AWS, Instrumentation, Civil, etc.)
- 4.2.3 Determine requirements documents and prepare list (i.e., 10 CFR 50 App. B, Topical Report, ASME III, etc.)
- 4.2.4 If concerns are nonspecific, it may be helpful to review historic quality indicators such as NCRs, NRC findings, etc.
- 4.2.5 Discuss the subcategory/elements/attributes with line management to obtain insight into the reason of the concern and to determine the opinion of line management on the subcategory/elements/attributes.
- 4.2.6 Include the information sources reviewed and the interview notes on form(s) similar to Attachments B and C.

## 4.3 Evaluation Plan - Initial

### Category/Subcategory Leader and/or Evaluator

- 4.3.1 Prepare Initial-EP as follows: (See Sample EP in Attachment D)
- 4.3.1.1 Using the documents, verifications, and interview notes accumulated during Background Research, determine a logical sequence of work to accomplish the evaluation of the subcategory.
- 4.3.1.2 Prepare the initial EP for accomplishing the evaluation. Include the following items:
- o Description of the perceived problem(s)
  - o A list of the ECs in the subcategory

- o A list of the elements and attributes
- o A list of criteria (including document numbers and revisions)
- o Action plan for evaluation which should include as appropriate, interviews, procedure reviews, documentation reviews, hardware evaluations, ect.
- o Instructions/criteria for any additional data evaluation (This is to be used when limited additional inspections, evaluations are necessary to answer the question in Section VIII)
- o Staffing needs and schedule for accomplishing the evaluation and issuing the final report.
- o Answer the question, are statistical sampling actions, tests/reinspections necessary?
- o Progress reporting requirements and milestones as appropriate.
- o Root cause evaluation
- o Generic applicability determination
- o Review and document corrective action when applicable

4.3.2 Evaluation plan should be discussed, as a group, with subcategory evaluation team and the CEG-H to share understanding, personal knowledge of potential problems, subcategory program evolution, etc., for the purpose of making evaluation team perceptive and efficient.

4.3.3 If initial EP is prepared by an individual other than the subcategory/category leader, submit it to the category/subcategory leader for concurrence.

#### Category/Subcategory Leader

4.3.4 Submit Initial-EP to the CEG-H for approval unless prepared by CEG-H.

#### CEG-H

4.3.5 Review and approve Initial-EP and submit it to the ECTG Program Manager for information.

- OR -

Review, comment on, and return the Initial-EP to the preparer.

Category/Subcategory Leader and/or Evaluator

- 4.3.6 Revise any questioned aspect of the Initial-EP and process the revised plan the same as the original.

4.4 Evaluation of Initial EP

Evaluator

- 4.4.1 Using the Initial-EP, perform the required evaluation.

[If evaluator identifies cases of intimidation/harassment, misconduct (falsification of records, etc.) or encounters interference/obstruction of evaluation or possible reasons why a "STOP WORK" order should be issued refer to Program Manual, Instruction ECTG - C.2 for steps to be followed].

- 4.4.1.1 Review completed investigation reports, responses, etc., to determine if the concern has been acceptably investigated and resolved. If C/A's were required but are not complete or verified to be complete they shall be documented in the subcategory report.
- 4.4.1.2 Review applicable quality indicators, such as NRC concerns, outside reviews, recent corrective actions, etc., if necessary.
- 4.4.1.3 Review procedural compliance with upper-tier requirements documents. (i.e., NCM, NQAM, QAP's, Area Plans, QCP's, AI's, M&AI's, etc.)
- 4.4.1.4 Verify that the cited concern is, in fact, contrary to requirements/procedures. (If it is not, it will still need to be accounted for in the subcategory report.)
- 4.4.1.5 Discuss immediate C/A items like NCRs with the CEG-H and line organizations in order to expedite resolution to identified problems.
- 4.4.2 Determine if additional surveillances or tests/reinspections are required. (Discussion with CEG-H and ECP Manager).
- 4.4.3 If additional surveillances or tests/reinspections are needed, prepare a Final-EP as detailed in Section 4.5 below.

- OR -

If the subcategory has been fully evaluated, and it has been determined that no surveillances or tests/reinspections are necessary the Initial-EP becomes the Final-EP and proceed to paragraph 4.7.

- 4.4.4 Use attachments B and C to record pertinent data for future use.

4.5 Evaluation Plan - Final

Category/Subcategory Leader and/or Evaluator

- 4.5.1 For subcategories requiring surveillances or tests/reinspections, prepare the Final-EP by adding the following items to the Initial-EP using the format specified by the ECTG Program Manual:

4.5.1.1 Determine surveillance instructions as follows:

- a. Identify the activity which needs to be evaluated.
- b. Prepare a checklist of actions to be performed which includes item--a (above) and list the elements/attributes of the activity which needs to be evaluated.
- c. Provide on the checklist spaces for documenting details, results, and conclusions of the evaluation.

4.5.1.2 Determine test/reinspection instructions as follows:

- a. Determine the population size of homogeneous groups. (Effort should be made to establish time frames, plant areas, specific persons, etc., to isolate condition into smallest terms)
- b. From the population of the homogeneous group determine from sampling criteria approved by ECTG Program Manager the number of items to be tested/ reinspected such that 95/95 confidence can be established if no Design-Significant discrepancies are found.
- c. Determine the specific items to be tested/reinspected which will be at least equal to the number of items determined in item-b, above.
- d. From the population of the homogeneous group determine from sampling criteria approved by ECTG program manager the number of Design-Significant discrepancies allowed during the initial test/reinspection.



- e. Prepare a checklist of actions to be followed which includes the data derived from item-c, above, identifies attributes to be addressed, and either list acceptance criteria for each attribute or provide a cross-reference to documents which provide this acceptance criteria.
  - f. Include instructions to prepare a verification package for each subcategory which contains applicable checklists and appropriate documentation.
  - g. Checklists and records generated are QA records and will be maintained in the evaluation case files.
- 4.5.1.3 Delineate those persons who are to be interviewed, if any, and determine the standard questions which need to be answered, if any. Document interviews on a form similar to Attachment C.
- 4.5.1.4 Include instructions to evaluate the results, including any observations noted. (Observations which were specifically identified and addressed prior to the reinspection activity will not be included in the reinspection output as discrepancies since they were identified and are being or have been handled in accordance with existing procedures and do not represent a variance to the as-constructed configuration of the plant.)
- 4.5.1.5 Include a list of acceptance criteria documents to be used for determining acceptability of the items reinspected.
- 4.5.1.6 Determine staffing needs and schedule to accomplish these tasks.
- 4.5.1.7 Include instructions to obtain line management review.
- 4.5.1.8 Include a step to propose immediate and long term corrective action(s).
- 4.5.2 Obtain approval of the Final-EP as follows:
- 4.5.2.1 If the Final-EP is prepared by an individual other than the category/subcategory leader, submit it to the category/subcategory leader, for concurrence.

Category/Subcategory Leader

4.5.2.2 Submit Final-EP to the CEG-H for approval.

CEG-H

4.5.2.3 Approve and submit the approved Final-EP to the ECTG Program Manager for information.

- OR -

Return the Final-EP to the preparer with comments.

Category/Subcategory Leader and/or Evaluator

4.5.2.4 Resolve comments received, revise the Final-EP accordingly, and process in accordance with the appropriate step of this procedure.

4.5.3 Distribute the approved Final-EP to the ECTG Program Manager, the Concerns Review Board, and retain a copy.

4.6 Evaluation (Final-EP, when sampling is required.)

Evaluator

- 4.6.1 Perform the evaluation as required by the Final-EP, and coordinate obtaining the personnel needed to do additional work.
- 4.6.2 Assure that tests/reinspections are performed only by personnel with appropriate qualifications/certifications.

Inspectors

- 4.6.2.1 Use checklist instructions to perform reinspections and to document results.
- 4.6.2.2 Verify that the item conforms with the current design document for each hardware item on the checklist. Any hardware item inspection check to determine the acceptability or rejectability of an item will be termed an "inspection point". The reinspection of each item may include multiple inspection points.
- 4.6.2.3 Record observations of installed items differing from design requirements, nonexistent documentation, or incomplete items. Describe the item and condition in sufficient detail, attaching sketches or other pertinent information, to enable processing.
- 4.6.2.4 Report observations to the Evaluator, Group leader, or CEG-H.

Evaluator, Category/Subcategory Leader, or CEG-H

- 4.6.3 Coordinate with line management the generation of appropriate discrepancy reporting.

Category/Subcategory Leader and/or Evaluator

- 4.6.4 If the number of unacceptable discrepancies exceeds the number allowable as specified by the sampling criteria approved by the ECTG Program Manager for 95/95 confidence, increase the sample size in accordance with the subject sampling criteria. Revise the Final-EP, and continue the surveillance.
- 4.6.5 Discuss immediate C/A items like NCR's with the CEG-H and line organizations in order to expedite resolution to identified problems.
- 4.6.6 Prepare a verification package for each subcategory. Assign a unique identifying number to each package. Prepare an index listing the contents of each package.

4.7 Analysis and Corrective Action Determination

Evaluator

- 4.7.1 Review results of the Initial-EP and Final-EP evaluation, and observed discrepancies, and the resultant evaluations of the discrepancies; formulate a preliminary conclusion.
- 4.7.2 Determine root cause of discrepancies according to ETCG Program Manual, instruction ECTG. No. C2, Attachment F. and section 3.2.4.2 (document root cause determination in evaluation case file).
- 4.7.3 Obtain corrective action when applicable.
- 4.7.4 Propose actions required to prevent recurrences for root causes.
- 4.7.5 Submit conclusions and proposed corrective actions to the CEG-H.

CEG-H

- 4.7.6 Review conclusions and proposed corrective actions.
- 4.7.7 If conclusions and proposed corrective actions are appropriate, coordinate with line management to implement.

- OR -

If conclusions and proposed corrective actions are inappropriate, provide comments to the evaluator, assist in formulating appropriate conclusions and corrective actions, and coordinate with line management to implement.

4.7.8 Enter the corrective action due date in the ECPS.

4.7.9 • Inform ECTG Program Manager of actions being implemented.

#### 4.8 Subcategory Report

##### Evaluator

4.8.1 Prepare a subcategory report using Initial-EP and Final-EP results, observations, conclusions, and proposed/implemented corrective actions. Use the format prescribed by the ECTG Program Manual.

4.8.2 Submit to group leader for concurrence.

##### Category/Subcategory Leader

4.8.3 Review, approve, and submit the preliminary report to the CEG-H.

##### CEG-H

4.8.4 Review, approve, and submit to the ECTG Program Manager.

- NOTE -

In addition to the above approvals, the Concerns Review Board must also approve the report. Rejection at any of the approval steps will result in a redraft of the report. When approved by the Concerns Review Board the report is considered the final subcategory report and the affected subcategory is closed.

#### 5.0 DOCUMENTATION

5.1 Personnel Certification Records - Place these in the appropriate subcategory validation package.

5.2 Checklists for Reinspections - Place these in the appropriate subcategory validation package.

5.3 Validation Packages - Lifetime documents which will be maintained with (but not integrated into) the acceptance records routinely generated. A duplicate should be maintained in the evaluation case file.

5.4 Subcategory Reports - Maintain as Lifetime records with (but not incorporated into) the validation packages.

#### 6.0 Attachments

6.1 "Organizational Chart" (Attachment A)

6.2 "Background Research Log" (Attachment B)

6.3 "Interview Record" (Attachment C)

6.4 "Sample Subcategory Evaluation Plan" (Attachment D)

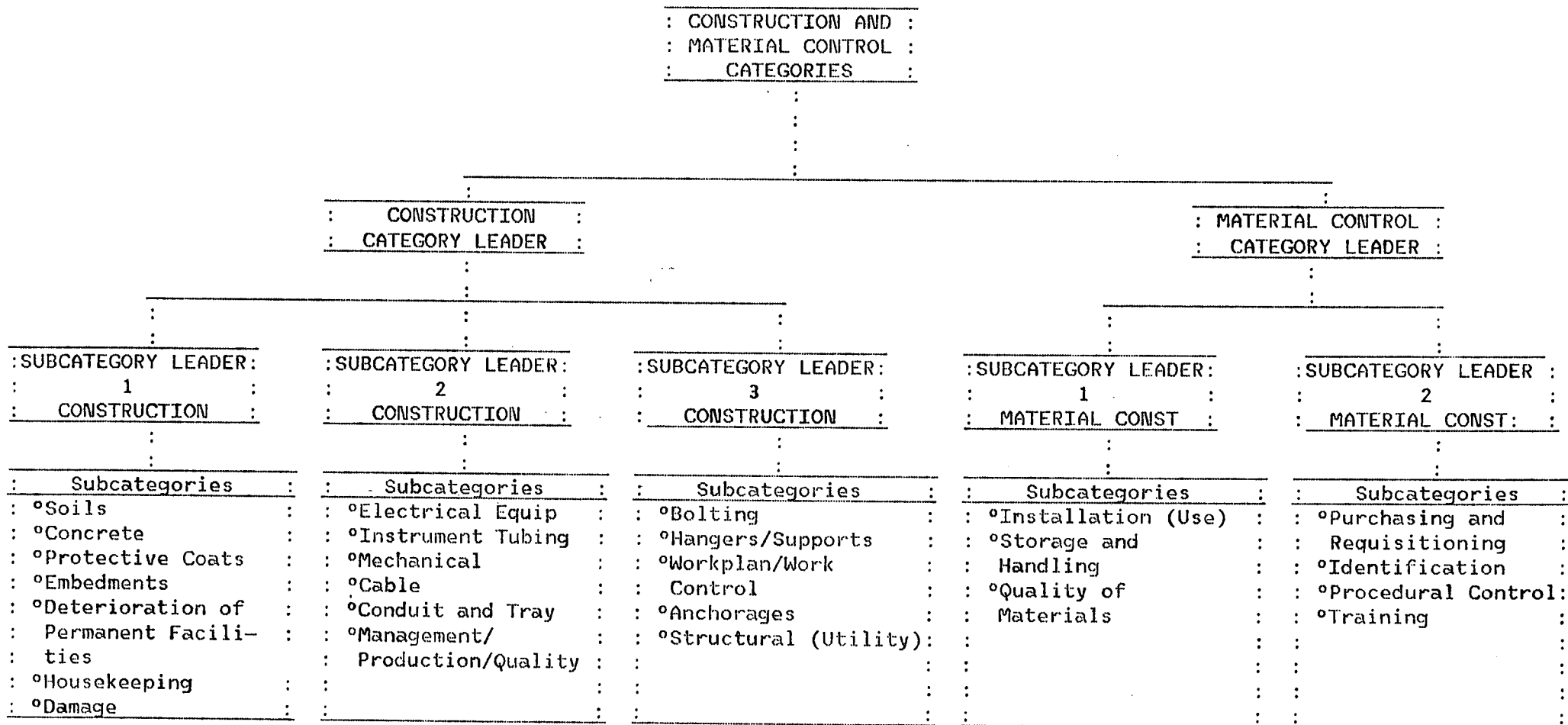
6.5 "Program Description" (Attachment E)

6.6 Breakdown of Subcategories

a) "Material Control Concerns Evaluation Group Subcategory Definitions" (Attachment F)

b) "Employee Concern Special Program Construction Category Subgroup Definition". (Attachment G)

# ORGANIZATIONAL CHART



14 EVALUATORS

8 EVALUATORS







Subcategory MC-200

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INITIAL EVALUATION PLAN

Category: Material Control

Subcategory: Purchasing and Requisitioning (MC-200)

Prepared by:

Donald R. Owen 3/17/86  
Preparer

Recommended by:

Joseph L. Tager 3/17/86  
Group Leader

Approved by:

MURUGA 3/17/86  
Group Head

Subcategory MC-200

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INITIAL EVALUATION PLAN FOR  
SUBCATEGORY MC-200

Description of Perceived Problems: The concerns in this subcategory deal with material that was:

1. Not requisitioned per procedure.
2. Of a questionable quality due to procuring from the low bidders.
3. Procured from an unapproved vendor.
4. Transferred from one system or plant to another without adequate documentation.
5. Modified by a vendor without adequate documentation.

Lead Evaluator: Donald R. Owen

Evaluators: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

INDEXSubcategory MC-200

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## Initial Evaluation Plan

- I. List of Concerns by Concern Number
- II. Elements and Attributes of Concerns
- III. List of Criteria (Including Document Numbers and Revisions)
- IV. Interviews
- V. Action Plan (Including Staffing and Scheduling)
- VI. Instructions/Criteria for Additional Data Evaluations
- VII. Progress Reporting Requirements and Milestones
- VIII. Determination as to Whether or Not Surveillance, Test/Reinspections are Necessary
- IX. Root Cause Determination
- X. Generic Applicability Determination
- XI. Proposed Immediate and Long-Term Corrective Actions
- XII. Prepare Report

Elements		Attributes	
1.	Valves, instruments, material, equipment	a.	Inadequate documentation
		b.	Substitution
2.	Material in System 15	a.	Uncertified vendor
3.	Material Requisitions	a.	Not prepared per procedure
4.	Westinghouse Equipment	a.	Sent offsite and returned without documentation
5.	Foreign Steel	a.	Low quality purchased
6.	Material	a.	Other TVA sites not on approved vendor list
		b.	Of questionable quality

I. Concerns for Subcategory MC-200:

<u>Concern No.</u>	<u>Element</u>
EX-85-181-001	: 1(b) Valves
<del>MAN IN-85-002-002 Void *</del>	<del>: 3(a) Requisitions</del>
IN-85-086-001	: 2(a) Material System 15
IN-85-190-001	: 6(a) Material
IN-85-336-003	: 4(a) Westinghouse Equipment
IN-85-463-007	: 1(a) Instruments
IN-85-463-008	: 1(a) Instruments
IN-85-964-003	: 1(a) Material/Equipment
IN-85-124-001	: 5(a) Foreign Steel
WI-85-053-011	: 6(a) Materials
MAN* WI-85-036-002	: 3(a) Requisitions

10 TOTAL

1. Information Source - (Applicable Procedures, OE Documents, Previous Reports, NSRS/OTC/ERT Investigation Reports Including revision or date)	Date Added to List	Applicable Section	2. Comments

[illegible]

\*Revision and/or date to be added later.



V. Action Plan - Initial

## Evaluation Plan MC-200

1. Contact QTC, Jim Murray (365-4489) to determine if there is additional information available on the concerns in this subcategory. See attachment A.
2. A. Review site procedures to verify that the upper tier criteria have been implemented concerning valves and instruments that were transferred to other projects or substituted on other systems.  
B. Verify that the required documents and drawing changes have been implemented for the transfer of instrument transmitters 2-PDT-30-42, 2-PDT-30-43, 2-PDT-30-44, 2-PDT-30-45, and other additional items identified through interview and contacts with QTC valves or instruments that are identified. Review NSRS report I-85-172-WBN to determine if it adequately addresses the above. Spot check program implementation.
3. Review ERT investigation report IN-85-086-001 to determine if this report adequately addresses material in System 15 being procured from an uncertified vendor. Determine any additional actions that may be required.
4. Review material requisitions identified in QTC files to determine if there is any indication of alteration. Review related site procedures to determine if the material requisitions identified are within the scope of the QA program, if so, determine if any changes made were done in accordance with applicable procedure.
5. Contact Mike King at extension 8534 and interview Mr. King to determine if there has been a quality problem with chemical reagents. Investigate other materials identified as being of questionable quality. Review NSRS Report I-85-482-WBN to determine if it adequately addresses the quality of steel used at WBN.
6. Review the Watts Bar June 1985 ASME Survey and other related documents to determine the significance of other TVA sites not being on the approved vendor list for WBN and how material at other sites are determined to be acceptable.
7. Review procedures relating to material Westinghouse being sent offsite for modifications from 1980 through 1982, review the documentation of any of this material identified and determine if the criteria were implemented. (Identify specific items in concern if possible). Determine if when these kind of modifications take place they are handled by procedure. This can be done by interviews and/or by spot checking documentation.



V. Action Plan - Initial - (continued)

Evaluation Plan MC-200 - (continued)

8. Write a summary of the findings for each of the above evaluations. This summary is to include a description of the findings and state what, if any, additional action is required.

Record additional source documents in section III and all interviews in the section IV.

9. Perform items VIII through XII.
10. Staffing: This evaluation plan will require 2 evaluators and 400 man-hours.
11. Scheduling: A review of results, conclusions, etc., with CEG-H by April 7, 1986, with the evaluation of this initial plan completed by April 12, 1986.

VI. Instruction/Criteria for Additional Data Evaluations

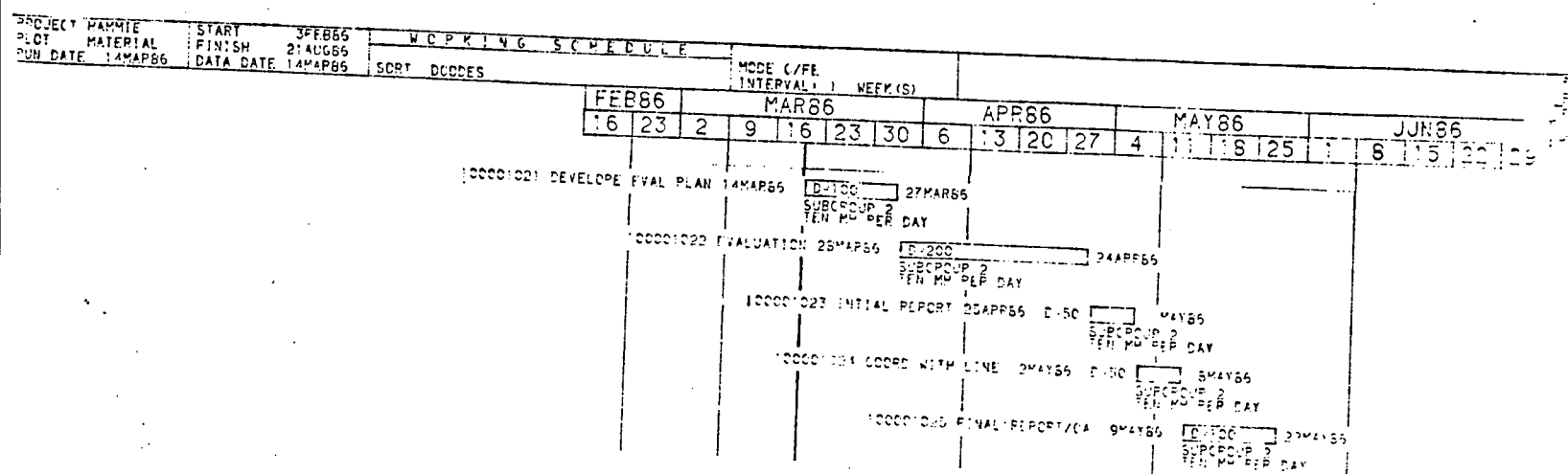
(This is to be used when limited additional inspections, test, evaluations are necessary to answer the question in section VIII.)

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

Subcategory MC-200

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## VII. Progress Reporting Requirements and Milestones



Subcategory MC-200

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VIII. Answer the Question, are Statistical Sampling Actions/  
Tests/Reinspections Necessary?  
(Proceed to preparation of final EP if answer is yes)

IX. Root Cause Determination

X. Generic Applicability Determination: Section \_\_\_\_\_, Paragraph \_\_\_\_\_  
of Program Manual \_\_\_\_\_ WBN \_\_\_\_\_ SQN \_\_\_\_\_ BFN \_\_\_\_\_ BLN

XI. Proposed Immediate and Long-Term Corrective Actions

XII. Prepare Report

Subcategory MC-200

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Attachment A

## QTC QUESTIONNAIRE

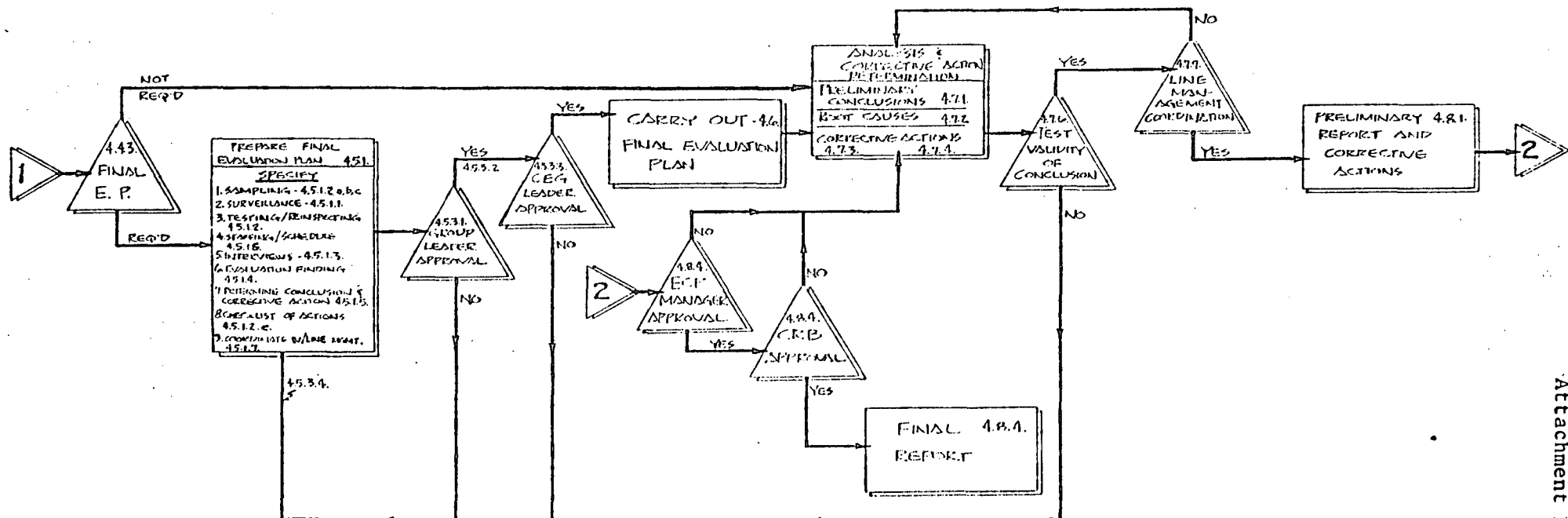
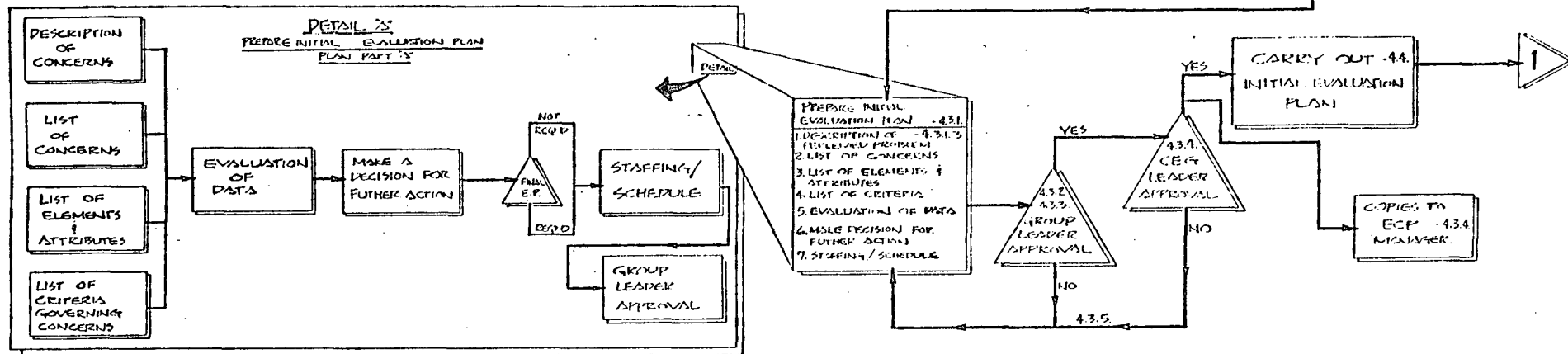
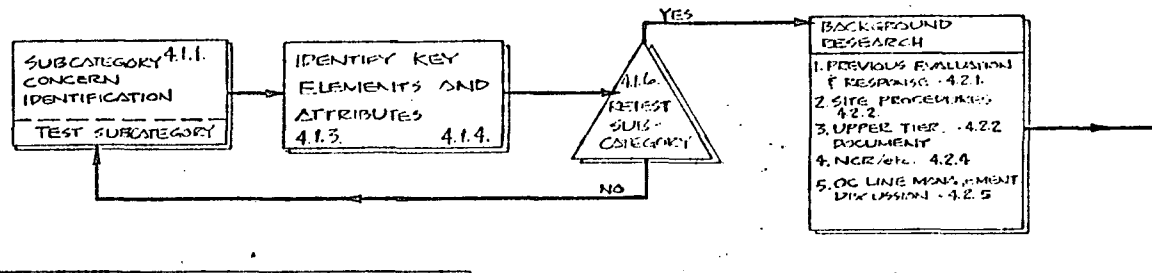
Concern No. \_\_\_\_\_

Date: \_\_\_\_\_

1. Without revealing the identity of the CI, can a timeframe for the concern be identified, if so when?
2. Without revealing the identity of the CI, can specific items be identified, if so when?
3. Without revealing the identity of the CI, can any specific locations be identified, if so what are they?
4. Without revealing the identity of the CI, can any other individuals be identified, if so who?
5. Without revealing the identity of the CI, is there any other information in the QTC file that may be of aid in this investigation (such as, QTC, NSRS, NRC, Construction, Nuclear Power investigation, etc.), if so what?
6. Is this a concern of the Office of Nuclear Power, Construction, or both?

Additional Comments:

# PRISM DESCRIPTION



MATERIAL CONTROL  
CONCERNS EVALUATION GROUP  
SUBCATEGORY DEFINITIONS

Management Control MC100

Not Used - Concerns transferred to Management and Personnel Group

Purchasing and Requisitioning MC200

This subcategory deals with:

1. Not requisitioning materials per procedure.
2. Procuring questionable quality materials using low bidders.
3. Procuring from unapproved vendors.
4. Transferring of items from one plant to another without adequate documentation.
5. Having vendors make hardware changes without adequate documentation.

Installation (Use) MC300

This subcategory deals with materials installed

1. That are not correct grades, classes or types.
2. That are obtained from the scrap yard.
3. That have been shown to have defects.
4. That have come from unqualified vendors.
5. That have falsified or no certifications, or have incorrect heat numbers.

Storage and Handling MC400

This subcategory deals with:

1. Inadequate material segregation during receipt and storage.
2. Improper handling after issue from warehouse resulting in contamination (not radioactive).
3. Inadequate environmental control and protection through installation.
4. Appropriate storage levels not being implemented.
5. warehouse documents inaccurately listing received materials.
6. Inadequate control of materials.

Material Identification MC500

This subcategory deals with:

1. Using unapproved marking materials on stainless steel.
2. Not marking heat numbers, etc., on hanger materials, quality assurance (QA) level 2 materials, stainless steel pipe and others.
3. Inadequate marking on bolting materials.
4. Not adequately identifying components.

Quality of Materials MC600

This subcategory deals with:

1. The poor quality of vendor pipe, structural shapes and conduit fittings, and the condition of valves installed.
2. The condition of valves installed [poor quality is indicated by conditions such as laminations, cracks, slag, pitting and failures (splitting)]

Procedural Control MC700

This subcategory deals with:

1. The adequacy of material upgrading and classifying practices and procedures.
2. Non-conformance reports not being handled in accordance with procedures.
3. The lack of access control at warehouse.
4. Heat number verifications not being performed per the procedure.
5. The lack of a quality control receiving unit and qualified receiving inspectors.
6. Individuals not being permitted to perform certain quality functions.
7. Inadequate heat number/code program (including heat number transfer)
8. Inadequate receiving inspection being performed.

Training MC800

This subcategory deals with the lack of training for:

1. Warehouse personnel.
2. People authorized to sign warehouse requisitions.
3. Receiving inspectors.

0041T



EMPLOYEE CONCERN SPECIAL PROGRAM

CONSTRUCTION CATEGORY

SUBGROUP DEFINITION

COO10

SOIL CONDITIONS:

Concerns involving existing site soil conditions in certain areas, including:

1. ERCW trench "B".
2. East side of turbine building.

EMPLOYEE CONCERN SPECIAL PROGRAM

CONSTRUCTION CATEGORY

SUBGROUP DEFINITION

C0020

CONCRETE/GROUT:

Concerns involving questionable concrete and grout conditions for permanent plant buildings, the questionable areas are:

1. Sub-standard Concrete.
2. Structural Concrete Integrity.
3. Sub-standard Grout Placement.
4. Foreign Objects Embedded in Concrete.

EMPLOYEE CONCERN SPECIAL PROGRAM

CONSTRUCTION CATEGORY

SUBGROUP DEFINITION

C0030

PROTECTIVE COATING/PAINT:

Concerns involving protective coating and paint such as:

1. Application or lack of.
2. Surface preparation.
3. Types of coatings used.

EMPLOYEE CONCERN SPECIAL PROGRAM

CONSTRUCTION CATEGORY

SUBGROUP DEFINITION

C0040

EMBEDDED PLATES "HOLLOW":

Concerns involving embedded plates having hollow areas between plate surface and concrete.

EMPLOYEE CONCERN SPECIAL PROGRAM

CONSTRUCTION CATEGORY

SUBGROUP DEFINITION

C0050

DETERIORATION OF PERMANENT FACILITIES:

Concerns involving possible deteriorating permanent features of th  
resulting from delay of operation and/or poor maintenance during  
construction. Features included are:

1. Instrument Air Line Rusting.
2. Rusting of Conduit and Piping Supports and Embedments.
3. Rusting of Equipment Components.
4. Caulking.
5. Contamination of Equipment by Dust and Shavings.

plant

EMPLOYEE CONCERN SPECIAL PROGRAM

CONSTRUCTION CATEGORY

SUBGROUP DEFINITION

C005.1

DAMAGE/CONSTRUCTION CONTROL:

Concerns involving damage caused by and/or potentially resulting from lack of protection during construction to permanent features of plant. These features include:

1. Building Floor Drains.
2. Electrical Penetrations.
3. Energized Electrical Cabinets and Open Conduits.
4. Flex Hose Connections.
5. Insulation.
6. Electrical Cables and Cable Trays.
7. Instrumentation Tubing.
8. Pipes and Valves.

EMPLOYEE CONCERN SPECIAL PROGRAM

CONSTRUCTION CATEGORY

SUBGROUP DEFINITION

C0052

HOUSEKEEPING:

Concerns involving the General Housekeeping and Maintenance problems of the plant on a day-to-day basis during construction. These include:

1. Clean-up of Construction Materials.
2. Maintenance and Janitorial Services.
3. Construction Plant Facilities Repair.



EMPLOYEE CONCERN SPECIAL PROGRAM

CONSTRUCTION CATEGORY

SUBGROUP DEFINITION

C0060

BOLTING:

That set of concerns pertaining to the use of bolts and bolting materials.  
The following general areas are included.

1. Material qualification and adequacy
2. Torquing techniques/requirements
3. Material incompatibility

EMPLOYEE CONCERN SPECIAL PROGRAM

CONSTRUCTION CATEGORY

SUBGROUP DEFINITION

C0070

INSTRUMENT TUBING:

Specific and nonspecific hardware concerns about instrument tubing involving:

1. Slope.
2. Bending.
3. Compression fittings.
4. Cutting and reaming.
5. cleanliness.
6. Clamps.
7. Inspection and documentation.

EMPLOYEE CONCERN SPECIAL PROGRAM

CONSTRUCTION CATEGORY

EVALUATION PLAN FOR SUBCATEGORY CO-071

C0071

MECHANICAL:

Specific and nonspecific concerns relating to elements normally considered in the Mechanical Engineering discipline; that is, pipe, valves, HVAC, pumps, tanks, and thermal insulation:

- a. Material substitutions
- b. Hydrostatic/pneumatic testing
- c. Clearance
- d. Gouges/arc strikes
- e. Routing
- f. Protection

Lead Evaluator:

Evaluators:

EMPLOYEE CONCERN SPECIAL PROGRAM

CONSTRUCTION CATEGORY

SUBGROUP DEFINITION

C0080

STRUCTURAL:

Concerns involving those structural features where improper work practices were used either during or after installation, testing, or design. The areas included are:

1. Structural seals that leak
2. Unauthorized design changes
3. Questionable masonry finishing practices
4. Improper testing techniques on permanent structure
5. Improper drilling/chipping of concrete

EMPLOYEE CONCERN SPECIAL PROGRAM

CONSTRUCTION CATEGORY

SUBGROUP DEFINITION

C0090

CABLE:

Specific and nonspecific hardware concern involving activities related to cable pulling and installation, including:

1. Adequacy of cable.
2. Protection before and after installation.
3. Pulling activities (raceway preparation, routing, pull tension, protection from damage during pulling, and general nonspecific concerns on cable pulling).
4. Installation/termination activities (bend radius, splicing, cable terminations, and general nonspecific terminating concerns).
5. Inspection and documentation
6. Fireproofing
7. Damage due to rework.

EMPLOYEE CONCERN SPECIAL PROGRAM

CONSTRUCTION CATEGORY

CO091

SUBCATEGORY DEFINITION

ELECTRICAL EQUIPMENT:

Specific and nonspecific hardware concerns involving activities affecting electrical panels, junction boxes, etc.:

1. Installation of fireproofing boards
2. Material substitutions

EMPLOYEE CONCERN SPECIAL PROGRAM

CONSTRUCTION CATEGORY

SUBGROUP DEFINITION

CO092

ELECTRICAL CONDUIT/CABLE TRAY:

Specific and nonspecific hardware concerns involving activities related to conduit and cable tray installation, such as:

1. Accumulated conduit bends in excess of 360°.
2. Not enough conduits.
3. Poor workmanship (general).
4. Material problems.
5. Incorrect installation.
6. Inadequate protection.

EMPLOYEE CONCERN SPECIAL PROGRAM

CONSTRUCTION CATEGORY

SUBCATEGORY DEFINITION

CO110

HANGERS/SUPPORTS:

That set of concerns (22) pertaining to the erection of pipe, HVAC and Electrical Supports. The following general areas are included:

1. Dissimilar Metals in Contact.
2. Site Fabrication of Component Standards.
3. Adequacy of Design Output (OE/OC).
4. Construction Control after Installation/Inspection.
5. Adequacy of Inspection.
6. Consideration of Concerns with Inadequate Information to Investigate Individually.



EMPLOYEE CONCERN SPECIAL PROGRAM

CONSTRUCTION CATEGORY

SUBGROUP DEFINITION

CO120

WORK PACKAGE/WORK CONTROL:

Concerns involving questionable construction work practices in areas of poor planning, paperwork, etc., that should have been controlled by a proper work package/work control process. The areas included are:

1. Incomplete and Missing Paperwork.
2. Inadequate Coordination and Planning by Crafts and Engineers.
3. Inefficient Design Information.
4. Questionable Site Engineering Practices.
5. Designing Structures to Field As-Built Configurations.

EMPLOYEE CONCERN SPECIAL PROGRAM

CONSTRUCTION CATEGORY

SUBCATEGORY DEFINITION

CO/30

SUBGROUP - ANCHORAGE

That set of concerns pertaining to the installation, testing and damage of reinforcing steel resulting from the installation of expansion anchors. The following general areas are addressed:

1. Modifications to Expansion Anchors
2. Damage of Reinforcing Steel from Expansion Anchors
3. Anchor Inspection and Testing

II CATEGORY REPORT

## CATEGORY EVALUATION REPORT

The CEG-H prepares the category report using the format in the ECTG Program Manual, Instruction ECTG - C.3. The category evaluation report will contain each of the approved subcategory reports in the category. The CEG-H submits the report to the ECTG Manager and the SRP for approval.

III RESOURCES AS OF ISSUE DATE OF THIS PLAN

# CONSTRUCTION CATEGORY

Evaluator		Subcategory	Grade	Ext	Security Clearance	Eval Cert Training
Bailey	13	Anchorage	SC-3	3841	NO	YES
	4	Embeds				
Baker	5	Deterioration of Perm. Facilities	SC-3	3844	YES	YES
Bryant	7.1	Mechanical	SC-2	3843	YES	YES
Brown	9.1	Elect Equip	SC-3	3844	YES	YES
	9.2	Conduit & Tray				
Haerr	5.1	Damage/Constr Control	SC-4	3845	YES	YES
Howard	1	Soils	M-5	3843	NO	YES
Huff	5.2	Housekeeping	M-3	3841	YES	YES
Loftis	7	Inst Tubing	SC-4	3843	NO	YES
McDonald	3	Protective Coatings	SC-4	K-3668	NO	YES
Nixon	2	Concrete	M-5	3844	NO	YES
Portwood	6	Bolting	SE-6	3841	NO	YES
	8	Structure				
Russell	12	WorkPlan/Work Control	SC-4	3842	YES	YES
Selewski	9	Cable	SC-3	3844	YES	YES
Shirey	11	Hanger Supports	SC-3	3842	NO	YES
Rudolphi		Supervisor of Materials Control & Construction	M-7	3846	NO	YES
Martin		Supervisor - Const	M-5	3842	NO	<del>NO</del> YES
Heck		Data Update	SE-4	3845	YES	YES

64P  
4-23-86

# MATERIAL CONTROL CATEGORY

Evaluator		Subcategory	Grade	Ext	Security Clearance	Eval Cert Training
Grimes	6	Quality of Material	SC-4	3840	YES	YES
Hensley	8	Training	M-4	3840	YES	YES
Nieman	7	Procedural Control (Team Member)	SC-3	3841	YES	YES
Owen	3	Installation/Use	SE-6	3838	YES	YES
Smith	5	Material Ident	SE-4	3839	NO	YES
Waycaster	4	Storage & Handling	SE-5	3839	YES	YES
Weishaupt	4	Procedural Control	M-5	3839	YES	YES
Wiley	2	Purch & Requisition	SE-4	3840	NO	YES
Inger		Supervisor - Material Control	M-5	3839	YES	YES

IV CONSTRUCTION AND MATERIAL CONTROL SCHEDULES



# MATERIAL CONTROL

## SCHEDULE (PRELIMINARY)

■ 27 MAR PLAN PREPARATION

■ 24 APR EVALUATION

■ 1 MAY LINE COORDINATE

DRAFT REPORT ■ 8 MAY

SRB REVIEW ■ 22 MAY

ISSUE REPORT ■ 20 JUN

# CONSTRUCTION

## SCHEDULE (PRELIMINARY)

■ 31 MAR PLAN PREPARATION

■ 29 APR EVALUATION

■ 6 MAY LINE COORDINATE

DRAFT REPORT ■ 12 MAY

SRB REVIEW ■ 16 MAY

ISSUE REPORT ■ 20 JUN

Subcategory C0010

Subcategory Title: Soil Conditions

Employee Concern Number	NSRS or QTC Report Number (If Issued)	Line Response (Organization-If Issued)
IN-85-066-001	QTC IN-85-442-X13	OC/OE
IN-85-088-002	QTC IN-85-088-002	OC/OE
IN-85-196-001		OC
IN-85-442-X11		OC
IN-85-442-X13	QTC IN-85-442-X13	OC/OE
IN-85-472-003		OC
IN-85-472-007	QTC IN-85-442-X13	OC/OE
IN-85-496-001	QTC IN-85-442-X13	OC/OE
IN-85-529-003		
IN-85-529-004		
IN-85-978-002		OC
IN-85-978-003		
IN-85-978-011		
IN-85-205-001	NSRS I-85-598-WBN	
WI-85-040-003		
WI-85-040-004	QTC IN-85-442-X13	
WI-85-040-005		

INITIAL EVALUATION PLAN

Category: CONSTRUCTION

Subcategory: SOIL CONDITIONS

Prepared by:

Jack J. Howard 4/4/86  
Preparer

Recommended by:

James Brath 4-7-86  
Group Leader

Approved by:

M. V. Rudof 4-7-86  
Group Head

INITIAL EVALUATION PLAN FOR  
SUBCATEGORY CABLE (C0010)

Description of Perceived Problems:

Concerns involving existing site soil conditions in certain areas, including:

1. ERCW Barrier Trench "B"
2. Sink Hole
3. Blowdown Lines Backfill
4. ERCW Pipelines Backfill
5. North Valve Room Backfill
6. Low Volume Waste Holding Pond Dike

Lead Evaluator: Jack L. Howard

Evaluators: Don Nixon

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Initial Evaluation Plan

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- I. List of Concerns by Concern Number
- II. Elements and Attributes of Concerns
- III. List of Criteria (Including Document Numbers and Revisions)
- IV. Interviews
- V. Action Plan (Including Staffing and Scheduling)
- VI. Instructions/Criteria for Additional Data Evaluations
- VII. Progress Reporting Requirements and Milestones
- VIII. Determination as to Whether or Not Surveillance, Test/Reinspections are Necessary
- IX. Root Cause Determination
- X. Generic Applicability Determination
- XI. Proposed Immediate and Long-Term Corrective Actions
- XII. Prepare Report

### I. Concerns for Subcategory

Concern No.	Element
WI-85-040-003	Barrier Trench "B"
IN-85-472-007	Barrier Trench "B"
WI-85-040-005	Barrier Trench "B"
WI-85-529-003	Barrier Trench "B"
IN-85-496-001	Barrier Trench "B"
IN-85-978-002	Barrier Trench "B"
IN-85-442-X13	Barrier Trench "B"
IN-85-472-003	Blowdown Lines Backfill
IN-85-442-X11	Sink Hole
IN-86-205-001-010	ERCW Pipelines Backfill
IN-85-196-001	Blowdown Lines Backfill
IN-85-978-003	Barrier Trench "B"
	North Valve Rooms Backfill
IN-85-978-011	Barrier Trench "B"
	North Valve Rooms Backfill
IN-85-088-002	Low Volume Waste Holding Pond Dike
WI-85-040-004	ERCW Pipelines Backfill

## II. Elements and Attributes

Elements	Attributes
A. Barrier Trench "B"	1. Artesian Well
	2. Yard Drainage
	3. Slope Deterioration
	4. Backfill Material
	5. Designed Function
	6. Fill Placement
	7. Incorrect Construction
B. Sink Hole	1. Corrective Action
C. Blowdown Lines Backfill	1. Backfill
	2. Erosion
D. ERCW Pipelines Backfill	1. Fill Placement
	2. Base Support Material
E. North Valve Rooms	1. Backfill Material
Backfill	2. Fill Placement
F. Low Volume Waste	1. Backfill Material
Holding Pond Backfill	2. Fill Placement



III. List of Criteria

1. Information Source -				2. Comments
(Applicable Procedures, OE Documents, Previous Reports, NSRS/QTC/ERT Investigation Reports Including revision or date)				The elements and attributes covered by the source documents are:
	Date Added to List	Applicable Section		
1. NSRS Invest. No.				Barrier Trench "B"-All Attributes
IN-85-442-X13	3/17/86	All		
2. WBNP FSAR, AMEND. 54	3/17/86	2.5.4		Barrier Trench "B"-Backfill Material
		2.5.5		Barrier Trench "B"-Slope Deterioration
		Fig. 2.5-225		Barrier Trench "B"-Backfill Material
		Fig. 2.5-226		Barrier Trench "B"-Backfill Material
		Fig. 2.5-226a		Barrier Trench "B"-Backfill Material
		Fig. 2.5-580		Barrier Trench "B"-Designed Function
		Fig. 2.5-581		Barrier Trench "B"-Designed Function
		Fig. 2.5-582		Barrier Trench "B"-Designed Function
		Fig. 2.5-583		Barrier Trench "B"-Designed Function
		Chapter 17.0,R8		Barrier Trench "B"
3. Gen. Constr. Specs G-9, R5	3/17/86			Barrier Trench "B"-Backfill Material
				Barrier Trench "B"-Fill Placement
4. Gen. Constr. Specs T-1, R1	3/17/86	Sect. 1032		Barrier Trench "B"-Backfill
		Sect. 1075		Material
5. Drawing 10N210, R28	3/18/86			Barrier Trench "B"
6. Drawing 10N213-1, R1	3/18/86			Barrier Trench "B"
7. Drawing 10N213-2, R6	3/18/86			Barrier Trench "B"
8. Drawing 10N215, R10	3/18/86			Barrier Trench "B"

1. Additional sources will be added by the evaluator.
2. State attribute and how it relates with requirement.

III. List of Criteria

1. Information Source - (Applicable Procedures, OE Documents, Previous Reports, NSRS/QTC/ERT Investigation Reports Including revision or date)				2. <u>Comments</u>  (continued)	
	Date Added to List	Applicable Section			
9. Drawing 10N225, R10	3/18/86			Barrier Trench "B"-Yard Drainage	
10. Drawing 10N234, R14	3/18/86			Barrier Trench "B"-Yard Drainage	
11. Drawing 10W245, R10	3/18/86			Barrier Trench "B"-Yard Drainage	
				Barrier Trench "B"-Slope	
				Deterioration	
12. Drawing 10W245-1, R1		Sheet 8		Barrier Trench "B"-Slope	
				Deterioration	
13. Drawing 31N224-1, R10				Barrier Trench "B"- Incorr.Constr	
14. Drawing 4IN200-1, R4				Barrier Trench "B"- Incorr.Constr	
15. ECN No. 3960, dated 6/9/83	3/24/86			Barrier Trench "B"- Backfill	
				Material	
ECN No. 4557, dated 1/24/84	3/24/86			Barrier Trench "B"- Backfill	
				Material	
17. FCR No. F-3247 dated 4/30/84	3/24/86			Barrier Trench "B" Fill Placement	
18. WBNP-QCP-2.01, R 6	3/24/86			Barrier Trench "B"- Backfill	
dated 6/20/84				Material	
				Barrier Trench "B" Fill Placement	
19. WBNP-QCP-2.06, R 4	3/24/86			Barrier Trench "B"- Backfill	
dated 7/9/82				Material	
				Barrier Trench "B" Fill Placement	

1. Additional sources will be added by the evaluator.
2. State attribute and how it relates with requirement.

III. List of Criteria

1. Information Source - (Applicable Procedures, OE Documents, Previous Reports, NSRS/QTC/ERT Investigation Reports Including revision or date)	:	:	:	2. <u>Comments</u>  (continued)
	:	:	:	
	:	:	:	
	:	:	:	
	:	:	:	
	:	:	:	
20. WBNP-QCP- 1.02, R 15	:	3/24/86	:	Barrier Trench "B"-Fill Placement
Dated 11/1/85	:	:	:	
	:	:	:	
21. NCR 5257, dated 12/1/83	:	3/24/86	:	Barrier Trench "B"-Fill Placement
	:	:	:	
22. NCR 5131, dated 10/14/83	:	3/24/86	:	Barrier Trench "B"-Fill Placement
	:	:	:	
23. NCR 5804, dated 8/28/84	:	3/24/86	:	Barrier Trench "B"-Backfill
	:	:	:	Material
	:	:	:	Barrier Trench "B"-Fill Placement
24. NCR 6338, dated 9/24/85	:	3/24/86	:	Barrier Trench "B"-Fill Placement
	:	:	:	
25. Backfill Dailey Reports for	:	3/24/86	:	Barrier Trench "B"-Fill Placement
1976, 1983, & 1984	:	:	:	Barrier Trench "B"- Backfill
	:	:	:	Material
	:	:	:	
26. Granular Compaction Test-	:	3/24/86	:	Barrier Trench "B"-Fill Placement
Sand Cone Method Reports	:	:	:	Barrier Trench "B"- Backfill
for 1983 & 1984	:	:	:	Material

1. Additional sources will be added by the evaluator.
2. State attribute and how it relates with requirement.

III. List of Criteria

1. Information Source -				2. <u>Comments</u>
(Applicable Procedures, OE Documents, Previous Reports, NSRS/QTC/ERT Investigation Reports Including revision or date)				(continued)
	Date Added to List	Applicable Section		
27. Reply Memo, Civil Design Project Engineer to WBNP Project Manager, Dated 2/14/74, "WBNP-Backfill"	3/24/86			Barrier Trench "B"-Backfill Material
28. Memorandum, WBNP Project Manager, to WB Design, Project Manager, Dated 6/18/74, "WBNP-Crushed Stone Backfill-Class I Structures"	3/24/86			Barrier Trench "B"-Backfill Material
Memorandum, SQNP & WBNP Design Projects Manager to WBNP Project Manager, Dated: 6/22/76, "WBNP-Yard Conduits and Piping-Backfilling during Construction."	3/24/86			Barrier Trench "B"-Backfill Material Barrier Trench "B"-Fill Placement
30. Memorandum, Manager of Construction to Constr., Dated 1/30/80, "Earthfill Operations and Quality Control."	3/24/86			Barrier Trench "B"-Backfill Material Barrier Trench "B"-Fill Placement

1. Additional sources will be added by the evaluator.
2. State attribute and how it relates with requirement.

III. List of Criteria

1. Information Source - (Applicable Procedures, OE Documents, Previous Reports, NSRS/OTC/ERT Investigation Reports Including revision or date)	Date Added to List	Applicable Section	2. <u>Comments</u>  (continued)
31. Memorandum, OE/CEB to CEB	3/24/86		Barrier Trench "B"
Files, Dated 8/1/83, "WBNP-:			
Liquefaction Potential -			
Underground Barrier Remedial			
Treatment--Status and			
Observations based on field:			
Inspection".			
32. Letter, TVA to US NRC, Dated:	3/24/86		Barrier Trench "B"
1/16/85, "...Information			
Concerning the As-Built			
Configuration of the Under-			
Ground Barrier at WBNP".			
33. "As-Built Cross-Sections for:	3/24/86		Barrier Trench "B"-Backfill
Barrier Trench "B"			Material
			Barrier Trench "B"-Fill Placement
34. US NRC Inspection Reports:	3/24/86		Barrier Trench "B"
No. 50-390/83-41 (A02-			
831021 019) No. 50-390/84-16			
(A02-840316 001) No. 50-390/			
84-64 (A02-840917 029)			

1. Additional sources will be added by the evaluator.
2. State attribute and how it relates with requirement.

III. List of Criteria

1. Information Source - (Applicable Procedures, OE Documents, Previous Reports, NSRS/QTC/ERT Investigation Reports Including revision or date)	Date Added to List	Applicable Section	2. <u>Comments</u>  (continued)
35. Memorandum, OE/OC WBNP Project Managers to W. R. Brown, Project Manager, WBNP: Dated 3/13/86, "NSRS Inves- tigation report IN-85-442- X13 - Seismic Trenches".	3/24/86		Barrier Trench "B" OC Response to NSRS Investigation Report
36. OC Response to Employee Concern IN-85-529-004	3/24/86		Blowdown Lines - Backfill
37. OC Response to Employee Concern IN-85-196-001	3/24/86		Blowdown Lines - Backfill
38. OC Response to Employee Concern IN-85-196-001	3/24/86		Blowdown Lines - Backfill
39. CCN No. C-47 Ro, R1, R2, R3	3/24/86		Blowdown Lines - Backfill
40. Memorandum to Files from C. Freeman, CEU, WBNP, dated: 9/4/85, "WBNP-Soil Compaction Requirements".	3/24/86		Blowdown Lines - Backfill

1. Additional sources will be added by the evaluator.
2. State attribute and how it relates with requirement.

III. List of Criteria

1. Information Source - (Applicable Procedures, OE Documents, Previous Reports, NSRS/OTC/ERT Investigation Reports Including revision or date)				2. <u>Comments</u>  (continued)	
	Date Added to List	Applicable Section			
41. Memorandum to Files from S.T. Wright, CEU, WBNP OC, Dated 2/27/85, "WBNP- Back- fill Operation of Cooling Towers Blowdown Pipe Replacement".	3/24/86			Blowdown Lines - Backfill	
42. Drawings 17W303-1,-2,-3,-4	3/24/86			Blowdown Lines - Backfill	
43. Drawing 10N213-1, R1	3/24/86			Blowdown Lines - Backfill	
Drawing 10N213-2, R6	3/24/86			Blowdown Lines - Backfill	
45. WBNP-QCP-2.01, R6 Dated 6/20/84	3/24/86			Blowdown Lines - Backfill	
46. WBNP-QCP-2.06, R4 Dated 7/9/82	3/24/86			Blowdown Lines - Backfill	
47. Drawing 17W302-2, R6	3/24/86			Blowdown Lines - Backfill	
48. WBNP, FSAR, Amendment 54	3/27/86	2.5.4		ERCW Lines - Fill Placement	
		2.5.5		ERCW Lines - Fill Placement	
		Fig. 2.5-549		ERCW Lines - Fill Placement	
		thru -553			

1. Additional sources will be added by the evaluator.
2. State attribute and how it relates with requirement.

#### IV. Interviews

[illegible]



V. Action Plan - Initial

Evaluation Plan

The concerns will be evaluated by element and attribute. The plan is sequenced to reflect that approach.

A. GENERAL:

1. Where deemed necessary, determine if there is additional information on the concerns in the QTC file for this subcategory.
2. Confer with other ECTG investigation groups to determine whether or not the elements and/or attributes in this subcategory have or are being investigated by them. Revise and/or delete affected sections of plan as necessary.

ELEMENT - BARRIER Trench "B":

- ATTRIBUTE # 1 - Designed Function
- # 2 - Backfill Material
  - # 3 - Fill Placement
  - # 4 - Incorrect Construction
  - # 5 - Artesian Well
  - # 6 - Yard Drainage
  - # 7 - Slope Deterioration

The underground Barrier Trench "B" concern areas have been investigated by NSRS and responded to by OE/OC Organization. The plan of this evaluation will be to review the documentation and interview engineers in OE and OC to determine if the trenches designedfunction has been compromised in anyway by the type material used, the method of placing and testing fill, the existing surface conditions prior to backfill placement, and the condition of the slopes.

The other area that needs to be resolved is if OC had any breakdowns of specifications or procedures in the construction of the trench.

1. Review the design drawings and specifications for the Underground Barrier Trench to get familiar with the required final structure.
2. Interview Charles M. Freeman, WBNP, CEU Supervisor, for establishing the construction methods used and the changes that were made as construction progressed.
3. Interview H. Ray Threlkeld and Joe Hunt, CEB-OE, for establishing the designed function, check for documentation and/or backup to changes from original design to the actual condition, and any documentation on field inspection that were made to approve site conditions prior to backfilling operation.
4. Interview Larry Nathan, WBNP, Civil-QC Supervisor, for establishing the inspection procedures used on the Barrier Trench construction.
  - a. Determine if he or his inspectors are aware of any problems during backfill operations.
  - b. Determine if QC-Inspectors generated any NCR's against any of the work.
  - c. Determine if inspectors were present during all fill placement operations.
5. Review as-built cross-sections for Barrier Trench, including soil test information, with H. Ray Threlkeld for design and construction adequacy.
6. Inspect trench area to observe slope conditions attributed to artesian well and yard drainage concerns, and evaluate.
7. Review NSRS Investigation Report No. IN-85-442-X13 and OC response for recommendations and conclusions.
8. Review all NCR's, US NRC inspection reports, and memorandum's for applicability to the Barrier Trench area.

C. ELEMENT - SINK HOLE:

ATTRIBUTE #1 - CORRECTIVE ACTION

1. Interview Charles M. Freeman, WBNP, CEU Supervisor, and any cognizant engineers and crafts on identifying the actual condition and what actions, if any, were taken to correct the sink hole problem.
2. Inspect the area involved and evaluate actual site conditions.
3. Interview Larry Nathan, WBNP, Civil-QC Supervisor, to determine if all necessary inspections were made and documented.

D. ELEMENT - BLOWDOWN LINES BACKFILL:

ATTRIBUTE #1 - BACKFILL

ATTRIBUTE #2 - EROSION

1. Review OC responses to employee concerns:
  - (1) IN-85-529-004
  - (2) IN-85-196-001
  - (3) IN-85-472-003and evaluate conclusions for further action.
2. Interview Charles M. Freeman, WBNP, CEU Supervisor, and any cognizant engineers, both civil and mechanical to determine the history of blowdown line construction.
3. Review inspection records related to blowdown line backfill operation and interview any of the QC-Materials Inspectors involved.
4. Inspect seismic trench area to observe slope conditions attributed to water leakage and evaluate as to any corrective action.

E. ELEMENT - ERCW PIPELINE BACKFILL:

ATTRIBUTE #1 - FILL PLACEMENT

ATTRIBUTE #2 - BASE SUPPORT MATERIAL

1. Interview Charles M. Freeman, WBNP CEU supervisor, and any cognizant engineers, both civil and mechanical, to determine the history of ERCW pipelines and associated construction.

2. Review inspection records related to ERCW pipeline backfill operations and interview any of the QC-materials inspectors involved.
3. Review FSAR, where applicable, use NRC reports, and other documentation as it applies to the ERCW line backfill and evaluate for inadequacies.

E. ELEMENT - ERCW LINES:

ATTRIBUTE #1 - FILL PLACEMENT

1. Interview Charles M. Freeman, WBN, CEU Supervisor, and any cognizant engineers, both civil and mechanical, to determine the history of ERCW Pipelines and Associated Backfill Construction.
2. Review inspection records related to ERCW Pipeline Backfill Operations and interview any of the QC Materials Inspectors involved.
3. Review FSAR, where applicable, US NRC reports, and other documentation as they apply to the ERCW line backfill and evaluate for inadequacies.

ELEMENT - NORTH VALVE ROOMS BACKFILL:

ATTRIBUTE #1 - BACKFILL MATERIAL

ATTRIBUTE #2 - FILL PLACEMENT

1. Interview Charles M. Freeman, WBN, CEU Supervisor, and any cognizant engineers to determine the construction history of the foundation for the north valve rooms area.
2. Review inspection records, documentation, and drawings of foundation area backfill operations and interview any of the QC Materials Inspectors involved at the time that are available.
3. Pursue any questionable areas relating to this fill area that results from the research.

G. ELEMENT - LOW VOLUME WASTE HOLDING POND DIKE

ATTRIBUTE #1 - BACKFILL MATERIAL

ATTRIBUTE #2 - FILL PLACEMENT

1. Interview Charles M. Freeman, WBN CEU supervisor, and any cognizant engineers to determine the construction history of the dike construction.

2. Interview H. Ray Threlkeld, CEB, to determine design requirements of dike.
3. Interview John Steiner, Civil-QC inspector, to determine inspection record of dike.
4. Pursue any questionable areas resulting from this research.

H. EVALUATION RESULTS:

1. Write a summary of the findings for each of the elements as they are evaluated. The summary is to include a description of the findings and state what, if any, additional action will be necessary to bring the elements into compliance.
2. Record additional source documents in Section III.
3. Record all interviews in Section IV.
4. This evaluation will require one evaluator for 130 man-hours.

V. Action Plan - Initial

## CROSS-REFERENCE MATRIX

Evaluation Plan Step Number	Concern(s) Addressed By Step	Element(s) Addressed	Attribute(s) Addressed
Section B	WI-85-040-003	Barrier Trench B	Artesian Well
Section B	IN-85-472-007	Barrier Trench B	Artesian Well, Slope Deterioration
Section B	WI-85-040-005	Barrier Trench B	Yard Drainage
Section B	IN-85-529-003	Barrier Trench B	Slope Deterioration
Section B	IN-85-496-001	Barrier Trench B	Fill Placement
Section B	IN-85-978-002	Barrier Trench B	Backfill Material
Section B	IN-85-978-003	Barrier Trench B	Backfill Material
Section B	IN-85-978-011	Barrier Trench B	Backfill Material Fill Placememt
Section B	IN-85-442-X13	Barrier Trench B	Fill Material Incorrect Constr.
Section C	IN-85-442-X11	Sink Hole	Corrective Action
Section D	IN-85-472-003	Blowdown Lines	Backfill
Section D	IN-85-196-001	Blowdown Lines	Erosion
Section E	IN-86-205-001-010	ERCW Pipelines	Fill Placement
	WI-85-040-004	ERCW Pipelines	Base Support Material
Section F	IN-85-978-003	North Valve Rooms	Fill Placement
Section F	IN-85-978-011	North Valve Rooms	Fill Placement Fill Material
Section G	IN-85-088-002	Low Volume Waste Holding Pond Dike	Backfill Material Fill Placement

VI. Instruction/Criteria for Additional Data Evaluations

(This is to be used when limited additional inspections, test, evaluations are necessary to answer the question in section VIII.)

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

## VII. Progress Reporting Requirements and Milestones

MILESTONESCONSTRUCTION CATEGORY

<u>MILESTONE</u>	<u>DATE</u>
<u>No. 1</u> PREPARE FINAL EVALUATION PLAN (FINISH)	<u>31 MAR 86</u>
<u>No. 2</u> PERFORM FINAL EVALUATION (FINISH)	<u>29 APR 86</u>
<u>No. 3</u> COORDINATE WITH LINE MANAGEMENT (FINISH)	<u>06 MAY 86</u>
<u>No. 4</u> FINAL REPORT/CA DRAFT (FINISH)	<u>12 MAY 86</u>
<u>No. 5</u> SRB REVIEW/APPROVAL (FINISH)	<u>16 MAY 86</u>
<u>No. 6</u> ISSUE FINAL REPORT (FINISH)	<u>23 MAY 86</u>



VIII. Answer the Question, are Statistical Sampling Actions  
Tests/Reinspections Necessary?

(Proceed to preparation of final EP if answer is yes)

IX. Root Cause Determination

X. Generic Applicability Determination: Section \_\_\_\_\_, Paragraph \_\_\_\_\_  
of Program Manual    \_\_\_WBN   \_\_\_SQN   \_\_\_BFN   \_\_\_BLN

XI. Proposed Immediate and Long-Term Corrective Actions

XII. Prepare Report

04/23/86

(EMPLOYEE CONCERNS)

PAGE: 1

08:34:05

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
----	-----	-----	-----	---	---	-----	--		
								IN-85-066-001	CD010

KEYWORDS:

X: Y: Z:

C/I QUESTIONED THE REASON FOR THE "SEISMIC TRENCH" ACROSS THE INTAKE STRUCTURE. CONCERNED THAT DURING SEISMIC EVENT THE COOLING WATER PIPES COULD RUPTURE AND CUT OFF THE COOLING WATER SUPPLY TO THE PLANT, BOTH UNIT 1&2. NO FURTHER DETAILS GIVEN OR KNOWN BY C/I.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
----	-----	-----	-----	---	---	-----	--		
								IN-85-088-002	CD010

KEYWORDS:

X: Y: Z:

ENGINEERS, ON SITE, BEING BYPASSED BY SUPERINTENDENTS TO GET CHANGES APPROVED. SITE ENGINEER WOULD NOT APPROVE THE CHANGE. SO THE PAPER WAS SENT TO KNOXVILLE IN A SUCCESSFUL ATTEMPT TO GET IT APPROVED. FEELS KNOXVILLE MAY NOT HAVE KNOWN WHY IT WASN'T APPROVED BY ON SITE ENGINEERS OR EVEN THAT IT HAD BEEN TURNED DOWN.

TECHNICAL COMMENTARY:

REVISION: SUPERINTENDENT IGNORED CIVIL GC REJECTION OF GRADING/BACKFILLING OPERATIONS OF COOLING POND DIKE, AND OBTAINED ENGINEERING APPROVAL TO DEVIATE FROM SPECIFICATION REQUIREMENTS

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
----	-----	-----	-----	---	---	-----	--		
								IN-85-196-001	CD010

KEYWORDS:

X: Y: Z:

THE BLOWDOWN LINES (PIPE) FROM COOLING TOWER TO RIVER ARE NOT PROPERLY INSTALLED, LEAKAGE AT SEISMIC BARRIER MAY CAUSE EROSION

TECHNICAL COMMENTARY:

04/23/86

(EMPLOYEE CONCERNS)

PAGE: 2

08:34:05

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-442-X11	CO010

KEYWORDS:

X: Y: Z:

WHEN CONST. TRAILERS WERE MOVED (EAST SIDE OF TURBINE BLDG), A LARGE SINK HOLE WAS NOTICED. CONST. ATTEMPTED TO LOCATE THE CAUSE WHICH APPEARED TO BE AN OLD AIR OR WATER LINE, HOWEVER NOTHING WAS EVER IDENTIFIED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-442-X13	CO010

KEYWORDS:

X: Y: Z:

WEST SIDE ("B" SIDE) UNDERGROUND DAM BY INTAKE WAS NOT DONE PER SPECIFICATION BECAUSE OF SCHEDULE, PRESSURE, WINTER SEASON AND RAINY WEATHER. INSTEAD OF USING COMPACTABLE CLAY, TVA USED 1075 (T-1 SPEC) WHICH IS 0.75"-1.5" MATERIAL USED MAINLY IN FRENCH DRAINS AS FILLER MATERIAL. IT IS EASY TO INSTALL IN BAD WEATHER AND IT MAKES UP 20' OF THE SOUTH END, AND IS NOT COMPAED. ALSO, THE "B" TRENCH (DAM) DOESN'T CONTACT THE INTAKE STRUCTURE BUT; KNOXVILLE SAID "IF THE NRC DOESN'T SAY ANYTHING THEN WE'LL JUST KEEP QUIET" AND QC WAS TOLD NOT TO WRITE AN NCR. AROUND THE TRENCH EDGE & GAP BETWEEN TRENCH & INTAKE WATER SEEMS

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-472-003	CO010

KEYWORDS:

X: Y: Z:

BLOWDOWN LINES (EXACT LOCATION UNKNOWN) WERE RE-INSTALLED WITH ONLY 2' OF INSPECTED BACKFILL, PER APPLICALE CONSTRUCTION CHANGE NOTICE, ISSUED BECAUSE INSPECTOR REFUSED TO TAKE DAY BY DAY DIRECTION VERBALLY FROM WBNP ENGINEERING (NAME KNOWN). CI RESEARCH DETERMINED THAT DOCUMENTATION EXISTS TO INDICATE THAT THE INITIAL REASON FOR LINE REWORK WAS THAT ONLY 2' OF INSPECTED BACKFILL WAS INITIALLY PROVIDED.

TECHNICAL COMMENTARY:

04/23/86

(EMPLOYEE CONCERNS)

PAGE: 3

08:34:05

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-472-007	CD010

KEYWORDS:

X: Y: Z:

TRENCH "B", SOUTH OF THE INTAKE PUMPING STATION, HAS DEVELOPED AN ARTESIAN WELL IN THE TRENCH AREA. TRENCH WAS ORIGINALLY DESIGNED AS A SEISMIC BARRIER BY ORDER OF THE NRC AND CI IS CONCERNED THAT EROSION IS OCCURRING AS A RESULT OF THE WATER. TVA IS AWARE OF THE PROBLEM BUT HAS FAILED TO TAKE ANY CORRECTIVE MEASURES.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-496-001	CD010

KEYWORDS:

X: Y: Z:

ERCW LIQUEFACTION, UNDERGROUND BARRIER-TRENCH B. MATERIALS USED TO BACKFILL-SEQUENCE, TYPE A FILL TO TYPE A FILL TIE AT IPS (DID NOT ACHIEVE) DRAWING 10 N 213 APPLIES.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
			YES					IN-85-529-003	CD010

KEYWORDS:

X: Y: Z:

EROSION OF BANK DUE TO WATER LEAKAGE, SOUTH OF INTAKE PUMP STRUCTURE. DETAILS KNOWN TO QTC, WITHHELD DUE TO CONFIDENTIALITY. CI DECLINED TO PROVIDE ANY FURTHER INFORMATION. NO FURTHER INFORMATION CAN BE RELEASED. CONSTRUCTION DEPARTMENT CONCERN.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-529-004	CD010

KEYWORDS:

X: Y: Z:

BLOWDOWN LINES RUNNING FROM COOLING TOWER TO RIVER ARE LEAKING BADLY AND POSSIBLE ERODING LINE BACKFILL IN THE AREA. THIS COULD POSSIBLY CAUSE FAILURE OF LINE DUE TO LINE COLLAPSE. NO FURTHER DETAILS AVAILABLE.

TECHNICAL COMMENTARY:

04/23/86

(EMPLOYEE CONCERNS)

PAGE: 4

08:34:05

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								IN-85-978-002	CO010

KEYWORDS:

X: Y: Z:

EARTHWORK BACKFILL LIFT LIMITS WERE OFTEN EXCEEDED BETWEEN COMPACTION OPERATIONS. INSTEAD OF AVERAGING ABOUT 1' OF DEPTH, LIFTS OF TWO OR THREE FEET WERE PLACED BEFORE COMPACTING. EXAMPLE: SEISMIC BARRIER TRENCHES ADJACENT TO INTAKE STRUCTURE. UNITS 1 & 2, 1974-1977. CONSTRUCTION DEPT. CONCERN. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								IN-85-978-003	CO010

KEYWORDS:

X: Y: Z:

TVA USED IMPROPER, UNCERTIFIED BACKFILL MATERIAL WIDELY - THROUGHOUT THE WBNP SITE. THIS MATERIAL DID NOT PACK WELL, AND COMPACTION LEVELS WERE BELOW WHAT WAS NEEDED TO ENSURE STABLE FILLS. EXAMPLES INCLUDE SEISMIC TRENCHES A & B AT THE INTAKE PUMPING STATION AND BENEATH THE NORTH VALVE ROOMS. CI HAS NO FURTHER INFORMATION. CONSTRUCTION DEPT. CONCERN. 1974-1977.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								IN-85-978-011	CO010

KEYWORDS:

X: Y: Z:

TVA KNOWINGLY USED UNAUTHORIZED BACKFILL METHOD AND MATERIALS THAT RENDER BACK-FILL QUALITY INDETERMINATE. EXAMPLES: IN THE CASE OF THE SEISMIC TRENCHES, BACK-FILL WAS TAKEN FROM MATERIAL SITES BEFORE THE NECESSARY TESTS AND APPROVALS WERE MADE. THIS MATERIAL HAD TOO MUCH SAND AND NOT ENOUGH CLAY, AND WAS NOT AMENABLE TO COMPACTION TO THE REQUIRED DEGREE. CIVIL INSPECTORS WERE DIRECTED TO ACCEPT THIS. ALSO THE MATERIAL WAS PLACED IN LIFTS OF TWO OR THREE FEET INSTEAD OF LESS THAN ONE FOOT. THIS WAS DONE IN THE SEISMIC TRENCHES, AND IN THE AREA NOW UNDER THE NORTH VALVE ROOM. 1974-1977. CI HAS NO FURTHER INFORMATION. CONST. DEPT. CONCERN

TECHNICAL COMMENTARY:

04/23/86

(EMPLOYEE CONCERNS)

PAGE: 5

08:34:05

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
----	-----	-----	-----	---	---	-----	---		
								IN-86-205-001-010	CD010

KEYWORDS:

X: Y: Z:

IERCW (3" INTAKE) PIPELINES ARE UNSUITABLE FOR SERVICE. ALL FOUR LINES WERE SUBJECTED TO STRESS DURING ORIGINAL BACKFILLING WITH IMPROPER METHODS (UNCONTROLLED DUMPING) DURING ORIGINAL INSTALLATION; ABOUT 1976. LATENT STRESS BECAME EVIDENT WHEN PIPE WAS EXCAVATED AND CUT FOR MORTAR LINING IN ABOUT 1982. BECAUSE THE PIPE MOVED UP TO 8" WHEN CUT. PIPE REQUIRED EXCESSIVE FORCE TO RE-INSTALL SECTIONS THAT HAD BEEN REMOVED. PRESENT LATENT PIPE STRESS LEVELS ARE NOT KNOWN.] ALTHOUGH THE PIPE WAS CLEANED THOROUGHLY BEFORE BEING LINED WITH MORTAR, THE MORTAR WAS SEEN TO BE STILL WET AND WAS ALREADY FLAKING OFF WHEN THE PIPE WAS BEING RECONNECTED. PIPE WAS HYDROSTATICALLY

TECHNICAL COMMENTARY:

MULTIPLE CONCERN. ONLY [.....] CONSIDERED.

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
----	-----	-----	-----	---	---	-----	---		
			YES					WI-85-040-003	CD010

KEYWORDS:

X: Y: Z:

ERCW TRENCH B HAS AN ARTESIAN WELL CONDITION. DETAILS KNOWN TO QTC, WITHHELD DUE TO CONFIDENTIALITY. CONSTRUCTION DEPT CONCERN. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
----	-----	-----	-----	---	---	-----	---		
								WI-85-040-004	CD010

KEYWORDS:

X: Y: Z:

THE ERCW PIPE LINES WERE NOT CONSTRUCTED ON THE NATURAL SHALE BED AS THE REQUIRED BASE SUPPORT. THE SAND, WITH IN 10-15 FEET OF THE SHALE, WAS NO EXCAVATED. THE BASE SUPPORT OF THESE PIPES IS SILTY SAND. IN A SEISMIC EVENT, THE SAND COULD POTENTIALLY LIQUEFY AND LEAVE THE PIPES UN-SUPPORTED WHICH COULD CAUSE THE RUPTURE OF THE PIPES AND CUT-OFF THE WATER SUPPLY TO THE REACTORS. CONSTRUCTION DEPT. CONCERN. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

04/23/86

(EMPLOYEE CONCERNS)

PAGE: 6

08:34:05

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
			YES					WI-85-040-005	CD010

KEYWORDS:

X: Y: Z:

WATER (POSSIBLY CONTAMINATED) IN THE YARD DRAINAGE HOLDING POND SEEPS/DRAINS THROUGH THE UNDERLYING SOIL, FLOWS/DRAINS THROUGH TRENCH B GRANULAR FILL, SEEPS/PERCOLATES THROUGH THE SURFACE OF THE SLOPE AT THE INTAKE PUMPING STATION, AND ENTERS THE INTAKE CHANNEL TO THE TENNESSEE RIVER. AN OLD STREAM BED AND/OR NATURAL SPRING MAY ALSO BE INVOLVED IN THE PROBLEM. DETAILS KNOWN TO QTC, WITHHELD DUE TO CONFIDENTIALITY. CONSTRUCTION DEPT. CONCERN. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

Subcategory C0020  
Subcategory Title: Concrete/Grout

Employee Concern Number	NSRS or QTC Report Number (If Issued)	Line Response (Organization-If Issued)
BEP-6-001-001		
EX-85-026-001	NSRS I-85-663-WBN	
IN-85-016-001	NSRS I-85-183-WBN	
IN-85-046-006		
IN-85-220-003	NSRS I-85-530-WBN	
IN-85-231-002		
IN-85-241-001	NSRS I-85-531-WBN	
IN-85-409-001		
IN-85-439-006	NSRS I-85-246-WBN	OC
IN-85-485-X01	NSRS I-85-291-WBN	OC
IN-85-525-001		
IN-85-641-003		
IN-85-978-004		
IN-86-217-001	NSRS I-85-453-WBN	
IN-86-221-002		
IN-86-221-003		
IN-86-259-X13	NSRS I-85-532-WBN	OC
WI-85-016-001	ERT WI-85-016-001	OC
WI-85-040-006		
XX-85-003-001		



INITIAL EVALUATION PLAN

Category: CONSTRUCTION

Subcategory: CONCRETE/GROUT

Prepared by: <sup>LEN</sup> Donald E. Nixon 1 03-31-86  
Preparer Date

Recommended by: Jack J. Howard 03-31-86  
Group Leader Date

Approved by: MWRudolph 1 3/31/86  
Group Head Date

INITIAL EVALUATION PLAN FOR  
SUBCATEGORY

Description of Perceived Problems:

The concerns in this subcategory deal with questionable conditions related to concrete and grout placed in permanent plant buildings. The questionable areas are:

1. Substandard concrete
2. Structural concrete integrity
3. Foreign objects embedded in concrete
4. Substandard surface preparation and concrete placement
5. Finisher qualifications (Nuclear Power Department)
6. Substandard concrete/grout placement for specific nonsafety-related area (Nuclear Power Department)
7. Substitution of grout for concrete for a specific nonsafety-related area (Nuclear Power Department)

Lead Evaluator: Donald E. Nixon

Evaluators: Jack L. Howard

Jimmie Joyce

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Initial Evaluation Plan

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- I. List of Concerns by Concern Number
  - II. Elements and Attributes of Concerns
  - III. List of Criteria (Including Document Numbers and Revisions)
  - IV. Interviews
  - V. Action Plan (Including Staffing and Scheduling)
  - VI. Instructions/Criteria for Additional Data Evaluations
  - VII. Progress Reporting Requirements and Milestones
  - VIII. Determination as to Whether or Not Surveillance, Test/Reinspections are Necessary
  - IX. Root Cause Determination
  - X. Generic Applicability Determination
  - XI. Proposed Immediate and Long-Term Corrective Actions
  - XII. Prepare Report
-

## I. Concerns for Subcategory

[illegible]

[illegible]

III. List of Criteria

1. Information Source -	:	:	:	2. Comments
(Applicable Procedures,	:	:	:	
OE Documents, Previous	:	Date	Applicable	
Reports, NSRS/QTC/ERT	:	Added	Section	
Investigation Reports	:	to List	:	
Including revision or date)	:	:	:	
NOTE: Listed in order by element and attribute.	:	:	:	
A. Element - Concrete/Attribute - Water content exceeded specification	:	:	:	
	:	limits in concrete.	:	
ERT Investigation Report:	:	:	:	
No. WI-85-016-001,	:	:	:	
including NSRS	:	:	:	
recommendations	:	3/19/86	All	
(WBN) FSAR, Vol. 4	:	3/19/86	3.8	:Applicable parts of section only.
*TVA General Construction:	:	:	:	
Specification No. G-2,	:	:	:	
"Plain and Reinforced	:	:	:	
Concrete.	:	3/19/86	**	
*WBN-QCP-2.02, "Concrete	:	:	:	
Placement and Documen-	:	:	:	
tation"	:	3/19/86	**	
TVA WBN Construction	:	:	:	
Specification No.	:	:	:	
N3G-101 R2, "Inspection	:	:	:	
- General - Construction:	:	:	:	
Requirements Manual"	:	3/19/86	2.2	

Additional sources will be added by the evaluator.  
 State attribute and how it relates with requirement.

\*Revision to be added later.  
 \*\*To be added later since sections may vary with revision level.

III. List of Criteria

1. Information Source -				2. Comments	
(Applicable Procedures,	:	:	:	:	:
OE Documents, Previous	:	Date	Applicable	:	:
Reports, NSRS/QTC/ERT	:	Added	Section	:	:
Investigation Reports	:	to List	:	:	:
Including revision or date)	:	:	:	:	:
*ASTM C-94, "Standard	:	:	:	:	:
Specification for	:	:	:	:	:
Ready-Mixed Concrete"	:	3/19/86	**	:	:
	:	:	:	:	:
B. Element - Concrete/Attribute - Lift restrictions exceeded during concrete placement.					
	:	:	:	:	:
ERT Investigation	:	:	:	:	:
Report No. WI-85-016-001:	:	:	:	:	:
including NSRS	:	:	:	:	:
recommendations	:	3/19/86	All	:	:
	:	:	:	:	:
(WBN) FSAR, Vol. 4	:	3/19/86	3.8	:	Applicable parts of section only.
	:	:	:	:	:
*TVA General Construction:	:	:	:	:	:
Specification No. G-2,	:	:	:	:	:
"Plain and Reinforced	:	:	:	:	:
Concrete"	:	3/19/86	**	:	:
	:	:	:	:	:
*WBN-QCP-2.02, "Concrete	:	:	:	:	:
Placement and Documen-	:	:	:	:	:
tation"	:	3/19/86	**	:	:
	:	:	:	:	:
TVA WBN Construction	:	:	:	:	:
Specification No. N3G-	:	:	:	:	:
101 R2, "Inspection -	:	:	:	:	:
General - Construction	:	:	:	:	:
Requirements Manual"	:	3/20/86	2.2	:	:

1. Additional sources will be added by the evaluator.
2. State attribute and how it relates with requirement.

\*Revision to be added later.

\*\*To be added later since sections may vary with revision level.

III. List of Criteria

1. Information Source - (Applicable Procedures, OE Documents, Previous Reports, NSRS/QTC/ERT Investigation Reports Including revision or date)			2. Comments	
	Date Added to List	Applicable Section		
C. Element - Concrete/Attribute - Substandard Concrete (Soft, weak, honeycomb/air pockets, patching)				
NSRS Investigation No.				
I-85-291-WBN (Concern				
No. IN-85-485-X01)	3/19/86	All		
Construction's response				
to NSRS Investigation				
Report No. I-85-291-WBN	3/19/86	All		
NSRS Investigation				
Report No. I-85-246-WBN				
(Concern No. IN-85-439-				
006)	3/19/86	All		
NSRS Investigation				
Report No. I-85-530-WBN				
(Concern No. IN-85-220-				
003)	3/19/86	All		
(WBN) FSAR, Vol. 4	3/19/86	3.8	:Applicable parts of section only.	
*TVA General Construction:				
Spec No. G-2, "Plain and:				
Reinforced Concrete"	3/19/86	**		

1. Additional sources will be added by the evaluator.
2. State attribute and how it relates with requirement.

\*Revision to be added later.

\*\*To be added later since sections may vary with revision level.



III. List of Criteria

1. Information Source - (Applicable Procedures, OE Documents, Previous Reports, NSRS/QTC/ERT Investigation Reports Including revision or date)	Date Added to List	Applicable Section	2. Comments
C. (Continued)			
*TVA General Construction:			
Specification No. G-34,			
"Repair of Concrete"	3/19/86	**	
*WBN-QCP-2.02, "Concrete			
Placement and Documen-			
tation"	3/19/86	**	
*WBN-QCP-1.47, "Concrete/			
Grout Preplacement			
Inspection"	3/20/86	**	
*WBN-QCP-1.14, "Inspec-			
tion and Testing of Bolt:			
Anchors Set in Hardened			
Concrete and Control of			
Attachments to Embedded			
Features"	3/20/86	**	

1. Additional sources will be added by the evaluator.  
State attribute and how it relates with requirement.

\*Revision to be added later.

\*\*To be added later since sections may vary with revision level.

1. Information Source -	:	:	:	
(Applicable Procedures,	:	:	:	2. Comments
OE Documents, Previous	:	Date	: Applicable	
Reports, NSRS/QTC/ERT	:	Added	: Section	
Investigation Reports	:	to List	:	
Including revision or date)	:	:	:	

1. Additional sources will be added by the evaluator.
2. State attribute and how it relates with requirement.

Revision to be added later.

\*\*To be added later since sections vary with revision level.

III. List of Criteria

1. Information Source - (Applicable Procedures, OE Documents, Previous Reports, NSRS/QTC/ERT Investigation Reports Including revision or date)	:	:	:	2. Comments
	:	Date Added to List	:	Applicable Section

## E. Element - Concrete/Attribute - Structural Integrity

NSRS Investigation

Report I-85-530-WBN

(Concern No. IN-85-220-

003)

3/19/86

All

(WBN) FSAR, Vol. 4

3/19/86

3.8

:Applicable parts of section only.

\*TVA General Construction:

Specification No. G-32,

"Bolt Anchors Set in

Hardened Concrete"

3/19/86

\*\*

\*WBN-QCP-1.14, "Inspec-

tion and Testing of Bolt:

Anchors Set in Hardened

Concrete and Control of

Attachments to Embedded

Features"

3/19/86

\*\*

1. Additional sources will be added by the evaluator.
2. Date attribute and how it relates with requirement.

\*Revision to be added later.

\*\*To be added later since sections may vary with revision level.

III. List of Criteria

1. Information Source - (Applicable Procedures, OE Documents, Previous Reports, NSRS/QTC/ERT Investigation Reports Including revision or date)	Date Added to List	Applicable Section	2. Comments
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## F. Element - Concrete/Attribute - Foreign Objects Embedded in Concrete

NSRS Investigation

Report No. I-85-531-WBN

(Concern No. IN-85-241-

001)

3/19/86 All

NSRS Investigation

Report No. I-85-532-WBN

(Concern No. IN-86-259-

X13)

Construction response to:

(Concern No. IN-86-259-

X13) dated 1/31/86

3/19/86 All

(WBN) FSAR, Vol. 4

3/19/86 3.8

:Applicable parts of section only.

\*TVA General Construction:

Specification No. G-2,

"Plain and Reinforced

Concrete"

3/19/86 \*\*

\*WBN-QCP-2.02, "Concrete

Placement and Documen-

tation"

3/19/86 \*\*

Additional sources will be added by the evaluator.

2. State attribute and how it relates with requirement.

\*Revision to be added later.

\*\*To be added later since sections may vary with revision level.

III. List of Criteria

1. Information Source -				2. Comments	
(Applicable Procedures,	:	:	:		
OE Documents, Previous	:	Date	Applicable		
Reports, NSRS/QTC/ERT	:	Added	Section		
Investigation Reports	:	to List			
Including revision or date)	:	:	:		
<hr/>					
*WBN-QCP-1.47, "Concrete/	:	:	:		
Grout Preplacement	:	:	:		
Inspection"	:	3/19/86	**		
	:	:	:		
<hr/>					
G. Element - Concrete/Attribute - Improper Surface Preparation Prior To					
	:	Concrete Placement	:		
	:	:	:		
(WBN) FSAR, Vol. 4	:	3/19/86	3.8	:Applicable parts of section only.	
	:	:	:		
*TVA General Construction:	:	:	:		
Specification No. G-2,	:	:	:		
"Plain and Reinforced	:	:	:		
Concrete"	:	3/19/86	**		
	:	:	:		
<hr/>					
*WBN-QCP-1.47, "Concrete/	:	:	:		
Grout Preplacement	:	:	:		
Inspection"	:	3/19/86	**		
	:	:	:		
<hr/>					
*WBN-QCP-2.02, "Concrete	:	:	:		
Placement and	:	:	:		
Documentation"	:	3/19/86	**		
	:	:	:		
	:	:	:		
	:	:	:		
	:	:	:		
	:	:	:		
	:	:	:		

1. Additional sources will be added by the evaluator.
2. State attribute and how it relates with requirement.

\*Revision to be added later.

\*\*To be added later since sections may vary with revision level.

III. List of Criteria

1. Information Source - (Applicable Procedures, OE Documents, Previous Reports, NSRS/QTC/ERT Investigation Reports Including revision or date)	:	:	:	2. Comments
	:	Date Added to List	Applicable Section	

## H. Element - Concrete/Attribute - Broken Concrete at Embedment Edges

NSRS Investigation

Report No. I-85-183-WBN

(Concern No. IN-85-016-

001)

3/19/86

All

1. Additional sources will be added by the evaluator.

2. State attribute and how it relates with requirement.

III. List of Criteria

1. Information Source -	:	:	:	2. Comments
(Applicable Procedures,	:	:	:	
OE Documents, Previous	:	Date	Applicable	
Reports, NSRS/QTC/ERT	:	Added	Section	
Investigation Reports	:	to List		
Including revision or date)	:	:	:	

I. Element - Grout/Attribute - Non-Certified Finishers (Nuclear Power	:	:	:
Department)	:	:	:

NSRS Investigation	:	:	:
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Report No. I-85-453-WBN	:	:	:
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(Concern No. IN-86-217-	:	:	:
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001)	:	3/19/86	:	All	:
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*TVA General Construction:	:	:	:
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Specification No. G-34,	:	:	:
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"Repair of Concrete"	:	3/19/86	:	**	:
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*TVA General Construction:	:	:	:
----------------------------	---	---	---

Specification No. G-2,	:	:	:
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"Plain and Reinforced	:	:	:
-----------------------	---	---	---

Concrete"	:	3/19/86	:	**	:
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*TVA General Construction:	:	:	:
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Specification No. G-51,	:	:	:
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"Grouting and Drypacking:	:	:	:
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of Baseplate and Joints":	3/19/86	:	**	:
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*TVA General Construction:	:	:	:
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Specification No. G-32,	:	:	:
-------------------------	---	---	---

"Bolt Anchors Set in	:	:	:
----------------------	---	---	---

Hardened Concrete"	:	3/19/86	:	**	:
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1. Additional sources will be added by the evaluator.
2. State attribute and how it relates with requirement.

\*Revision to be added later.

\*\*To be added later since sections may vary with revision level.

III. List of Criteria

1. Information Source - (Applicable Procedures, OE Documents, Previous Reports, NSRS/QTC/ERT Investigation Reports Including revision or date)	:	:	:	2. Comments
	:	Date	Applicable	
	:	Added	Section	
	:	to List	:	

## I. (Continued)

\*MAI-17, "Grouting and

Drypacking of Baseplates:

and Joints"

3/19/86

\*\*

\*MAI-19, "Repair of

Concrete"

3/19/86

\*\*

1. Additional sources will be added by the evaluator.  
 2. State attribute and how it relates with requirement.

Revision to be added later.

\*\*To be added later since sections may vary with revision level.



III. List of Criteria

1. Information Source -	:	:	:	2. Comments
(Applicable Procedures,	:	:	:	
OE Documents, Previous	:	Date	Applicable	
Reports, NSRS/QTC/ERT	:	Added	Section	
Investigation Reports	:	to List	:	
Including revision or date)	:	:	:	
:	:	:	:	

J. Element - Grout/Attribute - Grout Used in Lieu of Concrete for a

Specific Nonsafety-Related Area (Nuclear

Power Department)

\*TVA General Construction:

Specification No. G-34, :

"Concrete"

: 3/19/86 : \*\*

\*MAI-19, "Repair of

Concrete"

: 3/19/86 : \*\*

1. Additional sources will be added by the evaluator.  
 State attribute and how it relates with requirement.

\*Revision to be added later.

\*\*To be added later since sections may vary with revision level.

III. List of Criteria

1. Information Source -	:	:	:	2. Comments
(Applicable Procedures,	:	:	:	
OE Documents, Previous	:	Date	Applicable	
Reports, NSRS/QTC/ERT	:	Added	Section	
Investigation Reports	:	to List		
Including revision or date)	:	:	:	

## K. Element - Concrete/Grout/Attribute - Improper Formwork Installation

and Improper Preparation of

Concrete/Grout for Specific

Nonsafety-Related Area (Nuclear

Power Department)

\*MAI-19, "Repair of

"Concrete"

: 3/20/86

: \*\*

\*MAI-20, "Concrete

Placement" RO

: 3/20/86

: 5.2.9

1. Additional sources will be added by the evaluator.  
State attribute and how it relates with requirement.

\*Revision to be added later.

\*\*To be added later since sections may vary with revision level.

#### IV. Interviews

[illegible]

V. Action Plan - Initial

## Evaluation Plan

The following plan is sequenced in sections by element and attribute. Where attributes are relative, the investigation/evaluation plans are combined for the sake of more efficient utilization of time.

A. General

1. Where deemed necessary, determine if there is additional information on the concerns in the QTC file for this subcategory.

- \*Concern Number - IN-85-485-X01
- \*Concern Number - EX-85-026-001
- \*Concern Number - IN-86-217-001
- \*\*Concern Number - WI-85-016-001
- \*\*Concern Number - IN-85-525-001
- \*\*Concern Number - IN-85-439-006
- \*\*Concern Number - IN-85-231-002
- \*\*Concern Number - IN-85-641-003
- \*\*Concern Number - IN-85-409-001
- \*\*Concern Number - IN-85-046-006
- \*\*Concern Number - IN-85-978-004
- \*\*Concern Number - IN-86-221-003
- \*\*Concern Number - IN-86-221-002
- \*\*\*Concern Number - IN-85-220-003
- \*\*\*Concern Number - IN-86-259-X13
- \*\*\*Concern Number - IN-85-241-001
- \*\*\*Concern Number - IN-85-016-001
- \*\*\*\*Concern Number - WI-85-040-006

\*No additional QTC information deemed necessary at this time.

\*\*Additional information (if available) was requested via informal memorandum from Donald Nixon, ECTG, to Jim Murray, QTC, dated March 19, 1986.

\*\*\*Additional information (if available) was requested via informal memorandum from Donald Nixon, ECTG, to Jim Murray, QTC, dated March 20, 1986.

\*\*\*\*Additional information (if available) was requested via informal memorandum from Donald Nixon, ECTG, to Jim Murray, QTC, dated March 28, 1986.

2. The following two BLN concerns were evaluated for generic implication to WBN. Conclusions are as noted below:

Concern No. XX-85-003-001

Element - Concrete

Attribute - Improper concrete curing

Generic Implication - None since there were no concerns relative to concrete curing in this subcategory at WBN. However, curing will be evaluated to some extent under section C of plan.

Attribute No. 2 - Substandard concrete

Generic Implication - There were concerns at WBN relative to this attribute and will be addressed in section C of the plan.

Concern No. BEP-6-001-001

Element - Concrete

Attribute - Foreign objects embedded in concrete.

Generic Implication - There were concerns at WBN relative to this attribute and will be addressed in section F of plan.

3. Confer with other ECTG investigation groups to determine whether or not the attributes in this subcategory are being investigated by them. Revise and/or delete affected sections of plan as necessary.

B. Element - Concrete

Attribute #1 - Water content exceeded specification limits in concrete.

Attribute #2 - Lift restrictions exceeded during concrete placement.

1. Review site procedures concerning slump and lift restriction requirements versus construction specification.
2. Review site procedures and specifications to determine how slump requirements and lift restrictions were controlled.
3. Select at random several concrete placement pour numbers and determine if the concrete met slump requirements. This will be determined based on a review of the associated documentation relative to pour numbers selected. (Pour numbers may be selected from existing records.)
4. Contact Larry Nathan, WBN CQC Supervisor, and request interviews with a portion of those inspectors that were responsible for the inspection of concrete batching and placement operations. Ask each inspector interviewed the established questions given on attachment A.  
Note: Those interviewed will be logged on interview log later.
5. Contact Larry Nathan and interview Mr. Lathan to determine the following:
  - a. Determine if a concrete waste log has been maintained and, if so, review to determine if any concrete has been wasted due to slump exceeding requirements.
  - b. Determine if he is aware of any problems in the past with concrete exceeding slump requirements.
  - c. Determine whether or not inspector(s) is/are present during all:
    - batching operations
    - placing operations
  - d. Discuss the feasibility of any hourly construction personnel adding water to concrete without the assigned inspector being aware of such.
  - e. Discuss the feasibility of lift restrictions being exceeded.
  - f. Other relative discussion prompted by interview.

6. Contact Jerry Cofield, Assistant Construction Engineer (previous supervisor of concreting operations from a QC and engineering standpoint), and discuss similar items as given in section B.5 above.
7. Contact the appropriate laborer superintendent and request an interview with a portion of those employees associated with placing concrete. An attempt will be made to select those employees that were associated with placement activities between 1973 and 1980. Ask those interviewed to respond to the established questions given on attachment B.

Note: Interviews planned in sections B.4, B.5, B.6, and B.7 above will only be conducted to the extent deemed necessary to substantiate ERT Investigation Report No. WI-85-016-001.

8. Evaluate ERT Investigation Report No. WT-85-016-001 for details of their investigation. Compare results to determine if further investigation is necessary.
9. Review any recommendations given to NSRS to determine if they were adequately addressed by Construction.

C. Element - Concrete

Attribute - Substandard Concrete (soft, weak, honeycomb, air pockets, patching)

1. General

- \*a. Review site procedures concerning physical testing requirements of concrete versus construction specification.
- \*b. Spot check compressive strength records for acceptability of such strengths based on concrete class.
- c. Review site procedures to ascertain that requirements given in applicable construction specification(s) for concrete repair were in place.

\*Note: This part of plan may be covered by the investigation being conducted by OE/OC and, if so, will be deleted from plan and referenced only.

2. For those areas where substandard concrete was reported and the specific location can be determined, perform a walkdown of areas to perform a visual inspection. Request Larry Nathan, or an alternate with experience in the concrete area to participate in walkdown.  
Note: To be performed as deemed necessary as evaluation progresses.
3. During walkdown planned in C.2 above, list a portion of those features that contain concrete anchors and check test reports (SSD pull test reports, wedge bolt torque tests, etc.).  
Note: Where applicable only.
4. If pour numbers can be determined (based on the concerns within this attribute), review the documentation to determine the acceptability of the concrete compressive strength tests.  
Note: Only to the extent deemed necessary.

5. Based on pour number determination in section C.4 above, review any concrete curing records and freeze protection records.  
Note: Only to the extent deemed necessary.
6. Contact appropriate electrical superintendent and the appropriate steamfitter superintendent and request an interview with a portion of the foremen who have been involved with the installation of supports. Ask those interviewed to respond to the established questions regarding any concrete damage that might occur during support installation. (Questions are given on attachment c.)
7. Contact George Baisden, HQC Supervisor, and interview him to determine the following:
  - a. Discuss what actions are taken if in the event during a pull test inspection, failures are encountered and the concrete is damaged.
  - b. Any available history regarding anchor failures due to concrete failure.
8. Contact Larry Nathan, WBN CQC Supervisor, and interview him to determine the following:
  - a. Same as sections C.7.a and b.
  - b. Discuss the process and controlling requirements of concrete repair caused by support removal and/or concrete damaged during a pull/torque test operation.
  - c. Discuss how concrete defects, such as honeycomb/air pockets, are detected.  
  
How are such areas repaired?
9. After notification of appropriate supervisors, interview various QC Inspection Unit personnel involved with anchor testing. Ask the established questions regarding concrete defects given on attachment D.
10. Evaluate the following NSRS Investigation Reports for details of their investigation. Compare results to determine if further investigation is necessary.  
  
I-85-291-WBN (Concern No. IN-85-485-X01)  
I-85-246-WBN (Concern No. IN-85-439-006)  
I-85-530-WBN (Concern No. IN-85-220-003)
11. Review any recommendations given by NSRS to determine if they were adequately addressed by Construction.
12. Concern No. WI-85-040-006 addressed a concern dealing with the validity of a corrective action given in a NCR. Determine NCR number and review. The necessity of further investigation will be determined after the review.

D. Element - Concrete

1. Review design and analysis procedures in the FSAR, Section 3.8 for general information relating to creep and shrinkage effects in the containment wall.
2. Since a specific location is known, perform a visual inspection of the shield building wall at elevation 813 between azimuths 300° and 320°. In addition to the evaluator, R. E. Bullock, Design Engineering, Technical Support Branch, and Larry Nathan, WBN CQC Supervisor, or alternates if necessary, will be contacted to participate in the visual inspection.  
Note: Due to possible inaccessibility, inspection will be to the point deemed necessary.
3. Based on the evaluation/inspection in section D.2 above and a review of NSRS Investigation Report No. I-85-663-WBN (Concern No. EX-85-026-001) for comparison of results, it will be determined as to the necessity of further investigation.

E. Element - Concrete

Attribute - Structural Integrity

1. Contact OE personnel concerning design loads for anchors. In addition, determine what process is used in determining loads on concrete members to ensure structural integrity is not jeopardized in the Reactor Building.
2. Review the results of NSRS Investigation Report No. I-85-530-WBN (Concern No. IN-85-220-003).
3. Based on the results of sections E.1 and E.2, determine if further investigation is necessary.  
Note: It will be determined later as to the necessity of reviewing expansion anchor proof load test reports in this area since such reports will be reviewed in section C of plan.

F. Element - Concrete

Attribute - Foreign Objects Embedded in Concrete

1. Review site procedures related to this attribute and compare with construction specification(s) listed in the Construction Requirements Manual.
2. Review site procedures to determine documentation requirements for cleanliness of concrete surfaces prior to placement.
3. Select at random several concrete placement pour numbers and verify that inspection records adequately document the cleanliness of concrete placement areas, prior to concrete placement.
4. Contact Larry Nathan and request interviews with a portion of those inspectors that were responsible for the inspection of concrete placement. Ask each inspector interviewed the established questions given on attachment E.  
Note: Those interviewed will be logged on interview log later.



5. The information given in Concern No. IN-85-241-001 and NSRS Investigation Report No. IN-85-2241-001 is somewhat specific in that wood was "hit" during drilling operations. Review the concern and the investigation report carefully to determine if further investigation is necessary in this specific area.
6. Evaluate NSRS Investigation Report Nos. I-85-532-WBN (Concern No. IN-86-259-X13) and I-85-531-WBN (Concern No. IN-85-241-001) and compare results with this evaluation. This will determine the necessity of further investigation.
7. Review any recommendations given by NSRS based on their results to determine if Construction adequately addressed any recommendations given.

G. Element - Concrete

Attribute - Improper Surface Preparation Prior To Concrete Placement

1. Review site procedures related to this attribute and compare with construction specifications.
2. Review site procedures to determine documentation requirements for surface preparation (scarifying, green cutting, surface washing, etc.) prior to concrete placement.
3. Select at random several concrete placement pour numbers and verify that inspection records adequately document surface preparation of concrete prior to concrete placement
4. Contact Larry Nathan and request interviews with a portion of the inspectors that were/are responsible for the inspection of concrete placement. Ask each inspector interviewed, the established questions given on attachment F.

Note: Those interviewed will be logged in interview log later.

5. Based on results of investigation thus far, determine if further investigation is necessary.

H. Element - Concrete

Attribute - Broken Concrete at Embedment Edges

1. As much as possible, based on available information given, perform a visual inspection of the area reported in the specific concern. Select at random other areas containing embedments for similar instances.
2. Contact Larry Nathan to determine the following:
  - a. Any awareness of problems with broken concrete edges around embedded plates. If so, to what extent?

- b. As applicable, how are such areas reported, repaired, and documented?
  - c. If there have been problems in this area, determine what appears to be the cause (example: welding members to embeds).
  - d. Other discussion relative to attribute.
- 3. Contact Bill Huffaker, WBN Assistant Construction Engineer - Civil, and discuss any possible problems relating to this attribute.
  - 4. Based on the investigation thus far, a review of NSRS Investigation Report No. I-85-183-WBN (Concern No. IN-85-016-001), and investigation accomplished in section C of this plan, determine if further investigation is necessary.

I. Element - Grout

Attribute - Non-Certified Finishers (ONP)

- 1. Review associated specification(s) and site procedures to determine whether or not finishers are required to be certified to perform concrete-related finisher activities (drypacking, etc.).
- 2. Contact appropriate supervisor in ONP to determine the following:
  - a. In the event associated documents do not address the certification of finishers, are there any administrative policies that require such?
  - b. Any substandard work by finishers noted, especially in the areas of drypacking.
- 3. During conversation with appropriate supervisor in section I.2 above, request an interview with a portion of those inspectors that were/are responsible for concrete-related activities. Ask each inspector interviewed the established questions given on attachment G.

Note: Those interviewed will be added to the interview log later.
- 4. Review a selected portion of test results for drypack and verify acceptability of compressive strengths.
- 5. Review NSRS Investigation Report No. I-85-453-WBN (Concern No. IN-86-217-001) and compare results of investigations. Based on comparison of results, determine if further investigation is necessary.

J. Element - Grout

Attribute No. 1 - Grout Used in Lieu of Concrete for a Specific Nonsafety-Related Area (Nuclear Power Department)

Attribute No. 2 - Improper Formwork Installation and Improper Preparation of Concrete/Grout for Specific Nonsafety-Related Areas (ONP)

1. Contact engineering personnel in ONP to determine if there are specification requirements other than those listed in section III for nonsafety-related areas related to those attributes. Obtain title and numbers of such documents if applicable.
  2. Based on requirements, review ONP procedures to ensure that they adequately address criteria in relation to those attributes.
  3. Based on information available, attempt to locate the areas reported and perform a visual inspection.
  4. Determine how the following items are controlled:
    - a. Correct concrete class and/or grout type for the specific area being placed.
    - b. In the event substitution of grout for concrete is necessary, how is such controlled? (Example: FCRs, etc.)
    - c. Preparation of concrete/grout.
    - d. Acceptability of formwork installation.
- Note: The above will be determined by review of procedures and specifications and interviews with appropriate engineering/quality control personnel.
5. Review results of investigation at this point and determine if further investigation is necessary.

K. Additional

1. Write a summary of the findings for each of the above evaluations. This summary is to include a description of the findings and state what, if any, additional action is required.
2. Record additional source documents in section III.
3. Record all interviews in section IV.
4. This evaluation will require 2 evaluators and 260 man-hours.

Note: Interviews for the different specified attributes will be conducted simultaneously as much as possible.

V. Action Plan - Initial

## CROSS-REFERENCE MATRIX

Evaluation Plan Step Number	Concern(s) Addressed By Step	Element(s) Addressed	Attribute(s) Addressed
Section B	WI-85-016-001	Concrete	Water content exceeded specification limits in concrete. Lift restrictions exceeded during concrete placement.
Section C	IN-85-525-001  IN-85-439-006 IN-85-231-002 IN-85-485-X01 IN-85-641-003 IN-85-409-001 IN-85-220-003 * XX-85-003-001 WI-85-040-006	Concrete	Substandard concrete (soft, weak, honey-comb/ air pockets, patching)
Section D	EX-85-026-001	Concrete	Cracks in containment concrete
Section E	IN-85-220-003	Concrete	Structural integrity
Section F	IN-85-046-006 * BEP-6-001-001 IN-85-241-001 IN-86-259-X13 IN-85-978-004	Concrete	Foreign objects embedded in concrete
Section G	IN-85-978-004	Concrete	Improper surface preparation prior to concrete placement

Section H	IN-85-016-001	Concrete	Broken concrete at embedment edges
Section I	IN-86-217-001	Grout	Non-certified finisher (Nuclear Power Dept)
Section J	IN-86-221-003	Grout	Grout used in lieu of of concrete for a specific non-safety related area. (Nuclear Power Dept.)
Section J	IN-86-221-002	Concrete/ Grout	Improper formwork installation and improper preparation of concrete/grout for specific non-safety related area (Nuclear Power Dept.)

\* Bellefonte concern but applicable to WBNP

VI. Instruction/Criteria for Additional Data Evaluations  
(This is to be used when limited additional inspections, test, evaluations are necessary to answer the question in section VIII.)

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

## VII. Progress Reporting Requirements and Milestones

MILESTONESCONSTRUCTION CATEGORY  

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<u>MILESTONE</u>		<u>DATE</u>
<u>No. 1</u>	PREPARE FINAL EVALUATION PLAN (FINISH)	<u>31 MAR 86</u>
<u>No. 2</u>	PERFORM FINAL EVALUATION (FINISH)	<u>29 APR 86</u>
<u>No. 3</u>	COORDINATE WITH LINE MANAGEMENT (FINISH)	<u>06 MAY 86</u>
<u>No. 4</u>	FINAL REPORT/CA DRAFT (FINISH)	<u>12 MAY 86</u>
<u>No. 5</u>	SRB REVIEW/APPROVAL (FINISH)	<u>16 MAY 86</u>
<u>No. 6</u>	ISSUE FINAL REPORT (FINISH)	<u>23 MAY 86</u>

- VIII. Answer the Question, are Statistical Sampling Actions Tests/Reinspections Necessary?  
(Proceed to preparation of final EP if answer is yes)
- IX. Root Cause Determination
- X. Generic Applicability Determination: Section \_\_\_\_\_, Paragraph \_\_\_\_\_  
of Program Manual \_\_\_\_\_ WBN \_\_\_\_\_ SQN \_\_\_\_\_ BFN \_\_\_\_\_ BLN \_\_\_\_\_
- XI. Proposed Immediate and Long-Term Corrective Actions
- XII. Prepare Report



Attachment A  
Sheet 1 of 1

Date:

Person Interviewed:

Present Unit:

Location of Interview:

Extension:

1. Discuss how slump requirements are maintained at the point of batching when:  
Ready-mix concrete is used -  
  
Central-mix concrete is used -
2. How often is concrete tested for slump during batching of:  
  
Ready-mix concrete -  
  
Central-mix concrete-
3. Discuss the process of assuring that when concrete is determined to exceed slump requirements is not dispatched to the placement area.
4. During inspection surveillance of placement activities, who controls the addition of water to concrete? (Examples: inspector, forman, etc.)
5. Discuss the feasibility of water being added to a batch of concrete without the inspector being aware of such.
6. Discuss how assurance is maintained that lift restrictions are not exceeded during placement of concrete.
7. Other discussion prompted by interview that is relative.

NOTE: The above may be revised to add or delete questions as the investigation progresses.

Attachment B  
Sheet 1 of 1

Date:

Person Interviewed:

Craft:

Location of Interview:

Extension:

1. Discuss your experience related to concrete placement.
2. Discuss the presence of an inspector during placement activities.
3. Based on your experience in concrete placement activities, discuss the process of the addition of water to concrete and whether or not an inspector was present and/or aware of such.
4. Discuss inspector presence during concrete placement activities. (was he always there?, etc.)
5. Discuss how and who controlled lift restrictions placed on concreting activities during placement.
6. Other relative discussion prompted by interview.

NOTE: The above may be revised to add or delete questions as the investigation progresses.

Attachment C  
Sheet 1 of 1

Date:

Person Interviewed:

Craft:

Location of Interview:

Extension:

1. Discuss the actions that would be taken in the event that during a support installation or support removal from a concrete member, the concrete was found to be damaged. Who or what organization would be contacted?
2. Discuss what actions would be taken if the concrete was found to contain honeycomb/air pockets at the location to which the attachment was to be anchored.
3. Other discussion prompted by interview:

NOTE: The above may be revised to add or delete questions as the investigation progresses.

Attachment D  
Sheet 1 of 1

Date:

Person Interviewed:

Unit:

Location of Interview:

Extension:

1. Discuss what actions would be taken if defects in concrete were encountered during an anchor test operation.
2. To your knowledge, have there been any significant or unusual concrete problems identified during an anchor installation?

If so, what are the area?

NOTE: The above may be revised to add or delete questions as investigation progresses.

Attachment E  
Sheet 1 of 1

Date:

Person Interviewed:

Unit:

Location of Interview:

Extension:

1. Discuss the requirements for the cleanliness of concrete placement areas, prior to placing the concrete.
2. Discuss any instances where trash, debris or sawdust were allowed to remain during a concrete placement.  
  
If any, give building, location, etc:
3. In regards to nails, wires, bolts and like items, to what extent (if any) were items such as this allowed to remain on the surface during placement operations.
4. Discuss the probability of wooden materials such as form struts being left in a concrete placement.
5. Discuss any awareness that you may have concerning foreign objects that may have been left in a concrete placement.
6. Discuss inspections performed after form removal.
7. To your knowledge, can you describe any instances where after form removal, foreign material/objects were identified. If so, how were such instances handled?

NOTE: The above may be revised to add or delete questions as investigation progresses.

Attachment F  
Sheet 1 of 1

Date:

Person Interviewed:

Unit:

Location of Interview:

Extension:

1. Discuss the requirements of concrete surface preparation prior to placing the concrete. (Scarifying, green-cutting, wash down, etc.)
2. Based on your experience, has construction made a practice of not rinsing surfaces after a green-cutting operation.
3. Discuss any instances in which you may be aware, where the surfaces were not acceptably prepared.  
  
If any, give building and location:
4. Discuss any instances where bonding to succeeding concrete lifts have been a problem.  
  
If any, give building and location:
5. Other relative discussion prompted by interview.

NOTE: The above may be revised to add or delete questions as the investigation progresses.

Attachment G  
Sheet 1 of 1

Date:

Person Interviewed:

Unit:

Location of Interview:

Extension:

1. Discuss any previous problems relative to concrete finisher type work.  
(grout, drypack, repair, etc.)
2. Discuss any rejections related to drypack, grout, repair and etc.
3. In your opinion, has the finisher type work been performed in an acceptable manner.
4. Other relative discussion prompted by interview.

NOTE: The above may be revised to add or delete questions as the interview progresses.

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(EMPLOYEE CONCERNS)

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08:37:56

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								BEF-6-001-001	CD020

KEYWORDS:

X: Y: Z:

IN APPROXIMATELY 1975 OR 1976 TWO WELDING MACHINES (ONE WAS A MILLER AND THE OTHER A SMALL BUZZ BOX) WERE NOT REMOVED PRIOR TO MAKING A CONCRETE POUR. EXACT LOCATION IS UNKNOWN, BUT APPROXIMATE LOCATION IS THE CONTAINMENT WALL, ELEV. 629, UNIT 2. (NAMES KNOWN TO QTC AND WITHHELD TO MAINTAIN CONFIDENTIALITY). NO FURTHER INFORMATION MAY BE RELEASED. CI HAS NO FURTHER INFORMATION. NUCLEAR POWER CONCERN.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								EX-85-026-001	CD020

KEYWORDS:

X: Y: Z:

CRACKS EXIST IN CONTAINMENT WALL UNIT 2, LOCATION: ELEV. 813 AZ 300 DEGREES TO 320 DEGREES OUTER WALL, ANNULUS AREA. CI NOTICED THESE IN JUNE '85. CONST. DEPT. CONCERN  
CI HS NO FURTHER INFORMATION  
NO FOLLOWUP REQUIRED

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								IN-85-016-001	CD020

KEYWORDS:

X: Y: Z:

BROKEN CONCRETE AT EDGES OF EMBEDDED PLATES. REACTOR CRANE WALL BETWEEN EL. 708' AND 740' (UNIT 1), AUX BUILDING CEILING EL. 713' (UNIT 1).

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								IN-85-046-006	CD020

KEYWORDS:

X: Y: Z:

FOREIGN OBJECTS (WIRES) WERE FOUND TO BE EMBEDDED IN CONCRETE WALLS, APPROX. 2 1/2 YEARS AGO. CI ALSO EXPRESSED THAT IT IS "COMMON KNOWLEDGE" THAT POP CANS, LIGHTS, AND OTHER OBJECTS ARE EMBEDDED IN THE WALLS. NO LOCATIONS GIVEN. CONSTRUCTION DEPTS. CONCERN. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:



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(EMPLOYEE CONCERNS)

PAGE: 2

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LOC	STATUS	RESP	-GTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-220-003	CD020

KEYWORDS:

X: Y: Z:

IN UNIT 2, DUE TO EXCESSIVE NUMBER OF HANGERS BEING USED IN REACTOR BLDG. (ANNULUS AREA AND AIR POCKETS IN CONCRETE WALLS IN ANNULUS AREA FROM AZIMUTH 292 TO 358,) THE STRUCTURAL INTEGRITY OF THE SUPPORTING WALLS/FLOORS IS QUESTIONABLE. CONSTRUCTION DEPARTMENT CONCERN. C/I COULD NOT PROVIDE ANY ADDITIONAL DETAILS/SPECIFICS. NO FOLLOW-UP REQUIRED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-GTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-231-002	CD020

KEYWORDS:

X: Y: Z:

UNIT 2, AUXILLIARY BLDG. ELEV. 692', CONCRETE WALLS ARE SOFT AND BRITTLE. WHEN CHIPPING A SMALL AREA, LARGE PIECES OF CEMENT HAVE BROKEN OFF. CONSTR. DEPT. CONCERN. CI COULD NOT PROVIDE ANY ADDITIONAL DETAILS/SPECIFICS. NO FOLLOWUP REQUIRED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-GTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
			YES					IN-85-241-001	CD020

KEYWORDS:

X: Y: Z:

UNIT #1 REACTOR BLDG., 200 DEGREES AZ. ELEV. 702' PRIMARY CONTAINMENT REACTOR VESSEL WALL HAS PLYWOOD INSERT. CI HIT PLYWOOD ON NUMEROUS OCCASSIONS WHILE DRILLING ANCHOR BOLT HOLES IN THIS WALL. THIS OCCURRED DURING 1979-1980 TIME FRAME. CONSTR. DEPT. CONCERN. ADDITIONAL INFORMATION IN FILE, WITHHELD DUE TO CONFIDENTIALITY. NO FOLLOWUP REQUIRED.

TECHNICAL COMMENTARY:

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(EMPLOYEE CONCERNS)

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-409-001	CD020

KEYWORDS:

X:

Y:

Z:

A PIECE OF CONCRETE 8'X18''X3'' FELL OF A WALL IN UNIT 1 AUX BUILDING WHEN CONDUIT HANGERS WERE REMOVED FROM WALL. (ELEV. 737') NO NCR WAS WRITTEN TO DOCUMENT THIS OCCURRENCE. (LATE 1981 OR EARLY 1982)

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-439-006	CD020

KEYWORDS:

X:

Y:

Z:

SUB-STANDARD, WEAK CONCRETE REPORTED TO MANAGEMENT BUT NOTHING DONE. EG., UNIT 1 676' ELE. BY STAIRWAY--WALL HAS ENTIRELY "ROTTEN" CONCRETE. (BLDG. NOT KNOW) CI HAS NO FURTHER INFORMATION NO FOLLOW UP REQUIRED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-485-X01	CD020

KEYWORDS:

X:

Y:

Z:

"SOFT" CONCRETE APPARENTLY FROM FREEZING DURING CONSTRUCTION WAS DISCOVERED DURING CHIPPING OPERATIONS. LOCATIONS ARE AS FOLLOWS:  
1. UNIT 1 713' ELEVATION- GO THROUGH DOUBLE DOORS AS IF GOING INTO THE REACTOR BUILDING, FIRST ROOM ON RIGHT, ACROSS FROM THE PIPE CHASE. 2. UNIT 1 692' ELEVATION, IN THE PUMP ROOM. DISCOVERED DURING PAST TWO MONTHS TIME FRAME. NO FURTHER DETAILS AVAILABLE.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-525-001	CD020

KEYWORDS:

X:

Y:

Z:

AREAS OF "SALT" CONCRETE HAVE BEEN ENCOUNTERED DURING ANCHOR BOLT INSTALLATION IN UNIT 2. TWO INCIDENTS WERE RELATED:  
1 SAFETY RELATED, AUX. BUILDING, UNIT 2, VALVE ROOM LOCATED ON T10 OR T11 LINE, NO ELEVATION PROVIDED. A 8-9" DIAMETER, 1. 1/2" THICK PIECE OF CONCRETE PULLED LOOSE DURING ANCHOR BOLT PULL TEST  
2. NON-SAFETY RELATED, TURBINE BUILDING, UNIT 2 696' ELEVATION ON T10 OR T11 LINE, ANCHOR BOLTS WERE EASY TO DRILL AND INSTALL, INDICATING "SOFT" CONCRETE. INCIDENT 1 WAS DULY REPORTED AND REPAIRED PER TVA PROCEDURES. THE CONCERN IS THAT THESE INCIDENTS REPRESENT A GENERIC INDICATION OF MARGINAL OR INADEQUATE CONCRETE QUALITY AND

TECHNICAL COMMENTARY:

REPRESENT THE POTENTIAL FOR ACCEPTABLE ANCHOR BOLTS TO LOOSEN IN THE FUTURE.

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(EMPLOYEE CONCERNS)

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08:37:56

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-641-003	CD020

KEYWORDS:

X:

Y:

Z:

CONCRETE IN MISSLE SHIELD WALL IS HONEYCOMBED. CONCRETE IS "CHIPPING" OFF. SUPERVISION/MANAGEMENT INDIVIDUALS (NAMES KNOWN) WAS INFORMED BUT NO EFFORT WAS MADE TO INVESTIGATE/RESOLVE INDIVIDUAL'S CONCERN. LOCATION OF THIS PROBLEM IS 260 DEGREES- 300 DEGREES A2. AND ELEV 740'-0" & 745'-0", BOTH UNITS. TIME FRAME '82 OR '83. NO SPECIFIC DATE WAS GIVEN. CONSTRUCTION DEPT CONCERN. CI HAS NO ADDITIONAL INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-978-004	CD020

KEYWORDS:

X:

Y:

Z:

TVA MADE A PRACTICE OF WORKING CONCRETE POURS ONTO IMPROPERLY PREPARED SURFACES. (UNCLEAN SAWDUST, CONSTRUCTION TRASH, WIRE. NOT SCORIFIED. NOT GREEN CUT OR WASHED DOWN TO FREE SURFACE OF LOOSE POWER). EXAMPLE: FLOORS, WALLS, AND FOUNDATIONS, INCLUDING UNIT 1 TURBINE FOUNDATION. CI HAS NO FURTHER INFORMATION. CONSTRUCTION DEPT. CONCERN.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-217-001	CD020

KEYWORDS:

X:

Y:

Z:

THERE ARE NO CERTIFIED CONCRETE FINISHERS WITHIN A TVA GROUP (KNOWN). CI STATED THAT CONCRETE FINISHERS MUST BE CERTIFIED (BY TESTING) TO PERFORM "DRY PACKING", BUT HIS WORK IS BEING PERFORMED BY OTHER CRAFT (KNOWN). NUC PWR DEPT. CONCERN. CI HAS NO ADDITIONAL INFORMATION.  
NO FOLLOW UP REQUIRED.

TECHNICAL COMMENTARY:

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(EMPLOYEE CONCERNS)

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-221-002	CD020

KEYWORDS:

X: Y: Z:

TURBINE BUILDING, ELEV. 676', STRAIGHT OUT OF THE ELEVATOR. DOWN A SET OF STEPS, AND TO THE RIGHT - CI STATED THAT THE CONCRETE/GROUT USED TO INSTALL SLEEVES IN THE WALL PENETRATIONS WAS IMPROPERLY PREPARED AND THE FORMS WERE NOT INSTALLED CORRECTLY. NUC. POWER DEPT. CONCERN. CI HAS NO ADDITIONAL INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-221-003	CD020

KEYWORDS:

X: Y: Z:

TURBINE BLDG, EL. 676', STRAIGHT OUT OF THE ELEVATOR, DOWN A SET OF STEPS, AND TO THE LEFT - A HOLE IN THE FLOOR APPROX. 2' DEEP BY 3' WIDE X 3 1/2-4' LONG WAS FILLED WITH GROUT, IN LIEU OF CONCRETE. NUC. PWR. DEPT. CONCERN. CI HAS NO ADDITIONAL INFORMATION. NO FOLLOW UP REQUIRED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-259-X13	CD020

KEYWORDS:

X: Y: Z:

CI STATED THAT THERE ARE NUMEROUS FOREIGN OBJECTS EMBEDDED IN THE CONCRETE THROUGH OUT THE PLANT. IE..NAILS, WIRE, LIGHTS, BOLTS, NUTS. NO SPECIFIC LOCATION WAS PROVIDED. CONSTRUCTION CONCERN. CI HAS NO ADDITIONAL INFORMATION. FOLLOW-UP NOT REQUIRED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								WI-85-016-001	CD020

KEYWORDS:

X: Y: Z:

CONSTRUCTION LABORER PERSONNEL ROUTINELY EXCEEDED WATER CONTENT LIMITS AND LIFT AMOUNT LIMITS DURING CONCRETE POURS, ESPECIALLY IN THE EARLIER YEARS OF THE PROJECT (1973-79). THIS WAS BY ORDER OF LABORER SUPERVISION, WHO WERE IN A HURRY TO COMPLETE THE JOE. MOST INSTANCES OF PROCEDURE VIOLATIONS OCCURRED WHEN INSPECTORS WERE NOT AROUND, OR WERE INATTENTIVE TO POUR DETAIL REQUIREMENTS. NO FURTHER DETAILS AVAILABLE.

TECHNICAL COMMENTARY:

04/23/86

(EMPLOYEE CONCERNS)

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
			YES					WI-85-040-006	CD020

KEYWORDS:

X: Y: Z:

NCR (NUMBER KNOWN) WAS WRITTEN TO DOCUMENT NONCONFORMING CONDITIONS RELATIVE TO CEMENT MORTAR PATCHES IN UNITS 1 & 2, AT VARIOUS LOCATIONS/ELEVATIONS. CI QUESTIONS THE VALIDITY AND APPROPRIATENESS OF THIS NCR AND THE ASSOCIATED CORRECTIVE ACTIONS. DETAILS KNOWN TO QTC, WITHHELD DUE TO CONFIDENTIALITY. NO FURTHER INFORMATION MAY BE RELEASED. CONSTRUCTION DEPARTMENT CONCERN. CI HAS NO FURTHER INFORMATION  
NO FOLLOW UP REQUIRED

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								XX-85-003-001	CD020

KEYWORDS:

X: BLN Y: Z:

BELLEFONTE: DURING WINTER, CONCRETE WAS ALLOWED TO DRY IMPROPERLY AT THE INTAKE PUMPING STATION CREATING LARGE AIR POCLETS. WHEN ANCHOR BOLTS OR REBAR WERE INSTALLED LARGE PIECES OF CONCRETE WOULD FLAKE OFF. MANAGEMENT WAS CONCERNED ONLY WITH HIGH PRODUCTION AT THE TIME. THIS WAS 3-4 YEARS AGO AND HOLES HAD NOT BEEN REPAIRED IN 1983.

TECHNICAL COMMENTARY:

Subcategory C0030

Subcategory Title: Coating & Paint

Employee Concern Number	NSRS or QTC Report Number (If Issued)	Line Response (Organization-If Issued)
EX-85-059-001		
IN-85-043-001		OC
IN-85-149-002		
IN-85-192-001		
IN-85-192-002	I-85-182-WBN (NSRS)	
IN-85-243-001	I-85-817-WBN (NSRS)	
IN-85-243-002		
IN-85-273-001	I-85-413-WBN (NSRS)	
IN-85-451-001		
IN-85-472-009		
IN-85-472-010		
IN-85-511-001		OC
IN-85-511-002		
IN-85-511-003		
IN-85-711-001		
IN-85-833-001		
IN-86-273-001	I-85-817-WBN (NSRS)	
PH-85-040-003		
WI-85-013-005		
WI-85-077-001	I-85-682-WBN (NSRS)	

Subcategory C0030

Page 1 of 12

INITIAL EVALUATION PLAN

Category: CONSTRUCTION

Subcategory: COATING & PAINT

Prepared by: E.C. McDonald , 4/2/86  
Preparer Date  
Recommended by: Jack J. Howard , 4/2/86  
Group Leader Date  
Approved by: MORudolph , 4/2/86  
Group Head Date

0184T

INITIAL EVALUATION PLAN FOR  
SUBCATEGORY CABLE (C0030)

Description of Perceived Problems:

The concerns in this Subcategory deal with coatings that were:

1. Improperly mixed and applied
2. of the wrong generic type for the exposure
3. applied from a system with a deleted item
4. omitted or deleted by design
5. applied in excess of the desired dry film thickness
6. applied over improperly prepared surfaces

Lead Evaluator: *E. C. McDonald*  
E. C. McDonald

Evaluators: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



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Initial Evaluation Plan

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- I. List of Concerns by Concern Number
  - II. Elements and Attributes of Concerns
  - III. List of Criteria (Including Document Numbers and Revisions)
  - IV. Interviews
  - V. Action Plan (Including Staffing and Scheduling)
  - VI. Instructions/Criteria for Additional Data Evaluations
  - VII. Progress Reporting Requirements and Milestones
  - VIII. Determination as to Whether or Not Surveillance, Test/Reinspections are Necessary
  - IX. Root Cause Determination
  - X. Generic Applicability Determination
  - XI. Proposed Immediate and Long-Term Corrective Actions
  - XII. Prepare Report
-

I. Concerns for Subcategory

<u>Concern No.</u>	<u>Element</u>
IN-85-243-001	Coating/Paint
IN-85-511-001	Coating/Paint
WI-85-077-001	Coating/Paint
IN-85-511-003	Coating Paint
PH-85-040-003	Coating/Paint
IN-86-273-001	Coating/Paint
IN-85-511-002	Structural Welds
IN-85-451-001	Structural Welds
IN-85-192-002	Structural Welds
IN-85-149-002	Structural Welds
IN-85-273-001	Structural Welds
IN-85-711-001	Coating/Paint
IN-85-833-001	Coating/Paint
IN-85-243-002	Structural Welds
WI-85-013-005	Structural Welds
IN-85-043-001	Coating/Paint
IN-85-192-001	Structural Welds
IN-85-472-009	Coating/Paint
IN-85-472-010	Coating/Paint



### List of Criteria

1. Information Source - (Applicable Procedures, OE Documents, Previous Reports, NSRS/QTC/ERT Investigation Reports Including revision or date)	Date Added to List	Applicable Section	2. Comments
Drawings 46W464-1	3/20/86	Notes	
46W466-5		Notes	
General Construction Specification G 55	3/20/86	All	
Construction Specification N3A932	3/20/86	All	
QCI 2.12 Protective Coating Instructions	3/20/86	All	
QCP 2.12 Protective Coating Inspection	3/20/86	All	
QC Quality Training Program Manual	3/20/86	III 1	
Drawing 47E235 - 42 & 45	3/20/86	Temperatures	
QC&QA records for areas stated	3/20/86		
Report I-85-817-WBN IN-86-273-001	3/20/86		Coating/Painting
I N 101.4 1972	3/20/86		
US NRC Reg Guide 1.54.73	3/20/86		
US NRC Reg Guide 1.33 R2	3/20/86		

1. Additional sources will be added by the evaluator.
2. State attribute and how it relates with requirement.



V. Action Plan - Initial

## Evaluation Plan

1. List each concern by Room No., Elevation, etc.
2. Inspect each area to determine the present condition - obtaining samples of the failed coating if possible to determine the cause of failure.
3. Check the QA-QC records for the coatings at time of application.
4. Verify the requirements at the time of application including (a) coating system (b) application instructions (c) inspection instructions and (d) manufacturers directions, etc..
5. Write a summary of the findings for each of the evaluations. This summary is to include a description of the findings and state what, if any, additional action is required.
6. Check other ECTG groups to identify potential common concerns.
7. Perform items VIII through XII.
8. Staffing: This evaluation plan will require one evaluator and 250 man hours.
9. Scheduling: A review of results conclusions, etc with CEG-H by March 29, 1986 with evaluation of this initial plan completed by May 5, 1986.

V. Action Plan - Initial (continued)

## Evaluation Plan (continued)

## CROSS-REFERENCE MATRIX

Evaluation Plan Step Number	Concern(s) Addressed By Step	Element(s) Addressed	Attribute(s) Addressed
1,2,4,5,6,7	IN-85-243-001	Coating/Paint	Improper Mix, Applica-
1,2,3,4,5,6,7	IN-85-511-001	Coating/Paint	Excessive Thickness.
1,2,3,4,5,6,7	WI-85-077-001	Coating/Paint	Inappropriate Coating
1,2,3,4,5,6,7	IN-85-043-001	Coating/Paint	Inappropriate Coating
1,2,3,4,5,6,7	IN-85-511-003	Coating/Paint	Improper Surface Prep.
1,2,3,4,5,6,7	PH-85-040-003	Coating/Paint	Surfacer deleted
1,2,3,4,5,6,7	IN-86-273-001	Coating/Paint	Coating Maintenance
1,2,3,4,5,6,7	IN-85-511-002	Structural Welds	Unpainted
1,2,3,4,5,6,7	IN-85-451-001	Structural Welds	Unpainted
1,2,3,4,5,6,7	IN-85-195-002	Structural Welds	Unpainted
1,2,3,4,5,6,7	IN-85-149-002	Structural Welds	Unpainted
1,2,3,4,5,6,7	IN-85-273-001	Structural Welds	Unpainted
1,2,3,4,5,6,7	IN-85-711-001	Coating/Paint	Surfacer deleted
1,2,3,4,5,6,7	IN-85-243-002	Structural Welds	Unpainted
1,4,5,6,7	WI-85-013-005	Structural Welds	Unpainted drawing note changed
1,2,3,4,5,6,7	IN-85-192-001	Structural Welds	Unpainted
1,4,5,6,7	IN-85-833-001	Coating/Paint	Coating Application
1,2,3,4,5,6,7	IN-85-472-009	Coating/Paint	Improper Service Prep.
1,2,3,4,5,6,7	IN-85-472-010	Coating/Paint	Excessive Thickness

VI. Instruction/Criteria for Additional Data Evaluations

(This is to be used when limited additional inspections, test, evaluations are necessary to answer the question in section VIII.)

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.



## VII. Progress Reporting Requirements and Milestones

MILESTONESCONSTRUCTION CATEGORY

<u>MILESTONE</u>	<u>DATE</u>
<u>No. 1</u> PREPARE FINAL EVALUATION PLAN (FINISH)	<u>31 MAR 86</u>
<u>No. 2</u> PERFORM FINAL EVALUATION (FINISH)	<u>29 APR 86</u>
<u>No. 3</u> COORDINATE WITH LINE MANAGEMENT (FINISH)	<u>06 MAY 86</u>
<u>No. 4</u> FINAL REPORT/CA DRAFT (FINISH)	<u>12 MAY 86</u>
<u>No. 5</u> SRB REVIEW/APPROVAL (FINISH)	<u>16 MAY 86</u>
<u>No. 6</u> ISSUE FINAL REPORT (FINISH)	<u>23 MAY 86</u>

VIII. Answer the Question, are Statistical Sampling Actions  
Tests/Reinspections Necessary?  
(Proceed to preparation of final EP if answer is yes)

IX. Root Cause Determination

X. Generic Applicability Determination: Section \_\_\_\_\_, Paragraph \_\_\_\_\_  
of Program Manual         WBN         SQN         BFN         BLN

XI. Proposed Immediate and Long-Term Corrective Actions  
XII. Prepare Report

04/23/86

(EMPLOYEE CONCERNS)

PAGE: 1

08:41:52

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
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								EX-85-059-001	CD030

KEYWORDS:

X: Y: Z:

CONCERN: WHY AREN'T HANGER WELDS AND PIPE WELDS PAINTED AS SOON AS THEY ARE FINALIZED BY THE QC INSPECTOR AS COMPLETE AND ACCEPTABLE. THE DELAY CAUSES WELDS TO RUST, AND THE PASSAGE OF TIME OR THE PROCESS OF CLEANING THE WELDS MIGHT BREAK DOWN THE "PINK" PAINT ON BOLTS. RUSTING WEAKENS THE WELDS AND SANDBLASTING WILL REMOVE METAL, AND IS AN UNNECESSARY STEP (COST) IF WELDS WERE PAINTED IMMEDIATELY. (CONSTRUCTION DEPARTMENT CONCERN). C/I HAS NO MORE INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
---	---	---	---	---	---	---	---	---	---
								IN-85-043-001	CD030

KEYWORDS:

X: Y: Z:

ZINC BASED PAINT BEING USED ON HANGERS IN CONTAMINATED AREAS IN BOTH UNITS 1 AND 2. C/I COULD NOT PROVIDE ANY SPECIFICS OR DETAILS. NO FOLLOWUP REQUIRED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
---	---	---	---	---	---	---	---	---	---
								IN-85-149-002	CD030

KEYWORDS:

X: Y: Z:

NEW-REWORK WELDS ON HANGERS IN UNIT 2, REACTOR BLDG, ACCUMULATOR ROOMS 1-4, ARE RUSTING. CI FEELS THESE WELDS SHOULD BE PAINTED. CI COULD NOT PROVIDE ANY ADDITIONAL INFORMATION OR DETAILS.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
---	---	---	---	---	---	---	---	---	---
								IN-85-192-001	CD030

KEYWORDS:

X: Y: Z:

GROSS RUST IN COOLING ROOM #2, R.B. #1 AZ-170 DEGREES, EL 720' (CONDUIT SUPPORTS, PIPING SUPPORTS, EMBEDS)

TECHNICAL COMMENTARY:

04/23/86

(EMPLOYEE CONCERNS)

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LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-192-002	CD030

KEYWORDS:

X: Y: Z:

NUMEROUS UNPAINTED WELDS ON CONDUIT AND PIPING SUPPORTS  
THROUGHOUT PLANT ARE RUSTED. POSSIBLE LACK OF PROTECTIVE COATING.  
EXAMPLE: REACTOR BLDG UNIT 1 AZ.170 DEGREES, EL 720'

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-243-001	CD030

KEYWORDS:

X: Y: Z:

THE PAINT ON THE DOMES ON UNIT 1 & 2 WAS NOT MIXED  
ACCORDING TO PROCEDURES. WHEN THE COLOR APPEARED RIGHT THE PAINT  
WAS SPRAYED ON TOO THICKLY, AND ON AN UNCLEAN AND DUSTY SURFACE.  
UNIT 1 DURING 1975, UNIT 2 DURING 1977.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-243-002	CD030

KEYWORDS:

X: Y: Z:

ALL HANGER AND STRUCTURAL STEEL OVER 6' ABOVE FLOOR IN THE REACTOR BLDG. AND  
AUX BUILDING UNITS 1 & 2 ARE UNPAINTED. THIS WAS A COST SAVING FACTOR.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-273-001	CD030

KEYWORDS:

X: Y: Z:

IN UNIT 1 REACTOR AND AUX BLDGS., WELDS ON PIPE SUPPORTS.  
SPECIFICALLY PIPE SUPPORTS INSTALLED OVER 6 FEET OFF THE FLOOR, HAVE  
NOT BEEN PAINTED AFTER SUPPORTS WERE COMPLETED AND OC ACCEPTED. CI IS  
CONCERNED THAT RUST/CORROSION WILL OCCUR TO THESE UNPAINTED WELDS AND  
WEAKEN THE PIPE SUPPORTS THUS PREVENTING THESE PIPE SUPPORTS FROM PERFORMING  
INTENDED FUNCTIONS THEY WERE DESIGNED FOR. CI DID NOT SPECIFY ANY PARTICULAR  
AREA IN REACTOR BUILDING BUT STATED THAT PIPE SUPPORTS FOR FIRE PROTECTION  
SYSTEM IN AUX BLDG SHOULD BE LOOKED AT. CONSTRUCTION DEPT. CONCERN.  
(NOTE: ERT IS ACTIVELY INVESTIGATING THIS GENERIC CONCERN UNDER DIFFERENT  
FILE NUMBERS.)

TECHNICAL COMMENTARY:

04/23/86

(EMPLOYEE CONCERNS)

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LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-451-001	CD030

KEYWORDS:

X: Y: Z:

CI STATED IN 1984 THEY (PAINTERS) WERE INSTRUCTED NOT TO PAINT ANYTHING ABOVE 6 FT. IN RBI PRESENTLY THERE ARE RUSTY WELDS THROUGHOUT RBI

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-472-009	CD030

KEYWORDS:

X: Y: Z:

SURFACES, BOTH CONCRETE AND STEEL, WERE IMPROPERLY PREPARED PRIOR TO PAINTING. NOTED AREAS WERE IN THE LOWER PORTION OF THE REACTOR CONTAINMENT, UNIT 1, 1982/1983. CONST.DEPT. CONCERN. NO FURTHER INFORMATION ON FILE.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-472-010	CD030

KEYWORDS:

X: Y: Z:

COATINGS IN THE UNIT 1 REACTOR BUILDING ARE OUT OF SPECIFICATION WITH REGARD TO COATING THICKNESS. CONST. DEPT. CONCERN. NO FURTHER INFORMATION ON FILE.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-511-001	CD030

KEYWORDS:

X: Y: Z:

EXCESSIVE COATING THICKNESSES IN "CARBOLINE 305" APPLICATIONS CAUSES CRACKS AND LOW ADHESION STRENGTH LEVELS. CARBOLINE REPRESENTATIVE CONFIRMED THAT 305 COATING SHOULD BE APPLIED IN 4-6 MIL THICKNESS--NOT 15-30 MILS ALLOWED BY TVA INFORMAL MEMO ON FLOOR COATINGS - SERVICE LEVEL II AREAS (REF CARBOLINE SPEC. SHEET "PHENOLINE 305 FINISH DATED MARCH 84). EXAMPLES INCLUDE:  
(1)UNIT 1, ROOM A-23, 692' EL AUX BUILD. COATING APPLIED IN 10-25 MIL LAYERS--SOME SPOTS 1/4" =3/8" THICK (100 TIMES TOO THICK) APPROX. 10-12 ADHESION TESTS FAILED IN THIS AREA.  
(2)UNIT 1, ROOM A-14 ON 692' ELE. AUX. BLDG., -NUMEROUS "GREATER THAN

TECHNICAL COMMENTARY:

04/23/86

(EMPLOYEE CONCERNS)

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								IN-85-511-002	CD030

KEYWORDS:

X: Y: Z:

DWG. 46W464-6 & 46W466-1 HAVE HAD NOTES ADD/CHANGED TO ELIMINATE PRIMING OF STRUC. STEEL WELDS. STRU STL WELDS IN THE NORTH AND SOUTH VALVE ROOMS OF UNITS 1&2 EXHIBIT CORROSION BECAUSE THEY WERE NOT PAINTED AFTER EXTENSIVE REWORK--CONFIGURATION ALLOWS WATER TO COLLECT, AND UNIT 1 STRUCTURAL STEEL WELDS HAVE LOST UP TP 1/16" OF WELD METAL TO RUST. PIPE WELDS ARE NOW PRIMED, BUT MANY EXIST THAT ARE NOT PRIMED. CI HAS NO MORE INFORMATION. NO FURTHER FOLLOW UP REQUIRED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								IN-85-511-003	CD030

KEYWORDS:

X: Y: Z:

IMPROPER SURFACE PREPARATION ON SURFACES THAT ARE RECOATED FOILS TO PERMIT ADEQUATE INTER-LAYER BONDING. THIS ALLOWS COATING TO PEEL AND CHIP UP. EXAMPLE OF MULTI-LAYERING AND PEELING CAN BE SEEN IN THE #2 AUX. BLDG. AT THE ELEV. LANDINGS. CI HAS NO MORE INFORMATION. NO FURTHER FOLLOW UP REQUIRED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								IN-85-711-001	CD030

KEYWORDS:

X: Y: Z:

CARBOLIC 295 SURFACER WAS ELIMINATED FROM THE PROTECTIVE COATING APPLICATION ON THE FLOORS OF THE AUX. BUILDING, UNIT 1. C/I HAS OBSERVED CRACKING AND FLAKING OF THE PAINT WHICH COULD ALLOW RADIOACTIVE MATERIALS INTO THE CONCRETE. THIS OCCURRED IN 1983-1984. NO FURTHER DETAILS AVAILABLE. NO FOLLOWUP REQUIRED.

TECHNICAL COMMENTARY:

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(EMPLOYEE CONCERNS)

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-833-001	CD030

KEYWORDS:

X: Y: Z:

TOP COAT OF PAINT WAS DELETED AS A REQUIREMENT ABOVE 6' (ABOVE FLOOR LEVEL) IN UNIT 1 REACTOR BUILDING. ITEMS/WALLS ARE PAINTED WITH PRIMER COAT ONLY ABOVE THIS ELEVATION. C/I IS CONCERNED THAT THIS COULD ADVERSELY AFFECT WASHDOWN/RADIOLOGICAL DECONTAMINATION OF AREAS.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-273-001	CD030

KEYWORDS:

X: Y: Z:

WBNP - UNIT 1 & 2: CONTAINMENT COATINGS (#295 & #305) ARE NOT PROPERLY DONE & MAINTAINED. THE INTEGRITY OF THE COATINGS IS BEING ERODED & QUESTIONABLE. CI IS CONCERNED THAT THE PAINT WILL CURL & POP-UP AND CLOG THE DRAINS IN CASE OF A (LOCA) ACCIDENT WHEN THE TEMPERATURE & PRESSURE BUILDS UP IN THE REACTOR. PAINT SPECIFICATIONS & STANDARDS ARE NOT FOLLOWED, ESPECIALLY IN RECOATING OF #305. CONSTRUCTION DEPT. CONCERN. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								PH-85-040-003	CD030

KEYWORDS:

X: Y: Z:

WATTS BAR STOPPED USING PROTECTIVE UNDER COATING #295 IN 1983 AND APPLIED ONLY THE TOP OR FINAL COATING #305 PAINT IN CONTAINMENT, REACTOR BUILDING 1. CI STATED THAT THE COATING #295 WAS TO SEAL THE ITEM FROM RADIATION. CONSTRUCTION DEPT. CONCERN. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

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(EMPLOYEE CONCERNS)

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LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								WI-85-013-005	CD030

KEYWORDS:

X: Y: Z:

WELD JOINTS, HANGERS AND SUPPORTS FABRICATED OF PRECOATED STOCK MAY BE LEFT UNCOATED WITH NO FURTHER COATING REQUIRED. NOTE ON 46W466-1

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								WI-85-077-001	CD030

KEYWORDS:

X: Y: Z:

CI ADVISED THAT AFTER EPOXY WAS APPLIED IN THE STEAM GENERATING ROOM, CI HEARD (COULD NOT SPECIFY SOURCE) THAT EITHER AN INAPPROPRIATE EPOXY WAS USED OR NO EPOXY WAS SUPPOSED TO BE USED IN THAT AREA BECAUSE OF HEAT IN THAT AREA. CI NEVER HEARD OF THE EPOXY BEING REMOVED AND DOUBTS THAT IT WOULD HAVE BEEN DONE ADEQUATELY BECAUSE OF THE TIME INVOLVED IN THE REMOVAL. CI SAID INSTALLATION REQUIRED 2 SHIFTS WORKING 6 MONTHS. REMOVAL WOULD BE 2-3 TIMES LONGER. CONST. DEPT. CONCERN. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:



Subcategory C0040

Subcategory Title: Embedments

<u>Employee Concern Number</u>	<u>NSRS or QTC Report Number (If Issued)</u>	<u>Line Response (Organization-If Issued)</u>
IN-85-410-003	IN-85-692-WBN (NSRS) IN-85-665-WBN (NSRS)	
IN-85-439-002	IN-85-692-WBN (NSRS) IN-85-665-WBN (NSRS)	
IN-85-678-001		
IN-85-693-006		
IN-85-693-007		
IN-86-305-001	IN-85-666-WBN (NSRS)	

Subcategory C0040

Page 1 of 13

INITIAL EVALUATION PLAN

Category: Construction

Subcategory: Embedments (C0040)

Prepared by:

Martin Frey, 4/21/86  
Preparer Date

Recommended by:

Martha J. Martin, 4/21/86  
Group Leader Date

Approved by:

MURudolph, 4-21-86  
Group Head Date

Subcategory C0040Page 2 of 13

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INITIAL EVALUATION PLAN FOR  
SUBCATEGORY

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Description of Perceived Problems:

The concerns in this subcategory deal with embedded plates that sound "hollow" when tapped lightly with a finger or hammer.

Lead Evaluator: \_\_\_\_\_

Evaluators: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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Initial Evaluation Plan

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- I. List of Concerns by Concern Number
  - II. Elements and Attributes of Concerns
  - III. List of Criteria (Including Document Numbers and Revisions)
  - IV. Interviews
  - V. Action Plan (Including Staffing and Scheduling)
  - VI. Instructions/Criteria for Additional Data Evaluations
  - VII. Progress Reporting Requirements and Milestones
  - VIII. Determination as to Whether or Not Surveillance, Test/Reinspections are Necessary
  - IX. Root Cause Determination
  - X. Generic Applicability Determination
  - XI. Proposed Immediate and Long-Term Corrective Actions
  - XII. Prepare Report
-





III. List of Criteria

1. Information Source - (Applicable Procedures, OE Documents, Previous Reports, NSRS/QTC/ERT Investigation Reports Including revision or date)	:	:	:	2. Comments
	:	Date	Applicable	
	:	Added	Section	
	:	to List		

NSRS reports

IN-85-693-007

IN-85-678-001

IN-85-693-006

Additional sources will be added by the evaluator.

2. State attribute and how it relates with requirement.

#### IV. Interviews

[illegible]



V. Action Plan - Initial

Evaluation Plan

1. Review listed NSRS reports.
2. Determine adequacy of NSRS reports in substantiating and resolving concerns.
3. Determine applicability of NSRS reports to the concerns not explicitly referenced in reports.

V. Action Plan - Initial

## CROSS-REFERENCE MATRIX

Evaluation Plan Step Number	Concern(s) Addressed By Step	Element(s) Addressed	Attribute(s) Addressed
1, 2, 3	IN-86-305-001 IN-85-693-007 IN-85-439-002 IN-85-410-003 IN-85-678-001 IN-85-693-006	Embedded Plates sound "hollow"	Embedded Plates sound "hollow"

VI. Instruction/Criteria for Additional Data Evaluations

(This is to be used when limited additional inspections, test, evaluations are necessary to answer the question in section VIII.)

1. N/A
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

VII. Progress Reporting Requirements and Milestones

N/A

VIII. Answer the Question, are Statistical Sampling Actions  
Tests/Reinspections Necessary?

(Proceed to preparation of final EP if answer is yes)

IX. Root Cause Determination

X. Generic Applicability Determination: Section \_\_\_\_\_, Paragraph \_\_\_\_\_  
of Program Manual    \_\_\_ WBN    \_\_\_ SQN    \_\_\_ BFN    \_\_\_ BLN

XI. Proposed Immediate and Long-Term Corrective Actions

XII. Prepare Report

Attachment A

QTC QUESTIONNAIRE

Concern No. \_\_\_\_\_

Date: \_\_\_\_\_

1. Without revealing the identity of the CI, can a timeframe for the concern be identified, if so when?
2. Without revealing the identity of the CI, can specific items be identified, if so when?
3. Without revealing the identity of the CI, can any specific locations be identified, if so what are they?
4. Without revealing the identity of the CI, can any other individuals be identified, if so who?
5. Without revealing the identity of the CI, is there any other information in the QTC file that may be of aid in this investigation (such as, QTC, NSRS, NRC, Construction, Nuclear Power investigation, etc.), if so what?
6. Is this a concern of the Office of Nuclear Power, Construction, or both?

Additional Comments:

04/23/86

(EMPLOYEE CONCERNS)

PAGE: 1

08:45:54

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
			YES					IN-85-410-003	CD040

KEYWORDS:

X:

Y:

Z:

CI EXPRESSED A CONCERN THAT SOME EMBEDDED PLATES AT WBNF ARE "HOLLOW" (DO NOT HAVE ANY CONCRETE IN CONTACT BEHIND THEM). DETAILS KNOWN TO QTC, WITHHELD DUE TO CONFIDENTIALITY. CONSTRUCTION DEPT CONCERN. CI HAS NO FURTHER INFORMATION. NO FOLLOWUP REQUIRED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-439-002	CD040

KEYWORDS:

X:

Y:

Z:

"HOLLOW" EMBED PLATES- EMBED PLATES THAT, WHEN LIGHTLY TAPPED WITH A HAMMER OR FINGER, SOUND HOLLOW. THIS IS DUE TO THE FACT THAT THERE IS A SPACE BETWEEN THE PLATE AND THE CONCRETE. INDIVIDUAL STATED THAT THESE PLATES EXIST "ALL OVER THE PLACE" IN BOTH UNITS 1 & 2. INDIVIDUAL ALSO STATED THAT THE WORD HAS COME DOWN FROM MANAGEMENT (KNOWN) THAT IF ANYONE IS CAUGHT "TAPPING" EMBED PLATES THEY WOULD BE FIRED. "IF IT DOESN'T FALL, LEAVE IT." EG: 1) AUX BUILDING, 713' EL VERY CLOSE TO DOUBLE DOORS, 10' HIGH ON WALL - NEAR A AND T LINES IN UNIT 1 BEFORE DOORS. 2) GO THROUGH DOORS, LOOK RIGHT, 15'-20' FROM DOOR 12'-14' UP WALL. 3) AUX BUILDING, 720' EL. AT A-13 AND U LINES. HOLLOW EMBEDS AND BAD CONCRETE ABOVE LEDGE.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-678-001	CD040

KEYWORDS:

X:

Y:

Z:

EMBEDMENT PLATES IN RB II THAT HOLD THE POLAR CRANE IN PLACE, IS PLACES ON CONCRETE THAT HAS A HOLLOW SOUND. C/I ACCIDENTALLY DISCOVERED THIS DURING A ROUTINE INSPECTION IN 1982. LOCATION: N X NW QUADRANT OF RB II. NO FOLLOW-UP REQUIRED.

TECHNICAL COMMENTARY:

04/23/86

(EMPLOYEE CONCERNS)

PAGE: 2

08:45:54

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-693-006	CO040

KEYWORDS:

X: Y: Z:

UNIT 1, NSB LABORERS ARE NOT QUALIFIED TO PERFORM CONCRETE/GROUT WORK, E.G., HOLLOW SOUNDING EMBED PLATES - SEPARATED FROM CONCRETE WALL DUE TO WELDING AREA/VOIDS BEHIND PLATES ARE NOT CHIPPED OUT AND GROUTED PROPERLY. RBI, CAVITY WALL, AZ 222, EL. 728, MISSILE LEDGE, ATTACHMENT PLATE. CONSTRUCTION DEPARTMENT CONCERN. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-693-007	CO040

KEYWORDS:

X: Y: Z:

HOLLOW IMBED PLATE. REACTOR #2 ON THE INSIDE CRANE WALL, A2 135 DEGREES, ELEV. 730, BY A STRIP HEATER. CI HAS NO FURTHER INFORMATION. CONSTRUCTION DEPT. CONCERN.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-305-001	CO040

KEYWORDS:

X: Y: Z:

FAN BUSES ON THE 2ND STORY OF DIESEL GENERATOR BUILDING #5 HAVE A "HOLLOW" SOUND WHEN TAPPED. ALL THE FAN PADS IN THE BUILDING HAVE THE SAME "HOLLOW" SOUND, WHICH IS INDICATIVE OF A LACK OF CONCRETE BONDING. CONST DEPT CONCERN. MID-1984. CI HAS NO FURTHER INFORMATION. NO FOLLOWUP REQUIRED.

TECHNICAL COMMENTARY:



Subcategory C0050

Subcategory Title: Deterioration  
of Permanent  
Facilities

<u>Employee Concern Number</u>	<u>NSRS or QTC Report Number (If Issued)</u>	<u>Line Response (Organization-If Issued)</u>
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IN-85-231-003

IN-85-962-002

IN-86-205-003

OO-85-005-010 (SQN)

OW-85-007-010

XX-85-060-001 (BLN)

INITIAL EVALUATION PLAN

Category: Construction

Subcategory: Deterioration of Permanent Facilities

Prepared by: Gerald F. Baker Apr 8, 1986  
Preparer Date

Recommended by: Jack J. Howard APR. 8, 1986  
Group Leader Date

Approved by: MURPHY 14-8-86  
Group Head Date

INITIAL EVALUATION PLAN FOR  
SUBCATEGORY

Description of Perceived Problems:

Concerns involving possible deterioration and subsequent failures of permanent features of the plant resulting from delay of operation and/or poor housekeeping and lack of maintenance during the construction phase. The plant features and concerns involved include:

1. Caulking turning loose and bubbling up on 5th Diesel Generator Building missile shields.
2. Lack of maintenance and transfer documentation of installed instruments.
3. Rusting of instrument air lines internally.
4. Rusting of exposed threads on all-thread conduit fittings.
5. Contamination of electrical control cabinets by accumulation of dust and metal shavings causing potential failures.
6. Rusting of equipment components installed in underground water sources.

Lead Evaluator: Gerald L. Baker

Evaluators: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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Initial Evaluation Plan

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- I. List of Concerns by Concern Number
  - II. Elements and Attributes of Concerns
  - III. List of Criteria (Including Document Numbers and Revisions)
  - IV. Interviews
  - V. Action Plan (Including Staffing and Scheduling)
  - VI. Instructions/Criteria for Additional Data Evaluations
  - VII. Progress Reporting Requirements and Milestones
  - VIII. Determination as to Whether or Not Surveillance, Test/Reinspections are Necessary
  - IX. Root Cause Determination
  - X. Generic Applicability Determination
  - XI. Proposed Immediate and Long-Term Corrective Actions
  - XII. Prepare Report
-





1.I. List of Criteria

1. Information Source --	:	:	:	2. Comments
(Applicable Procedures,	:	:	:	
OE Documents, Previous	:	Date	Applicable	
Reports, NSRS/QTC/ERT	:	Added	Section	(Elements & Attributes)
Investigation Reports	:	to List	:	
Including revision or date)	:	:	:	

NOTE: There has been no

previous investigative

work on this subcate-

gory. Criteria are to

be identified as the

action plan progresses.

1. Additional sources will be added by the evaluator.

2. State attribute and how it relates with requirement.

#### IV. Interviews

[illegible]



V. Action Plan

## CROSS-REFERENCE MATRIX

Evaluation Plan Step Number	Concern(s) Addressed By Step	Element(s) Addressed	Attribute(s) Addressed
1.0 through 4.0	IN-85-231-003	Caulking	Pulling loose and bubbling
1.0 through 4.0	IN-85-962-002	Instruments	Lack of maintenance and transfer docu- mentation
1.0 through 4.0	IN-86-205-003	Instrument Air Piping/ Tubing	Internal Rust
1.0 through 4.0	00-85-005-010 *1	Conduit	Thread Rust
1.0 through 4.0	OW-85-007-010	Electrical Control Cabinets	Dust & Metal Shavings
1.0 through 4.0	XX-85-060-001 *2	Equipment Components Underground	Rust

\*1 Since this is a specific SQN concern, as deemed necessary, this report will address the generic root cause of any conduit thread rust observed by a field inspection of similar WBN plant areas. Also, as deemed necessary, the program for prevention and/or correction of this type problem will be reviewed at WBN.

\*2 Since this is a specific BLN concern, as deemed necessary, this report will address the generic root cause of any related underground equipment component rust problems found at WBN. Also, as deemed necessary, the program for prevention and/or correction of this type problem will be reviewed at WBN.

V. Action Plan - Initial

## EVALUATION PLAN

Complete sections 1.0 through 4.0 below being certain to address the attributes and concerns associated with each element as described by the cross reference matrix.

1.0 Background Research (Refer to Cross Reference Matrix for description of elements)

- 1.1 Maintain an evaluation journal or log of events for recording information to be used in writing the final evaluation report. Record significant actions taken and the findings/results.
- 1.2 Review the employee concern task group files and note any previous investigation reports available for review regarding these concerns. Also, request any additional information available from QTC, NSRS, OE, or ONP investigative files.
- 1.3 Make a field inspection of each of the specific elements and attributes addressed by the employee concerns of this subcategory. Also, make a generic inspection, as applicable, of these type items in other typical and similar plant areas.
- 1.4 Review other concern categories as deemed appropriate for similar subject matter. Discuss with other evaluators the similar or related subjects. By cross reference or use of excerpts attempt to minimize duplication of efforts. The following additional categories may have related concerns:

Material

Design Applications & Selection  
Coatings

Operations

Maintenance

EngineeringQA/QCInstrumentation Task Force

- 1.5 As applicable, review the governing documents for WBN and ascertain any generic or specific guidelines which establish requirements for these areas of concern (e.g. Title 10 CFR, FSAR, Industry Standards and Codes, Design Guides, Design Criteria, Specifications, Procedures, Instructions, Drawings, FCRs, ECNs, NCRs, NRC Reports, etc.) Record the findings in Section III.

- 1.6 Review Administrative Instructions and organizational charts to obtain the names of responsible OE, OC, ONP, and QA/QC organizational sections. Conduct initial telephone and personal conversations, as needed, to develop a list of sections, employee names, and telephone numbers, to serve as a source of supplemental information. (A place to start is with the authors of the latest revisions of Administrative Instructions and other governing documents.)
  - 1.7 Conduct interviews, as necessary, with section supervisors and employees. Obtain a clear as possible picture of the concern area and the TVA governing program. Record the interviews and discussions in Section IV.
- 2.0 Element Evaluations (Refer to Cross reference matrix for description of elements).
- 2.1 Determine a root cause of the attributes and concerns of this element. Utilize the information sources listed in Section III and the information obtained by field inspection, document reviews, and discussions of sections 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, and 1.7 above.
  - 2.2 Determine a solution and recommend corrections for the attributes and concern of this element. Utilize assistance from the appropriate individuals in the contacts list and interviews of sections 1.6 and 1.7 as needed.
  - 2.3 Recommend any generic programmatic adjustments needed in the actions, procedures, or methods which resulted in the attributes and concern of this element. Include recommendations concerning any reporting breakdowns observed.
  - 2.4 Write an element evaluation report. Submit for review and correct as needed.
  - 2.5 Repeat sections 1.0 through 2.5 above until each element has been evaluated and reports completed.
- 3.0 Complete sections VI through XII for each element as appropriate.
- 4.0 Review the Evaluation Matrix and verify completion of all action plan items.
- 5.0 Complete an overall subcategory report and submit for review.

6.0 Satisfy review comments and finalize report.

7.0 An estimate of one evaluator for six weeks @ 50 MH per week (10 MH/day) (300 MH Total) is needed to complete action plan items 1.0 through 5.0 above, beginning April 1, 1986 until approximately May 16, 1986. The time already scheduled for items 6.0 through 7.0 appears adequate at this time.

VI. Instruction/Criteria for Additional Data Evaluations

(This is to be used when limited additional inspections, test, evaluations are necessary to answer the question in section VIII.)

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

## VII. Progress Reporting Requirements and Milestones

MILESTONESCONSTRUCTION CATEGORYC0050

<u>MILESTONE</u>	<u>DATE</u>
<u>No. 1</u> PREPARE FINAL EVALUATION PLAN (FINISH)	<u>31 MAR 86</u>
<u>No. 2</u> PERFORM FINAL EVALUATION (FINISH)	<u>29 APR 86</u>
<u>No. 3</u> COORDINATE WITH LINE MANAGEMENT (FINISH)	<u>06 MAY 86</u>
<u>No. 4</u> FINAL REPORT/CA DRAFT (FINISH)	<u>12 MAY 86</u>
<u>No. 5</u> SRB REVIEW/APPROVAL (FINISH)	<u>16 MAY 86</u>
<u>No. 6</u> ISSUE FINAL REPORT (FINISH)	<u>23 MAY 86</u>

VIII. Answer the Question, are Statistical Sampling Actions  
Tests/Reinspections Necessary?  
(Proceed to preparation of final EP if answer is yes)

IX. Root Cause Determination

X. Generic Applicability Determination: Section \_\_\_\_\_, Paragraph \_\_\_\_\_  
of Program Manual \_\_\_\_\_ WBN \_\_\_\_\_ SQN \_\_\_\_\_ BFN \_\_\_\_\_ BLN

XI. Proposed Immediate and Long-Term Corrective Actions

XII. Prepare Report

04/23/86

(EMPLOYEE CONCERNS)

PAGE: 1

08:47:34

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-231-003	CD050

KEYWORDS:

X: Y: Z:

IN THE 5TH DIESEL GENERATOR BUILDING, THE CAULKING (NOVA CAULK) IN THE MISSILE SHIELDS HAVE TURNED LOOSE AND BUBBLED UP. THIS CAULKING WAS POURED LAST WINTER IN THE 5TH DIESEL GENERATOR BUILDING. CONSTRUCTION DEPARTMENT CONCERN. C/I COULD NOT PROVIDE ANY ADDITIONAL DETAILS/SPECIFICS.  
NO FOLLOW-UP REQUIRED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-962-002	CD050

KEYWORDS:

X: Y: Z:

IN-PLACE MAINTENANCE OF INSTRUMENTS INSTALLED 1980, 692' ELEV., SYSTEM 31, UNIT #2, AUX. BLDG. (ENTRANCE TO PIPE CHASE) IS INDETERMINATE DUE TO NEVER HAVING BEEN BEING DOCUMENTED AS INSTALLED PRIOR TO "25" TEST. CREDIT FOR INSTALLATION IS CURRENTLY BEING GIVEN. CI DECLINED TO PROVIDE FURTHER INFORMATION. CONSTRUCTION DEPARTMENT CONCERN.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-205-003	CD050

KEYWORDS:

X: Y: Z:

INSTRUMENT AIR MIGHT NOT BE SUITABLE FOR SERVICE: LINE WAS SAND-BLASTED IN 1977, THEN IT WAS HYDROED AND HAS SINCE RUSTED. RUST FLAKES COULD POSSIBLY CLOG UP INSTRUMENT LINES AND CAUSE FALSE INSTRUMENT READINGS. 2" - 4" BURIED LINES FROM S.E. CORNER OF TURBINE BLDG. TO INTAKE STRUCTURE. CONSTRUCTION DEPT. CONCERN. CI HAS NO MORE INFORMATION.  
NO FOLLOWUP REQUIRED.

TECHNICAL COMMENTARY:



04/23/86

(EMPLOYEE CONCERNS)

PAGE: 2

08:47:34

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								00-85-005-010	00050

KEYWORDS:

X: Y: Z:

SEQUOYAH: EXPOSED THREADS ON ALL-THREAD 3-4" DIAMETER CONDUIT ARE RUSTING. THIS OCCURRED WHERE SHORT NIPPLES OF ALL-THREAD CONDUIT JOIN FITTINGS 12-30" BELOW CEILING PENETRATIONS, ABOVE THE 710' ELEVATION, SOUTH PART OF AUXILIARY BUILDING. CONDITION EXISTED AT LEAST UNIT 1977, AND MAY STILL EXIST. CONST. DEPT. CONCERN. CI HAS NO FURTHER INFORMATION.  
NO FOLLOW UP REQUIRED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								00-85-007-010	00050

KEYWORDS:

X: Y: Z:

ELECTRICAL CONTROL CABINETS HAVE BEEN CONTAMINATED BY CONSTRUCTION DIRT AND METAL FRINDINGS. THIS CONTAMINATION ENTERED THE PANELS THROUGH THE COOLING VENTS ON THE TOPS OF THE PANELS. THIS IS A PLANT-WIDE PROBLEM, BECAUSE OF THE HEAVY BUILD-UPS OF DUST AND METAL PARTICLES THAT HAVE ALLOWED TO ACCUMULATE ON TOO OF EQUIPMENT. THIS COULD CAUSE THE CONTACTORS OR OTHER COMDONENTS TO DETERIORATE AND BLO OR BECOME INOPERATIVE. A SPECIFIC LOCATION GIVEN IS AUX. BLDG, 757' E UNIT NOT KNOWN.  
CI HAS NO FURTHER INFORMATION.  
CONSTRUCTION DEPARTMENT CONCERN.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
			YES					XX-85-060-001	00050

KEYWORDS:

X: BLN Y: Z:

BELLEFONTE: CI IS CONCERNED ABOUT THE EQUIPMENT COMPONENTS THAT ARE INSTALLED IN UNDERGROUND WATER SOURCE. THEY GET RUSTED. ANY FURTHER INFORMATION WOULD COMPROMISE CONFIDENTIALITY. CONSTRUCTION DEPT. CONCERN. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

Subcategory C0051

Subcategory Title: Damage/  
Construction  
Control

Employee Concern Number	NSRS or QTC Report Number (If Issued)	Line Response (Organization-If Issued)
AO2850313014-001		
AO2850719002-001		
AO2850806017-002		
AO7850919005-063		
EX-85-088-001		OC
IN-85-119-002		
IN-85-119-003		
IN-85-198-001	I-85-535-WBN	
IN-85-221-001	QTC IN-85-221-001	NUC PWR
IN-85-328-001		
IN-85-346-002		
IN-85-396-001		
IN-85-449-001		OC
IN-85-460-003	IN-85-460-003	OC
IN-85-460-X04		
IN-85-460-X05	IN-85-460-X05	OC
IN-85-618-004	I-85-212-WBN	OC, NUC PWR
IN-85-814-001		
IN-85-935-001-51		
IN-85-962-001		
IN-86-133-001	QTC IN-86-133-001	
IN-86-140-001		
IN-86-158-001		
IN-86-158-004		
IN-86-158-005	I-85-509-WBN	NUC PWR
IN-86-158-007	I-85-679-WBN	OC, NUC PWR
IN-86-169-001	I-85-474-WBN	OC, NUC PWR
IN-86-200-006		
OW-85-007-008-051		
OW-85-007-009		

INITIAL EVALUATION PLAN

Category: CONSTRUCTION

Subcategory: DAMAGE/CONSTRUCTION CONTROL (C0051)

Prepared by: Chris Haerr 4-2-86  
Preparer Date

Recommended by: Jack J. Howard 4-2-86  
Group Leader Date

Approved by: MURPHY 4/2/86  
Group Head Date

INITIAL EVALUATION PLAN FOR  
SUBCATEGORY

Description of Perceived Problems:

Concerns involving damage caused by and/or potentially resulting from lack of protection during construction to permanent features of plant. These features include:

1. Building floor drains
2. Electrical penetrations
3. Electrical cabinets
4. Conduits
5. Flex hose connections
6. Insulation
7. Electrical cables and cable trays
8. Piping
9. Instrumentation tubing and instruments
10. Valves

Lead Evaluator: Chris Haerr

Evaluators: \_\_\_\_\_

\_\_\_\_\_

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Initial Evaluation Plan

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- I. List of Concerns by Concern Number
  - II. Elements and Attributes of Concerns
  - III. List of Criteria (Including Document Numbers and Revisions)
  - IV. Interviews
  - V. Action Plan (Including Staffing and Scheduling)
  - VI. Instructions/Criteria for Additional Data Evaluations
  - VII. Progress Reporting Requirements and Milestones
  - VIII. Determination as to Whether or Not Surveillance, Test/Reinspections are Necessary
  - IX. Root Cause Determination
  - X. Generic Applicability Determination
  - XI. Proposed Immediate and Long-Term Corrective Actions
  - XII. Prepare Report
-



Elements	Attributes
Floor drains	Uncovered
	Stopped up
Electrical penetration	Walked on
Electrical cabinets	Water damage
Conduit	Water damage
	Heat damage
	Uncovered or open
Flex hose connections	Disfigured
Insulation	Walked on damage
Electrical cable and cable trays	Welding above
	Housekeeping
	Walked on
Piping	Arc strikes
	Welding leads wrapped
	Gouge
Instruments & Instrumentation tubing	Bent
	Uncoupled
	Damaged
Valves	Improper operation

### III. List of Criteria

1. Information Source - (Applicable Procedures, OE Documents, Previous Reports, NSRS/QTC/ERT Investigation Reports Including revision or date)	Date Added to List	Applicable Section	2. Comments  The Elements Covered By The Source Documents Are:
TVA-44A (Liquid waste drains, collection and transfer facilities, test)	3/24/86		Floor Drains (Stopped Up)
AI-1.6 (Unit 1 interface establishment and control)	3/24/86		Floor Drains (Uncovered)
NSRS Report No. I-85-679-WBN	3/24/86		Conduits (Heat damage)
NSRS Report No. I-85-474-WBN	3/24/86		Conduits (Heat damage)
NSRS Report No. I-85-535-WBN	3/24/86		Electrical Cables and Cable Trays (Walked on, welding above)
NSRS Report No. I-85-212-WBN	3/24/86		Instruments & Instrumentation Tubing (Damaged)
NSRS Report No. I-85-221-001	3/24/86		Valves (Improper operation)
OC Response to Employee Concern EX-85-088-001	3/24/86		Insulation (Walked on damage)

1. Additional sources will be added by the evaluator.





V. Action Plan - Initial

Evaluation Plan

A. Floor Drains

1. Review Preoperational Test TVA-44A (Liquid waste drains, collection and transfer facilities test) for what drains have been verified, date of verification and problems found.
2. Request from QTC information, without revealing the identity of CI, on flooding problems.
3. Review AI-1.6 (Unit 1 interface establishment and control) for what drains require interface covers.
4. Review Unit Operators Daily Journal for dates and causes of flooding.
5. Review construction flush documentation.

B. Electrical Penetrations

1. Inspect elevation 716 of Unit 2 Reactor Building for damage to sheet metal covering of electrical penetrations.
2. Request from QTC information to evaluate damage to covering of electrical penetrations without revealing the identity of CI.

C. Electrical Cabinets

1. Request from QTC information on date, location and activity that is to have caused electrical equipment to be water soaked and any additional information that would not reveal the identity of CI.
2. Inspect any given area for electrical cabinets and conduits that may have been affected.
3. Determine what construction tests and preoperational tests would verify operability of the electrical equipment if any equipment is found that may have been affected and review those tests.

D. Conduits

1. Review NSRS Report Number I-85-679-WBN and responses to the report.
2. Review NSRS Report Number I-85-474-WBN and responses to the report.
3. Review Unit Operator's Daily Journal and interview operators for information on cases of water found in conduits.
4. Interview Electrical Maintenance and Mechanical Maintenance personnel for information on water found in conduits.

E. Flex Hose Connections

1. Inspect example given of flex hose damage on system 63 at elevation 717 4' E of all and 10' S of W.
2. Request from QTC any additional information that would not reveal the identity of CI.
3. Interview maintenance personnel on amount of flex hose repair that has been necessary.

F. Insulation

1. Inspect examples given of soft insulation damage at elevation 692 in pipe gallery and at sewage treatment plant.
2. Request from QTC any additional information that would not reveal the identity of CI.
3. If concern is substantiated interview OE for information on using calcium silicate insulation in place of soft insulation.
4. Review OC response to Employee Concern EX-85-088-001 for adequacy.

G. Electrical Cables and Cable Trays

1. Review NSRS Report Number I-85-535-WBN for an evaluation of finding, conclusions, and recommendations.

H. Piping

1. Request additional information from QTC regarding specific gouge, arc strike, and cable wrapping concerns.
2. Inspect area of each specific example given in concerns.
3. Review weld repair sheets for removal of specific arc strike or gouge. If documented, check for dye penetrate and depth meter tests. Verify G-29, minimum wall thickness, not violated. If so check for NCR and proper implementation of corrective action.

I. Instruments/Instrumentation Tubing

1. Inspect elevation 702 unit 1 Reactor Building raceway for instrument line damage.
2. Inspect for uncoupled radiation monitoring lines at ceiling elevation 730'.
3. Inspect for damaged instruments on system 31 unit 2 elevation 692 Auxiliary Building entrance to pipe chase.
4. Request from QTC of any additional information on the above three items that would not reveal the identity of CI.
5. Review NSRS Report No. I-85-212-WBN (damaged instrument tubing) and the responses to the report.

J. Valves

1. Review NSRS Report No. IN-85-221-001 (valve damage from improper operation) and the responses to the report.

K. General

1. Review upper tier documents and plant procedures as necessary for items in A through J of the action plan for compliance to procedures and adequacy of the procedures. Coordinate with other categories and subcategories of concerns for completeness.

Write a summary of the findings for each of the element evaluations. This summary is to include a description of the findings and state what, if any, additional action will be required.

V. Action Plan - Initial

## CROSS REFERENCE MATRIX

Evaluation Plan Step Number	Concerns Addressed	Element(s) Addressed	Attribute(s) Addressed
A, K	IN-85-814-001	Floor drains	Uncovered, Stopped up
	IN-86-158-004	Floor drains	Stopped up
	IN-86-140-001	Floor drains	Stopped up
	IN-86-158-005	Floor drains	Stopped up
B, K	IN-85-346-002	Electrical penetrations	Walked on
C, K	IN-85-328-001	Electrical cabinets	Water damage
D, K	IN-86-158-007	Conduit	Heat damage
	IN-86-158-001	Conduit	Water/damage, Uncovered
	IN-86-169-001	Conduit	Heat damage
E, K	IN-85-449-001	Flex hose connections	Disfigured
F, K	EX-85-088-001	Insulation	Walked on damage
G, K	IN-85-396-001	Cables	Welding above
	A02850719002 RIMS-001	Cable	Housekeeping
	A02850806017 RIMS-002	Cable	Housekeeping, Welding above
	A02850313014 RIMS-001	Cable	Housekeeping
	A07850919005 RIMS-063	Cable Trays	Housekeeping
	IN-85-198-001	Cable Trays	Walked on, Welding above
	OW-85-007-008	Cable Trays	Welding above
	IN-85-935-001	Cable Trays	Housekeeping

## CROSS REFERENCE MATRIX

Evaluation Plan Step Number	Concerns Addressed	Element(s) Addressed	Attribute(s) Addressed
H, K	OW-85-007-009	Piping	Welding leads wrapped
	IN-86-133-001	Piping	Gouge
	IN-85-460-003	Piping	Gouge
	IN-85-460-X04	Piping	Arc strikes
	IN-85-460-X05	Piping	Arc strikes
I, K	IN-86-200-006	Instrumentation Tubing	Bent
	IN-85-119-002	Instrumentation Tubing	Bent, damaged
	IN-85-618-004	Instrumentation Tubing	Damaged
	IN-85-119-003	Instrumentation Tubing	Uncoupled
	IN-85-962-001	Instruments	Damaged
J, K	IN-85-221-001	Valves	Improper operation

VI. Instruction/Criteria for Additional Data Evaluations  
(This is to be used when limited additional inspections, test,  
evaluations are necessary to answer the question in section VIII.)

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

## VII. Progress Reporting Requirements and Milestones

<u>Milestone</u>	<u>Date</u>
No. 1 Prepare final evaluation plan (finish)	<u>31 Mar 86</u>
No. 2 Perform final - evaluation (finish)	<u>29 April 86</u>
No. 3 Coordinate with line management (finish)	<u>06 May 86</u>
No. 4 Final report/CA draft (finish)	<u>12 May 86</u>
No. 5 SRB review/approval (finish)	<u>16 May 86</u>
No. 6 Issue final report (finish)	<u>23 May 86</u>



VIII. Answer the Question, are Statistical Sampling Actions  
Tests/Reinspections Necessary?  
(Proceed to preparation of final EP if answer is yes)

IX. Root Cause Determination

X. Generic Applicability Determination: Section \_\_\_\_\_, Paragraph \_\_\_\_\_  
of Program Manual      WBN      SQN      BFN      BLN

XI. Proposed Immediate and Long-Term Corrective Actions

XII. Prepare Report

Attachment A

QTC QUESTIONNAIRE

Concern No. \_\_\_\_\_

Date: \_\_\_\_\_

1. Without revealing the identity of the CI, can a timeframe for the concern be identified, if so when?
2. Without revealing the identity of the CI, can specific items be identified, if so when?
3. Without revealing the identity of the CI, can any specific locations be identified, if so what are they?
4. Without revealing the identity of the CI, can any other individuals be identified, if so who?
5. Without revealing the identity of the CI, is there any other information in the QTC file that may be of aid in this investigation (such as, QTC, NSRS, NRC, Construction, Nuclear Power investigation, etc.), if so what?
6. Is this a concern of the Office of Nuclear Power, Construction, or both?

Additional Comments:

04/23/86

(EMPLOYEE CONCERNS)

PAGE: 1

08:49:04

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								A02850313014-001	CO051

KEYWORDS:

X: Y: Z:

INADEQUATE HOUSEKEEPING; TOOLS, SAFETY BELTS, DOCUMENTATION, SHIM PLATES ON TOP OF INSTALLED CABLES. (P 2)

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								A02850719002-001	CO051

KEYWORDS:

X: Y: Z:

CONST. AND GC PERSONNEL VIOLATING HOUSEKEEPING REQUIREMENTS FOR CABLE PROTECTION DURING ELECTRICAL CONSTRUCTION ACTIVITIES. ENCL., P. 1

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								A02850806017-002	CO051

KEYWORDS:

X: Y: Z:

DEBRIS AND MISCELLANEOUS SCRAP MATERIALS AND WELDING SPARKS AND SLAG ON UNPROTECTED CABLES. PAGE 10 OF DETAILS

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								A07850919005-063	CO051

KEYWORDS:

X: Y: Z:

HOUSEKEEPING OF ELEC CABLE TRAYS NOT ADEQUATE - INDICATES MGMT OVERSIGHT - TOOLS, SAFETY BELTS, PAPERS, ETC. IN CABLE TRAYS. ATT 4 PG 9 & 10

TECHNICAL COMMENTARY:

04/23/86

(EMPLOYEE CONCERNS)

PAGE: 2

08:49:04

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								EX-85-088-001	CO051

KEYWORDS:

X: Y: Z:

SOFT INSULATIONS THAT ARE FREQUENTLY WALKED ON SHOULD BE REPLACED WITH CALCIUM SILICATE INSULATION. LOCATION EXAMPLE: ELEV. 692 IN THE PIPE GALLERY, AND THE SEWAGE TREATMENT PLANT. CONSTRUCTION DEPT. CONCERN. CI HAS NO ADDITIONAL INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-119-002	CO051

KEYWORDS:

X: Y: Z:

INSTRUMENTATION LINES DAMAGED, BENT, FLATTENED AND TOUCHING. THEY ARE LOCATED IN ELECTRICAL RACEWAY IN THE REACTOR BUILDING AT EI. 702, UNIT 1. C/I STATED "JUST WALK THROUGH THE POWER BLOCK AND YOU CAN SEE ALL TYPES OF DAMAGED INST. TUBING".

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-119-003	CO051

KEYWORDS:

X: Y: Z:

WBNP UNIT 1, RADIATION MONITORING LINES UNCOUPLED ON CEILING AT ABOUT 730 ELEVATION

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-198-001	CO051

KEYWORDS:

X: Y: Z:

CABLE TRAYS ARE LEFT UNCOVERED, USED AS WALKWAYS BY CRAFT PERSONNEL AND SUBJECTED TO DAMAGE FROM WELDING OPERATIONS DUE TO BEING LEFT UNCOVERED. CI WOULD NOT PROVIDE ANY ADDITIONAL DETAILS/SPECIFICS, CONSTRUCTION DEPT. CONCERN. NO FOLLOW UP REQUIRED.

TECHNICAL COMMENTARY:

04/23/86

(EMPLOYEE CONCERNS)

PAGE: 3

08:49:04

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-221-001	CO051

KEYWORDS:

X:

Y:

Z:

IMPROPER VALVE OPERATION, 2 INCH STAINLESS STEEL VALVE ON THE 692 FOOT ELEVATION NEAR STAIRWAY , A 4 FOOT PRY-BAR (CHEATER) WAS USED TO OPERATE THE 2 INCH S.S. VALVE, VALVE AND/OR PIPE TO VALVE APPEARS TO BE DAMAGED. LOCATION IN UNIT #2

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-328-001	CO051

KEYWORDS:

X:

Y:

Z:

SYSTEMS ARE BEING FLUSHED AND HOSES ARE NOT USED TO COLLECT WATER CAUSING ENERGIZED ELECTRICAL CABINETS AND OPEN CONDUITS TO BE SOAKED. THIS OCCURRED IN UNIT 2 PIPE CHASE ROOM EL 713

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-346-002	CO051

KEYWORDS:

X:

Y:

Z:

ELECTRICAL PENETRATIONS GOING INSIDE REACTOR # 2 ARE FLIMSY SHEET METAL, AND ARE WALKED ON AND DAMAGED. LOCATION 716 ELEVATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-396-001	CO051

KEYWORDS:

X:

Y:

Z:

ELECTRICAL CABLES ARE NOT COVERED PROPERLY TO PROTECT THEM BEFORE WELDING OCCURS OVERHEAD. UNIT #2 REACTOR.

TECHNICAL COMMENTARY:

04/23/86

(EMPLOYEE CONCERNS)

PAGE: 4

08:49:04

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-449-001	CO051

KEYWORDS:

X: Y: Z:

ALL CRAFTS & ENG. PER. SHOULD BE TRAINED ON THE PROTECTION OF FLEX HOSE CONNECTIONS. AFTER INSTRUMENTATION FITTERS INSTALL AND INSPECTION BY-OFF, OTHER PERSONNEL WALK, CLIMB & DISFIGURE THE ASSY. THIS AFFECTS THE ABILITY THE FLEX TO OPERATE AS REQUIRED PER DESIGN. EXMAPLE SYS #63 ELE. 717' 4' E OF ALL 10' S OF W IT IS POSSIBLE THAT REPAIRS HAVE BEEN MADE BUT NOT VERIFIED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-460-003	CO051

KEYWORDS:

X: Y: Z:

A DEEP GOUGE IN 4" LINE AT THE PENETRATION GOING INTO PIPE CHASE. A5 LINE PIPE CHASE WALL GOING THROUGH V OR W LINE WALL AUX BLDG UNIT #1 737' ELEVATION, 1980 OR 1981.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-460-X04	CO051

KEYWORDS:

X: Y: Z:

AN ARC STRIKE 2" X 3/16" EXISTS ON A CLASS C LINE OF SYSTEM 78 (SPENT FUEL PIT COOLING). THE LINE IS INSULATED. LOCATION IS IN THE AUX. BLDG. UNITL, ELEVATION 732', AT THE A7 AND V OR U WALL. NO FURTHER INFORMATION AVAILABLE.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-460-X05	CO051

KEYWORDS:

X: Y: Z:

THERE IS AN EXCAVATED ARC STRIKE ON A 10" STAINLESS STEEL LINE OF SYSTEM 72 (CONTAINMENT SPRAY) THAT POSSIBLY VIOLATES MINIMUM WALL THICKNESS THE LINE IS CLASS B LOCATED IN THE AUX. BLDG., UNIT 1, ELEVATION 713 NEAR THE HEAT EXCHANGER 1-A. THE LINE IS INSULATED. NO FURTHER INFORMATION AVAILABLE.

TECHNICAL COMMENTARY:

04/23/86

(EMPLOYEE CONCERNS)

PAGE: 5

08:49:04

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-618-004	CO051

KEYWORDS:

X: Y: Z:

INSTRUMENT TUBING, UNIT 2, ACCUMULATOR #4 AREA, IS BEING SEVERLY DAMAGED BY CRAFT PERSONNEL AS THE RESULT OF SUBSEQUENT CONSTRUCTION ACTIVITIES. SOME FORM OF TUBING PROTECTION SHOULD BE PROVIDED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-814-001	CO051

KEYWORDS:

X: Y: Z:

UNITS 1 & 2, FLOOR DRAINS IN ALL BUILDINGS (ESPECIALLY IN REACTOR AND TURBINE BUILDINGS) WERE NOT ADEQUATELY PROTECTED (LEFT UNCOVERED) DURING CONSTRUCTION ACTIVITIES. THIS CAUSED FLOOR DRAINS TO BECOME FILLED WITH DEBRIS (NUTS,BOLTS,WELD ROD,LITTER) AND CEMENT FROM VARIOUS POUR/PLACEMENTS. C/I DID NOT KNOW ANY SPECIFICS OR LOCATIONS.

NO FURTHER INFORMATION IN FILE.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-935-001-51	CO051

KEYWORDS:

X: Y: Z:

C.I. STATES THAT 70% TO 75% OF THE CABLE INSTALLED IS BAD AND IT SHOULD BE REPLACED. WHEN THE CABLE WAS INSTALLED, PRESSURE BY SUPERVISORS CAUSED PRODUCTION NOT QUALITY. CABLE WAS PULLED WITHOUT PROPER EQUIPMENT. BEND RADIUS WAS VIOLATED AND PULLING PROCEDURE WAS NOT FOLLOWED. [AFTER CABLE WAS IN PLACE, IT WAS NOT PROTECTED AND WAS DAMAGED FURTHER BY CONSTRUCTION. (UNIT 2)]

TECHNICAL COMMENTARY:

04/23/86

(EMPLOYEE CONCERNS)

PAGE: 6

08:49:04

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-962-001	CO051

KEYWORDS:

X: Y: Z:

15-20 INSTRUMENTS (SOME CHILLERS) ARE DAMAGED OR NEED TO BE REPLACED, 692' ELEV., (NO "25" TEST) SYSTEM 31, UNIT #2, AUX. BLDG. (ENTRANCE TO PIPE CHASE). THESE INSTRUMENTS WERE INSTALLED 1980, BUT NEVER DOCUMENTED AS INSTALLED. CREDIT FOR INSTALLATION IS CURRENTLY BEING GIVEN TO JUSTIFY OVERSTAFFING. CI DECLINED TO PROVIDE FURTHER INFORMATION. CONSTRUCTION DEPARTMENT CONCERN.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-133-001	CO051

KEYWORDS:

X: Y: Z:

THERE IS A GOUGE IN A 10" SS PIPE, EL 713, AUX. BLDG., UNIT 1. CONST. DEPT. CONCERN. GOUGE IS LOCATED IN A A-12 HEAT EXCHANGER ROOM. NO ADDITIONAL INFORMATION KNOWN TO CI.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-140-001	CO051

KEYWORDS:

X: Y: Z:

ON 8-20-85, UNIT 2 TURBINE BLDG FLOODED, BUT NO ONE COULD DETERMINE WHY: SOURCE OF WATER COULD NOT BE IDENTIFIED, AND CAUSE OF APPARENTLY BLOCKED FLOOR DRAINS. COULD NOT BE DETERMINED. (HAPPENED 4-5 AM). 2" DRAINS PUMPS COULD NOT KEEP UP WITH FLOW, AND ENTIRE 692' ELEV WAS COVERED 2" TO 3". CONSTRUCTION DEPT CONCERN. CI HAS NO ADDITIONAL INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-158-001	CO051

KEYWORDS:

X: Y: Z:

CONDUITS IN BOTH UNITS HAVE WATER RUNNING THROUGH THEM, INCLUDING CONTROL PANELS. WATER THAT IS RELEASED ON THE FLOOR DURING FLUSHING, CLEANING ETC. WILL ENTER CONDUITS THAT ARE EVEN WITH FLOORS SURFACE. MANY CONDUITS ARE NOT PLUGGED. C/I STATES THE WATER WILL FLOW THROUGH THE CONDUITS TO THE CONTROL PANELS. (CONSTRUCTION DEPT. CONCERN) UNITS #1 AND 2. C/I HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:



04/23/86

(EMPLOYEE CONCERNS)

PAGE: 7

08:49:04

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-158-004	CO051

KEYWORDS:

X: Y: Z:

FLOOR DRAINS IN THE BOTTOM OF THE REACTOR BUILDING ARE STOPPED UP, AND PAINT HAS BEEN POURED IN THESE DRAINS. CONSTRUCTION CONCERN. CI HAS NO ADDITIONAL INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-158-005	CO051

KEYWORDS:

X: Y: Z:

ON THE REACTOR BUILDING FLOOR, THERE ARE CONDUITS THAT ARE NOT PULGGED, YET THERE IS ALWAYS WATER BACKED UP ON THIS FLOOR. CONSTRUCTION CONCERN. CI HAS NO ADDITIONAL INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-158-007	CO051

KEYWORDS:

X: Y: Z:

WELDERS HAVE MADE WELDS AND CUTS VERY CLOSE TO CONDUIT. THE CONDUIT CONTAINED CABLE WHICH EXPERIENCED HIGH TEMPERATURES. THE CABLE INSULATION WAS POSSIBLY DAMAGED. LOCATION GIVEN WAS THE AUX. BUILDING. NO FURTHER SPECIFICS COULD BE GIVEN. DISCOLORED AREAS ON THE CONDUIT WOULD IDENTIFY THE PROBLEM SPOT. C/I HAS NO FURTHER INFO.. CONST. CONCERN. UNIT 1 AND UNIT 2.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-169-001	CO051

KEYWORDS:

X: Y: Z:

A PIECE OF FELXIBLE CONDUIT HAS EXTENSIVE HEAT DAMAGE. LOCATION: AUX BLDG, EL 713', 6' EAST OF A12, 3' SOUTH OF V LINE. CI HAS NO ADDITIONAL INFORMATION. CONST. CONCERN/ELECT. CRAFT. TIME FRAME UNKNOWN.

TECHNICAL COMMENTARY:

04/23/86

(EMPLOYEE CONCERNS)

PAGE: 8

08:49:04

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-200-006	CD051

KEYWORDS:

X: Y: Z:

COPPER AND STAINLESS INSTRUMENTATION TUBING IS UNPROTECTED.  
TUBING SPANS BETWEEN HANGERS ARE BENT. OCCURS THROUGHOUT UNITS 1 AND  
2. CONST. DEPT. CONCERN. CI HAS NO ADDITIONAL INFORMATION.  
NO FOLLOW UP REQUIRED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								OW-85-007-008-051	CD051

KEYWORDS:

X: Y: Z:

WATTS BAR HAS HAD TOO MANY INSTANCES OF UNCRAFTSMAN-LIKE ELECTRICAL WORK, INCLUD  
ING POORLY BENT AND INCOMPLETELY SCREWED TOGETHER CONDUIT (AUXILIARY BLDG), AND  
[CABLES DAMAGED DUE TO SLAG FROM WELDING OPERATIONS OVERHEAD (TURBINE BLDG,  
ELEV. 729']. NO SPECIFIC LOCATIONS OR UNIT NUMBERS KNOWN. CONSTRUCTION DEPT.  
CONCERN. CI HAS NO FURTHER INFORMATION.  
NO FOLLOWUP REQUIRED.

TECHNICAL COMMENTARY:

MULTIPLE CONCERNS. ONLY [.....] CONSIDERED.

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								OW-85-007-009	CD051

KEYWORDS:

X: Y: Z:

STAINLESS STEEL PIPING HAS BEEN ABASED BY HAVING ENERGIZED ELECTRICAL CORDS AND  
WELDING LEADS WRAPPED AROUND THEM. AN EXAMPLE IS A STRAIGHT HORIZONTAL RUN OF  
6" STAINLESS STEEL PIPE IN AUXILARY BLDG. WHICH WAS WRAPPED WITH ENERGIZED  
WELDING LEADS SO THAT NO ONE WOULD TAKE THE WELDING LEADS.  
THE CI HAS NO FURTHER INFORMATION  
CONST. DEPT. CONCERN  
NO FOLLOW UP REQUIRED

TECHNICAL COMMENTARY:

Subcategory C0052  
Subcategory Title: Housekeeping

<u>Employee Concern Number</u>	<u>NSRS or QTC Report Number (If Issued)</u>	<u>Line Response (Organization-If Issued)</u>
WI-85-022-001		
IN-86-303-002	NSRS I-85-774-WBN	
IN-86-144-002		
IN-85-743-003		
IN-85-579-003		
IN-85-543-004		OC I-85-217-WBN
IN-85-534-003		
IN-85-316-006	NSRS I-85-774-WBN	
A07850919005 RIM 089		
IN-85-663-003	QTC IN-85-663-003	
IN-85-759-001	NSRS IN-85-759-001	
IN-85-649-001	QTC IN-85-649-001	
IN-85-647-001	QTC IN-85-647-001	
IN-85-941-002		

INITIAL EVALUATION PLAN

Category: CONSTRUCTION

Subcategory: HOUSEKEEPING

Prepared by: Guy R. Huff 1 3/26/86  
Preparer Date

Recommended by: Jerry M. Brath 3-26-86  
Group Leader Date

Approved by: MURKIN 13/31/86  
Group Head Date

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Subcategory C-052

Page 2 of 12

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INITIAL EVALUATION PLAN FOR  
SUBCATEGORY

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Description of Perceived Problems: Concerns involving the general housekeeping and maintenance problems of the plant on a day-to-day basis during construction. These include:

1. Clean-up of construction materials
2. Maintenance and janitorial services
3. Construction plant facilities repair

Lead Evaluator: Guy R. Huff

Evaluators: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

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Initial Evaluation Plan

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- I. List of Concerns by Concern Number
  - II. Elements and Attributes of Concerns
  - III. List of Criteria (Including Document Numbers and Revisions)
  - IV. Interviews
  - V. Action Plan (Including Staffing and Scheduling)
  - VI. Instructions/Criteria for Additional Data Evaluations
  - VII. Progress Reporting Requirements and Milestones
  - VIII. Determination as to Whether or Not Surveillance, Test/Reinspections are Necessary
  - IX. Root Cause Determination
  - X. Generic Applicability Determination
  - XI. Proposed Immediate and Long-Term Corrective Actions
  - XII. Prepare Report
-







III. List of Criteria

1. Information Source - (Applicable Procedures, OE Documents, Previous Reports, NSRS/QTC/ERT Investigation Reports Including revision or date)			2. Comments		
	Date Added to List	Applicable Section			
Constructions Response to	:	:			
Concern Number IN-85-649-001	: 3/20/86 :			Concern # IN-85-649-001	
	:	:			
Constructions Response to	:	:			
Concern Number IN-85-647-001	: 3/20/86 :			Concern # IN-85-647-001	
	:	:			
Constructions Response to	:	:			
Concern Number IN-85-663-003	: 3/20/86 :			Concern # IN-85-663-003	
	:	:			
Constructions Response to	:	:			
Concern Number IN-85-759-001	: 3/20/86 :			Concern # IN-85-759-001	
	:	:			
Constructions Response to	:	:			
Concern Number IN-85-543-004	: 3/21/86 :			Concern # IN-85-543-004	
	:	:			
Constructions Response to	:	:			
Concerns Number IN-86-303-002	:	:		Concern # IN-86-303-002 and	
and IN-85-316-006	: 3/21/86 :			IN-85-316-006	
Admin. Instr. AI 1.8-9 Rev. 9	: 3/21/86 :			Plant Housekeeping	
WBN - QCI-1.36 Rev. 13	: 3/21/86 :			Storage and Housekeeping	
	:	:			
	:	:			
	:	:			
	:	:			
	:	:			
	:	:			
	:	:			

Additional sources will be added by the evaluator.

2. State attribute and how it relates with requirement.

IV. Interviews

INTERVIEWS	:	LOCATION	:	EXT	:	Date	:	SUMMARY OF DISCUSSION
------------	---	----------	---	-----	---	------	---	-----------------------

Ben Painter	:	WBN-Office	:	3203	:	3/18/86:	:	Repairs to Medical Office
	:		:		:		:	have been made

Pat Nabors	:	Medical Office	:	3254	:	3/18/86:	:	Roof has been repaired
	:		:		:		:	and the floor was
	:		:		:		:	replaced.

Larry Mays	:		:	3169	:		:	
------------	---	--	---	------	---	--	---	--

Judy Barron	:		:	3524	:		:	
-------------	---	--	---	------	---	--	---	--

V. Action Plan - Initial

## Evaluation Plan

1. Review QCI 1.36 to verify the procedures pertaining to and covers housekeeping needs as stated in these concerns.
2. Contact Ben Painter to determine if repairs have been made to medical offices.
3. Contact Pat Nabors to determine if repairs to the Medical Office were adequate.
4. Make some physical tours of plant to observe areas addressed in concern, looking at housekeeping.
5. Contact Larry Hays to determine staffing levels of laborers and how they are being utilized.
6. Observe the Medical Offices to determine if the repairs have been made to the floor and roof.
7. Review the ongoing housekeeping tours made by construction to determine the number of deficiencies and are they followed up on, and how soon are they corrected.
8. Contact preventive maintenance inspectors to determine what QCPs they inspect by and how many housekeeping deficiencies they find.
9. Contact Nuclear Licensing to determine how many NRC findings that pertain to housekeeping and how many NCR or FCRs have been written concerning housekeeping. If there are any, who has responsibility for them and how have they responded to them.
10. Contact QA regarding any housekeeping deficiencies they may have found.
11. Contact Judy Barron on any housekeeping trends that may exist.
12. Contact QC to determine if there are any trends on rejections concerning housekeeping.
13. Write summary of findings for each of the above items.
14. Staffing: One evaluator 100 man-hours.

V. Action Plan - Initial

## CROSS REFERENCE MATRIX

Evaluation Plan Step Number	Concern(s) Addressed By Step	Element(s) Addressed	Attribute(s) Addressed
1.	WI-85-022-001	Permanent Plant Facilities	A. Dust
4.	IN-86-303-002		B. Construction Material
5.	IN-86-144-002		C. Janitorial Services
7. thru 12.	IN-85-743-003		D. Metal Shavings
	IN-85-579-003		
	IN-85-543-004		
	IN-85-543-003		
	IN-85-316-006		
	A07850919005 - RIM-089		
2,3,6	IN-85-663-003	Medical Office	A. Floor Repair
	IN-85-759-001		B. Roof Repair
	IN-85-649-001		
	IN-85-647-001		
1.	IN-85-941-002	Plant Roads	Dust
4.			
7 thru 12			

VI.

Instruction/Criteria for Additional Data Evaluations

(This is to be used when limited additional inspections, test, evaluations are necessary to answer the question in section VIII.)

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

## VII. Progress Reporting Requirements and Milestones

MILESTONES  
CONSTRUCTION CATEGORY

<u>No. 1</u>	Prepare Final Evaluation Plan (Finish)	<u>March 31, 1986</u>
<u>No. 2</u>	Perform Final Evaluation (Finish)	<u>April 29, 1986</u>
<u>No. 3</u>	Coordinate with Line Management (Finish)	<u>May 6, 1986</u>
<u>No. 4</u>	Final Report/CA Draft (Finish)	<u>May 12, 1986</u>
<u>No. 5</u>	SRB Review/Approval (Finish)	<u>May 16, 1986</u>
<u>No. 6</u>	Issue Final Report (Finish)	<u>May 23, 1986</u>

VIII. Answer the Question, are Statistical Sampling Actions Tests/Reinspections Necessary?

(Proceed to preparation of final EP if answer is yes)

IX. Root Cause Determination

X. Generic Applicability Determination: Section \_\_\_\_\_, Paragraph \_\_\_\_\_  
of Program Manual \_\_\_\_\_ WBN \_\_\_\_\_ SQN \_\_\_\_\_ BFN \_\_\_\_\_ BLN \_\_\_\_\_

XI. Proposed Immediate and Long-Term Corrective Actions

XII. Prepare Report

04/23/86

(EMPLOYEE CONCERNS)

PAGE: 1

08:54:06

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								A07850919005-089	CO052

KEYWORDS:

X: Y: Z:

HOUSEKEEPING AND CLEANLINESS REQUIRE SIGNIFICANT ATTENTION (PG 12)

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-316-006	CO052

KEYWORDS:

X: Y: Z:

PLANT IS FILTHY AND HAS ALWAYS BEEN FILTHY. THERE ARE INADEQUATE LABORERS ON CLEANUP DETAILS. LABORERS SHOULD VACUUM, BUT INSTEAD USE AIR HOSES. THIS ONLY BLOWS THE DUST AROUND. AFTER THE RECENT CLEAN UP EFFORT WHILE WELDERS WERE FURLOUGHED, THE PLANT WAS STILL DIRTY, AND THE LABORERS HAD BLOWN A LOT OF DUST INTO CONTROL PANELS AND OPERATIONAL VALVES. CI HAS NO FURTHER INFORMATION. CONST. DEPT. CONCERN.  
NO FOLLOW UP REQUIRED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-543-003	CO052

KEYWORDS:

X: Y: Z:

CLEANLINESS ALL OVER THE SIRE IS INSUFFICIENT DUE TO SHORTAGE OF LABORERS.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-543-004	CO052

KEYWORDS:

X: Y: Z:

EVERY OPEN LENGTH OF TUBE STEEL IN REACTOR #2 IS FILLED WITH TOBACCO JUICE, URINE, AND OR FECES WHICH IS UNSANITARY AND CAUSES STEEL TO DETERIORATE.

TECHNICAL COMMENTARY:



04/23/86

(EMPLOYEE CONCERNS)

PAGE: 2

08:54:06

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								IN-85-579-003	CO052

KEYWORDS:

X: Y: Z:

POOR HOUSECLEANING THROUGHOUT THE PLANT.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								IN-85-647-001	CO052

KEYWORDS:

X: Y: Z:

MEDICAL OFFICE (CONSTRUCTION) IS IN NEED OF REPAIR. X-RAY LAB DEPT. LEAKS AND THE FLOOR IS WEAK FROM THIS. MUS WALK AROUND BUCKETS WHEN RAINING. THE BUILDING CONDITION COULD BE A SAFETY HAZARD.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								IN-85-649-001	CO052

KEYWORDS:

X: Y: Z:

CONSTRUCTION MEDICAL OFFICE IS IN NEED OF REPAIR. THE FLOOR IN X-RAY ROOM IS VERY WEAK IN SOME AREAS AND THE STAFF FEARS SOMEONE MAY FALL THROUGH.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								IN-85-663-003	CO052

KEYWORDS:

X: Y: Z:

MEDICAL BUILDING REQUIRES ADDITIONAL MAINTENANCE/JANITORAL SERVICES. WHEN IT RAINS THE ROOF LEAKS AND TRACKED IN DIRT AND MUD CREATE AND UNHEALTHY/UNSANITARY AREA FOR TREATING INJURED PERSONNEL. CI HAD NO ADDITIONAL INFORMATION.

TECHNICAL COMMENTARY:

04/23/86

(EMPLOYEE CONCERNS)

PAGE: 3

08:54:06

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-743-003	C0052

KEYWORDS:

X: Y: Z:

CRAFT RESTROOMS/WASHROOMS IN UNIT 2, 708, 729 AND 737 ELEVATIONS ARE FILTHY AND IN NEED OF CLEANING/MAINTENANCE. NO FURTHER DETAILS AVAILABLE.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-759-001	C0052

KEYWORDS:

X: Y: Z:

THE MEDICAL AID STATION REQUIRES REPAIR (ROOF LEAKS/FLOOR ROTTED) AND REPLACEMENT OF EVERYDAY EQUIPMENT.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-941-002	C0052

KEYWORDS:

X: Y: Z:

ROADS IN THE VICINITY OF THE WAREHOUSE SHOULD BE WATERED DOWN MORE OFTEN TO REDUCE THE AMOUNT OF DUST ON CRITICAL ITEMS OF EQUIPMENT SUCH AS VALVES AND GAUGES. CT HAS NO FURTHER INFORMATION. NO FOLLOW UP REQUIRED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-144-002	C0052

KEYWORDS:

X: Y: Z:

SHAVINGS FROM ROTARY FILE ARE FOUND PRACTICALLY EVERYWHERE IN REACTOR #2. THESE SHAVINGS COULD GET INTO EQUIPMENT IF NOT CLEANED UP. CI' HAS NO ADDITIONAL INFORMATION. CONST DEPT CONCERN./TIME FRAME-CURRENT.

TECHNICAL COMMENTARY:

04/23/86

(EMPLOYEE CONCERNS)

PAGE: 4

08:54:06

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-303-002	00052

KEYWORDS:

X: Y: Z:

HOUSEKEEPING COULD BE IMPROVED.. THERE IS VERY HEVY DUST IN SOME AREAS. CONSTRUCTION DEPT CONCERN. CI HAS NO ADDITIONAL INFORMATION. NO FOLLOWUP REQUIRED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								WI-85-022-001	00052

KEYWORDS:

X: Y: Z:

HOUSEKEEPING IN UNIT 2 (WBNP) IS LESS THAN ADEQUATE EXCESSIVE TRASH (NUTS, BOLTS, PARTS OF REMOVED HGRS, ETC) LAYING AROUND.

TECHNICAL COMMENTARY:

Subcategory C0060

Subcategory Title: Bolting

<u>Employee Concern Number</u>	<u>NSRS or QTC Report Number (If Issued)</u>	<u>Line Response (Organization-If Issued)</u>
PH-85-042-001	NSRS I-85-694-WBN	WBN-PMO
IN-85-021-X04	None	None
IN-85-347-007	None	WBN-PMO
In-86-262-005	NSRS IN-85-585-WBN	
IN-86-183-001	NSRS I-85-483-WBN	None

INITIAL EVALUATION PLAN

Category: CONSTRUCTION

Subcategory: CO-060 Bolting

Prepared by:

Gay L. Fortman 14-2-86  
Preparer Date

Recommended by:

James M. Bata 14-2-86  
Group Leader Date

Approved by:

M. V. Rudolph 14-2-86  
Group Head Date

INITIAL EVALUATION PLAN FOR  
SUBCATEGORY

Description of Perceived Problems: The concerns in this subcategory address bolting where:

1. carbon steel bolts/nuts are installed in stainless steel valves;
2. there is no procedural requirement for torquing instrument panel bolts;
3. carbon steel bolts are installed in stainless steel flanged connections;
4. inadequate bolting was used and improper torquing techniques applied to tanks.

Lead Evaluator:

*Gangl. Perham*

Evaluators:

*N/A*

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Initial Evaluation Plan

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- I. List of Concerns by Concern Number
  - II. Elements and Attributes of Concerns
  - III. List of Criteria (Including Document Numbers and Revisions)
  - IV. Interviews
  - V. Action Plan (Including Staffing and Scheduling)
  - VI. Instructions/Criteria for Additional Data Evaluations
  - VII. Progress Reporting Requirements and Milestones
  - VIII. Determination as to Whether or Not Surveillance, Test/Reinspections are Necessary
  - IX. Root Cause Determination
  - X. Generic Applicability Determination
  - XI. Proposed Immediate and Long-Term Corrective Actions
  - XII. Prepare Report
-







III. List of Criteria

1. Information Source - (Applicable Procedures, OE Documents, Previous Reports, NSRS/QTC/ERT Investigation Reports Including revision or date)	:	:	:	2. Comments
	:	:	:	
NSRS Investigation Reports:	:	:	:	
	:	:	:	
I-85-694-WBN (1-6-86)	:	:	All	Holddown hardware (bolts, nuts, plates, washers) used w/tanks is questionable and/or met requirements.
	:	:	:	
IN-86-183-001 (1-9-86)	:	:	All	Use of carbon steel bolting in stainless steel flanged connections.
	:	:	:	
WBN-PMO IN-85-347-007	:	:	All	No procedural requirement for torquing instrument panel bolts.
	:	:	:	
WB-NCR 3928R	:	:	Reinspection	Paperwork generated to document inspection prior to 1982.
	:	:	:	
WBN-PMO Response PH-85-042-001	:	:	Torquing	Required tensioning of subject holddown bolts not adequately performed.
	:	:	:	
TVA General Construction Specification G-32	:	:	Bolt Tightening:	Review criteria with regard to self drilling anchor bolt tightening requirements.
	:	:	:	
	:	:	:	

1. Additional sources will be added by the evaluator.
2. State attribute and how it relates with requirement.

[illegible]

1. Additional sources will be added by the evaluator.
2. State attribute and how it relates with requirement.



V. Action Plan - Initial

## Evaluation Plan

1. Contact QTC, Jim Murray, to determine if there is additional info available on the concerns in this subcategory. (See Attachments)
2. Investigate and review other existing files (NSRS, PMO, ERT) to determine if any previous investigations have been initiated and/or completed.
3. Review NSRS investigation report PH-85-042-001 (I-85-694-WBN) to determine if the response to the inadequate use of the bolts is adequately addressed. In addition, review the PMO response to the recommendations set forth by the aforementioned NSRS report to determine if the recommendations for retensioning and line organizations evaluation of reinspection per NCR-3928R have been adequately addressed and/or implemented. Also, interface with REU and visually inspect the subject anchor bolts installed in CVCS Holdup Tanks A and B to determine the degree of accessibility available vs. the degree of accessibility required to perform the tensioning procedure.
4. Review NSRS investigation report IN-86-183-001 to determine if the response to the use of carbon steel bolts in stainless steel flanges is adequate. Determine if any additional actions may be required.
5. Review WBN-PMO response to concern number IN-85-347-007 to determine if the fact that there is no procedural requirement for torquing of instrument panel bolts has been adequately substantiated. Review TVA General Construction Specification G-32 and interface with REU to determine if the PMO response has been adequately addressed. Determine if additional actions, if any, are required.
6.
  - A. Review site procedures as necessary to determine specific criteria that governs the area of concern (i.e. bolting requirements for stainless steel valves) and ensure that applicable upper tier criteria has been implemented, to include vendor requirements and/or recommendations. Specifically, review General Construction Specification G-29 to determine specific bolting requirements as they relate to the subject concern.
  - B. Interview applicable craft, as required, to determine what instruction and/or schedule 1) initiated the bolt change out 2) caused the bolt change out to be terminated before completion.
  - C. Interview REU supervisor and/or system engineers to establish applicable requirements/schedules with regards to the subject concern and the significance of the valves being insulated and therefore, inaccessible.

- D. Review installation and inspection documentation as required to determine if there is any indication of document falsification with regards to required installations/inspections being performed on what is potentially an unacceptable condition.
7. Write summary of the findings for each of the subject investigations/concerns. This summary shall include a minimum of: the findings and determinations for each case and address any additional action that may be required.
8. Record source documents and other applicable criteria as well as an interview schedule on Attachments B and C respectively.
9. Interface with other ECP Groups to determine if their findings are relevant to the concerns addressed herein:
10. A. STAFFING: One (1) evaluator  
B. SCHEDULED MANHOURS: 100

V. Action Plan -- Initial

## CROSS-REFERENCE MATRIX

Evaluation Plan Step Number	Concern(s) Addressed By Step	Element(s) Addressed	Attribute(s) Addressed
1, 2, 6, 7, 8, 9	IN-85-021-X04	Bolting	Compatibility
1, 2, 4, 7, 8, 9	IN-86-183-001	Bolting	Compatibility
1, 2, 5, 7, 8, 9	IN-85-347-007	Bolting	Torquing
1, 2, 3, 7, 8, 9	PH-85-042-001	Bolting	Adequacy

0126T

KEYWORDS

The keywords to be used by the ECTG will be significant words identifying the individual concerns element, attribute, and characteristic arranged in hierarchical order. The keywords identifying the element will be in column No. 1, the attribute in column No. 2, and the characteristic in column No. 3. The keyword choices should be limited to a maximum of ten words per column. The following are the keywords to be used:

Column No. 1  
ELEMENT

Column No. 2  
ATTRIBUTE

Column No. 3  
CHARACTERISTIC

Bolting

Material

Compatibility

Adequacy

Torquing

Requirements



04/23/86

(EMPLOYEE CONCERNS)

PAGE: 1

08:58:16

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-021-X04	CD060

KEYWORDS: BOLTS MATERIAL INCOMPATIBLE

X: Y: Z:

WBNP UNIT #1, STAINLESS STEEL VALVES (CHECK, GLOBE AND GATE VALVES; DIFFERENT SIZES; 2"0 AND UP) HAVE STUD BOLTS & NUTS SHOULD BE STAINLESS STEEL. IN 1983 AND 1984, STEAMFITTERS STARTED TO CHANGE OUT THESE CARBON STEEL STUDS & NUTS. THE CHANGE OUT WAS STOPPED IN 1984 BEFORE ALL THE VALVES WERE COMPLETED. VALVES WITH CARBON STEEL STUDS & NUTS ARE NOW INSULATED. LOCATION: REACTOR BUILDING, (ACCUMULATOR ROOMS) AND AUX BUILDING UNIT 1. CI COULD NOT RECALL SYSTEM OR VALVE NUMBERS.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-347-007	CD060

KEYWORDS: BOLTS PROCEDURES TORQUE

X: Y: Z:

PROCEDURE DOES NOT REQUIRE TORQUING OF INSTRUMENT PANEL BOLTS.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-183-001	CD060

KEYWORDS: BOLTS MATERIAL INCOMPATIBLE

X: Y: Z:

CARBON STEEL BOLTS ARE INSTALLED IN STAINLESS STEEL FLANGED CONNECTIONS. AN EXAMPLE OF THIS CAN BE FOUND IN UNIT 2 IN THE AUX BUILDING ELEVATION 713' NEAR 13&14 AND U. GO ABOUT 10' TO THE NORTH DOWN HALL TO A ROOM ON THE LEFT. AN EXAMPLE IS ABOUT 3' OFF THE FLOOR ON SOME 6" PIPE. IT EXISTS ALL OVER THE PLANT. CI HAS NO ADDITIONAL INFORMATION. CONST DEPT CONCERN.

TECHNICAL COMMENTARY:

04/23/86

(EMPLOYEE CONCERNS)

PAGE: 2

08:58:16

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								PH-85-042-001	00060

KEYWORDS: BOLTS MATERIAL INADEQUATE

X: Y: Z:

C/I HAS A CONCERN THAT THE NUTS USED TO BOLT DOWN THE BORATED WATER TANKS MAY BE INADEQUATE AND THERE MAY NOT BE A SUFFICIENT CONTACT BETWEEN THE PLATES AND BRACKET. ALSO, WHILE TIGHTENING THESE NUTS, A BOLT TURNED, BECAUSE THE NUT WAS TOO TIGHT. CONST. DEPT. CONCERN. C/I HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

Subcategory C0070

Subcategory Title: Instrument Tubing

Employee Concern Number	NSRS or QTC Report Number (If Issued)	Line Response (Organization-If Issued)
EX-85-047-001		
IN-85-016-003	I-85-165-WBN	OC
IN-85-021-001	ERT IN-85-021-001	OC
IN-85-119-001	IN-85-119-001(R1)	OC
IN-85-143-002		ONP
IN-85-197-001		
IN-85-218-001	ERT IN-85-218-001	OC
IN-85-447-001		OC
IN-85-514-001	ERT/NSRS IN-85-514-001	OC
IN-85-532-002		
IN-85-707-002		OC
IN-85-740-002		OC
IN-85-740-003		
IN-85-773-002		OC
IN-85-795-001	ERT/QTC IN-85-795-001	OC
IN-85-795-002	ERT IN-85-795-002	OC
IN-85-824-002	ERT/NSRS IN-85-824-002	OC
IN-85-831-001		OC
IN-85-866-002		
IN-85-982-002		
IN-86-029-001		
IN-86-135-003	I-85-714-WBN	
IN-86-222-001		
IN-86-289-001		OC
PH-001-002	NSRS/ERT PH-85-001-002	OC
PH-85-001-008		
PH-85-001-009		
PH-85-002-018		
PH-85-002-027		
SQP-6-001-001	I-86-128-SQN	
WBP-6-011-001		
WI-85-089-002		
XX-85-046-001	I-85-590-SQN	SQN

INITIAL EVALUATION PLAN

Category: CONSTRUCTION

Subcategory: INSTRUMENT TUBING

Prepared by:

HW Joffe 14/11/86  
Preparer Date

Recommended by:

HW Joffe 14/11/86  
Group Leader Date

Approved by:

MV Rudolph 14-11-86  
Group Head Date

INITIAL EVALUATION PLAN FOR  
SUBCATEGORY

Description of Perceived Problems:

Specific and non-specific hardware concerns about instrument tubing involving:

1. Slope
2. Bending
3. Compression Fittings
4. Cleanliness
5. Clamps
6. Inspection and Documentation

Lead Evaluator: W. J. Jettis

Evaluators: August E. Selowski

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Initial Evaluation Plan

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- I. List of Concerns by Concern Number
  - II. Elements and Attributes of Concerns
  - III. List of Criteria (Including Document Numbers and Revisions)
  - IV. Interviews
  - V. Action Plan (Including Staffing and Scheduling)
  - VI. Instructions/Criteria for Additional Data Evaluations
  - VII. Progress Reporting Requirements and Milestones
  - VIII. Determination as to Whether or Not Surveillance, Test/Reinspections are Necessary
  - IX. Root Cause Determination
  - X. Generic Applicability Determination
  - XI. Proposed Immediate and Long-Term Corrective Actions
  - XII. Prepare Report
-



[illegible]



III. List of Criteria

1. Information Source - (Applicable Procedures, OE Documents, Previous Reports, NSRS/QTC/ERT Investigation Reports Including revision or date)				2. Comments	
	Date Added to List	Applicable Section			
1. NSRS Report PH-85-001-002	4/2/86	Entirety		Slope/Training	
From K.W. Whitt to					
R.M. Pierce Dated					
7/10/85					
2. ERT Investigation Report	4/2/86	Entirety		Slope, Clamps, Arc Strikes	
PH-85-001-002 Dated				Cleanliness	
7/6/85					
3. IO Report From R.M.	4/2/86	Entirety		Slope, Clamps, Arc Strikes	
Pierce To K.W. Whitt				Cleanliness/Rework Per	
Dated 7/19/85 Reference				NCR 6172	
E/C No. PH-85-001-002					
4. QTC Report 85.0115	4/2/86	Entirety		Request Revision of	
Dated 7/31/85				NCR 6172	
5. PMO Report From G.	4/2/86	Entirety		Addressed Revision Request	
Wadewitz to K.W. Whitt				By QTC Related to	
Dated 9/18/85				NCR 6172 Reference: Arc Strikes	
				And Cleanliness	
6. Memo F0185-1029-604	4/2/86	Entirety		Establishment of The	
Dated 10/25/85				WBNP(U1&U2)	
				"Instrument Project"	

1. Additional sources will be added by the evaluator.
2. State attribute and how it relates with requirement.

III. List of Criteria

1. Information Source - (Applicable Procedures, OE Documents, Previous Reports, NSRS/QTC/ERT Investigation Reports Including revision or date)	Date Added to List	Applicable Section	2. Comments
7. Employee Concern Disposi- tion Report PH-85-001-002 Dated 10/21/85	4/2/86	Entirety	Introduces ECN-5846, Workplans 5320 And 5846-2
8. Memo (FO185-1028-603) Dated 10/25/85	4/2/86	Entirety	Stop Work/Administrative Hold
9. Instrumentation Project Action Plan-Activity No. 1210	4/2/86	Entirety	Slope Evaluation NCR 6172(U1) & 6359(U2)
10. NSRS Investigation Report I-85-714-WBN Dated 12/9/85	4/2/86	Entirety	Reference: IN-85-119-001 and PH-85-001-002 Related to Slope Inspections
11. NSRS Investigation Report I-85-437-WBN	4/2/86	Entirety	Slope
12. NSRS Report IN-85-824-002 From K.W. Whitt to E.R. Ennis Dated 10/30/85	4/2/86	Entirety	Acceptance of Corrective Action Response Evaluation Reference: All Aspects of Tube Bending

Additional sources will be added by the evaluator.

2. State attribute and how it relates with requirement.

III. List of Criteria

1. Information Source - (Applicable Procedures, OE Documents, Previous Reports, NSRS/QTC/ERT Investigation Reports Including revision or date)				2. Comments	
	Date Added to List	Applicable Section			
13. PMO Report From G. Wadewitz:	4/2/86	Entirety	:	Bending Procedure,	
To K.W. Whitt Dated	:	:	:	Certified Personnel	
10/18/85 Reference:	:	:	:	Qual. Bending Machines	
IN-85-824-002	:	:	:	Record Generation	
:	:	:	:	Introduced NCRs 3864, 6276 and	
:	:	:	:	4633 and QA Audit	
:	:	:	:	WB-M-81-08.	
14. ERI Investigation Report	4/2/86	Entirety	:	Bending, Certification,	
IN-85-824-002 Dated 8/23/85:	:	:	:	Qualification, and Documen-	
"Including Supplement-A"	:	:	:	tation	
15. NSRS Report No. IN-85-	4/3/86	Entirety	:	Acceptance of Corrective Action	
795-001 From K. W. Whitt	:	:	:	Response Evaluation	
To W.T. Cottle Dated	:	:	:	Reference: Compression Fittings	
1/31/86	:	:	:		
16. Response Report From	4/3/86	Entirety	:	Instrument Project	
W.T Cottle to K.W. Whitt	:	:	:	Evaluation of Compression	
Dated 1/20/86	:	:	:	Fittings (Revision Incorporation)	
17. Memo (FO1-60108-603)	4/3/86	Entirety	:	Revised Action Plan - Activity	
Dated 1/8/86	:	:	:	No. 1240 (Compression Fittings)	
:	:	:	:		
:	:	:	:		

1. Additional sources will be added by the evaluator.
2. State attribute and how it relates with requirement.

## II. List of Criteria

1. Information Source - (Applicable Procedures, OE Documents, Previous Reports, NSRS/QTC/ERT Investigation Reports Including revision or date)	Date Added to List	Applicable Section	2. Comments
18. Memo (FOI-851221-601) Dated 12/11/85	4/3/86	Entirety	Compression Fittings Evaluation Report Reference: NCR 6278
19. Attachment B (Meeting Note) Titled "Compression Fittings Meeting" Dated 11/12/85 Reported By W. M. Stone	4/3/86	Entirety	Defines Attributes of Compression Fittings Concern
20. NSRS Report From K.W. Whitt to H.G. Parris Dated 8/12/85	4/3/86	Entirety	NSRS Recommendations On Compression Fittings Inadequacies
21. ERT Investigation Report No. IN-85-795-001; IN-85-795-002 Dated 8/3/85	4/3/86	Entirety	Findings, Observations, and Root Cause Evaluation Related To Compression Fittings Inadequacies
22. PMO Report From G. Wadewitz To K.W. Whitt Dated 10/14/85	4/3/86	Entirety	Slope, Damage, and Cleanliness Aspects of Instrument Tubing - Reference: IN-85-218-001, IN-85-119-001, PH-85-001-002
23. QTC/ERT Investigation Report IN-85-119-001 Rev I dated 9/18/85	4/3/86	Entirety	Slope Deficiencies

1. Additional sources will be added by the evaluator.
2. State attribute and how it relates with requirement.

III. List of Criteria

1. Information Source - (Applicable Procedures, OE Documents, Previous Reports, NSRS/QTC/ERT Investigation Reports Including revision or date)				2. Comments	
	Date Added to List	Applicable Section			
24. NSRS Report From K.W. Whitt:	4/3/86	Entirety		NSRS Recommendation	
To G. Wadewitz Dated				(Pertaining to Slope)	
9/23/85					
25. General Construction	4/3/86	4.M.4.1		Cleaning Requirements	
Specification G-29		Various			
Spec. 4.M.4.1 (R2)		Paragraphs			
26. Response Report From W.T.	4/3/86	Entirety		NSRS Approval of CA Pending	
Cottle to E.R. Ennis				Completion of PIR WBN NEB 8532	
Dated 2/19/86					
27. NSRS Report From K.W. Whitt:	4/3/86	Entirety		Acceptance of CA	
To W.T. Cottle Dated				Related to IN-85-514-001	
1/17/86				Follow-up on WBN NEB 8532	
28. Response Report From W.T.	4/3/86	Entirety		(P&E) Nuclear's Response To NSRS	
Cottle To K.W. Whitt				Report IN-85-514-001 Reference:	
Dated 1/8/86				Cleanliness and Drain Line Re-	
				strictions Reference: IN-85-795-	
				001 Compression Fittings	
29. ERT Investigation Report	4/3/86	Entirety		Compression Fittings, Cutting/	
IN-85-514-001 Dated				Reaming, Flow Restrictions	
8/15/86					

1. Additional sources will be added by the evaluator.
2. State attribute and how it relates with requirement.

III. List of Criteria

1. Information Source - (Applicable Procedures, OE Documents, Previous Reports, NSRS/QTC/ERT Investigation Reports Including revision or date)				2. Comments	
	Date Added to List		Applicable Section		
30. NSRS Report IN-85-514-001 Dated 8/23/85	4/3/86	Entirety		Miscellaneous Observations and De-burring Reference IN-85-795- 001,002	
31. Employee Concern Dis- position Report IN-85-218- 001 Dated 8/27/85	4/3/86	Entirety		Addressed Slope Deficiencies And Introduces NCR 6172, ECN 5846, And Work Plan 5846-1	
32. NSRS C/A Response Eval- uation Report IN-85-218- 001 Dated 8/22/85	4/3/86	Entirety		Recommendations	
33. ERT Investigation Report IN-85-218-001 Dated 7/18/85	4/3/86	Entirety		Slope, Clamps, Cleanliness	
34. NSRS Report From K.W. Whitt To E.R. Ennis IN-85-021- 001 Dated 10/30/85	4/3/86	Entirety		Tube Bending - C/A Response Evaluation Acceptance	
35. PMO Report From G. Wadewitz To K.W. Whitt Dated 10/18/85	4/3/86	Entirety		All Aspects Of Bending Intro- duces NCR 6275, 6276	
36. NCR WBN 6276 First Interim Report Dated 10/30/85	4/3/86	Entirety		Explains Instrument Project Purpose, Slope And Goals	

1. Additional sources will be added by the evaluator.
2. State attribute and how it relates with requirement.

III. List of Criteria

1. Information Source - (Applicable Procedures, OE Documents, Previous Reports, NSRS/QTC/ERT Investigation Reports Including revision or date)				2. Comments	
	Date Added to List	Applicable Section			
37. Employee Concern Disposition Report IN-85-021-001 Dated 11/4/85	4/3/86	Entirety		Reference PS G29M 4.M.2.1 Violation And NCR 6276	
38. QCT/ERT Report QTC 85.0418 Reference: IN-85-021-001 Dated 9/5/85	4/3/86	Entirety		Review Of TVA Response Follow-up Required For NCR 6275, Question Valid Heat Number Finding #7	
39. NSRS Report From K.W. Whitt To H.G. Parris Dated 8/8/85 Reference IN-85-021-001 (Tube Bender)	4/3/86	Entirety		Recommendations	
40. ERT Investigation Report IN-85-021-001 Dated 7/27/85	4/3/86	Entirety		SEE IN-85-824-002 Related to Bending Aspects And Documentation Deficiencies	
41. Response Report From G. Wadewitz to W.T. Cottle Dated 12/27/85 Reference IN-85-016-003	4/3/86	Entirety		Introduced NCR 6356 RO And R1 And SCR-6356-S RO Related To Instrument Clamps-Improper Installation/Damage	
42. NSRS Investigation Report IN-85-165-WBN Dated 9/3/85	4/3/86	Entirety		Tubing Not Clamped Properly EC IN-85-016-003	

1. Additional sources will be added by the evaluator.
2. State attribute and how it relates with requirement.

### III. List of Criteria

[illegible]

1. Additional sources will be added by the evaluator.
2. State attribute and how it relates with requirement.



1. Information Source - (Applicable Procedures, OE Documents, Previous Reports, NSRS/QTC/ERT Investigation Reports Including revision or date)	Date Added to List	Applicable Section	2. Comments

1. Additional sources will be added by the evaluator.
2. State attribute and how it relates with requirement.

### III. List of Criteria

[illegible]

1. Additional sources will be added by the evaluator.
2. State attribute and how it relates with requirement.

#### IV. Interviews

INTERVIEWS	LOCATION	EXT	Date	SUMMARY OF DISCUSSION
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#### IV. Interviews

[illegible]

V. Action Plan - Initial

## CROSS-REFERENCE MATRIX

Evaluation Plan Step Number	Concern(s) Addressed By Step	Element(s) Addressed	Attribute(s) Addressed
Section #2	IN-85-119-001 IN-85-197-001 IN-85-218-001 IN-85-982-002 IN-86-222-001 PH-85-001-002 SQP-6-001-001 XX-85-046-001	Slope	A. Design Requirements B. Instal- lation C. Exception Control
Section #3	IN-85-021-001 IN-85-707-002 IN-85-740-002 IN-85-740-003 IN-85-773-002 IN-85-831-001 WI-85-089-002	Bending	A. Certifica- tion/Control B. Damage C. Rework
Section #4	A07850919005-091 IN-85-143-002 IN-85-514-001 IN-85-795-001 IN-85-795-002 PH-85-002-027	Compression Fittings	A. Instal- lation B. Type

V. Action Plan - Initial

## CROSS-REFERENCE MATRIX

Evaluation Plan Step Number	Concern(s) Addressed By Step	Element(s) Addressed	Attribute(s) Addressed
Section #5	IN-85-447-001 IN-86-289-001 WBP-6-011-001	Cleanliness	A. Surface B. Threading Compound
Section #6	EX-85-047-001 IN-85-016-003	Clamps	A. Instal- lation B. Damage
Section #7	IN-85-824-002 IN-85-135-003 PH-85-001-008 PH-85-001-009 PH-85-002-018 IN-86-029-001 IN-85-532-002 IN-85-866-002	Inspection And Documen- tation	A. Program Atic Require- ments/Applica- tion B. Record Generation C. Partial Verification Testing

V. Action Plan - Initial

## Evaluation Plan

- 1.0 Determine from NSRS other Employee Concerns Task Groups and the Instrument Project Group, if additional information is available related to the elements and/or attributes listed in Section II of this report.

Note #1) Pertinent information discovered will be included in the applicable sections of this plan and considered (in whole or in part) as related to this evaluation. Additions and deletions will be initialed and dated with justification comments as required.

Note #2) This evaluation plan will address each element of subcategory C0070 "Instrumentation Tubing" related to the applicable established attributes. (See Section II)

Note #3) G-specifications and applicable procedures will be reviewed as required through out this evaluation.

2.0 Slope

- A) Perform an evaluation of the slope deficiencies associated with Employee Concern Numbers: IN-85-119-001, IN-85-197-001, IN-85-218-001, IN-85-982-002, IN-86-222-001, PH-001-002, SQP-6-001-001, and XX-85-046-001; by verifying that all attributes are properly addressed in the following reports and corrective actions (where required) are properly implemented.

## Reports

NSRS Report (PH-85-001-002)  
From K.W. Whitt to  
R.M. Pierce Dated 7/10/85

PMO Report From R.M. Pierce  
to K.W. Whitt  
Dated 7/19/85 Reference:  
E/C PH-85-001-002

Instrumentation Project  
Action Plan-Activity  
NO. 1210

## Reports

ERT Investigation Report  
PH-85-001-002 Dated 7/6/85

Employee Concern Disposition  
Report PH-85-001-002  
Dated 10/21/85

NSRS Investigation Report  
I-85-714-WBN  
Dated 12/9/85

V. Action Plan - Initial - (continued)

## 2.0) continued

## Reports

NSRS Investigation Report  
I-85-437-WBN

QTC/ERT Investigation Report  
IN-85-119-001 Revision 1  
Dated 9/18/85

Employee Concern Disposition  
Report IN-85-218-001 Dated  
8/27/85

## Reports

PMO Report From G. Wadewitz  
To K.W. Whitt Dated 10/14/85

NSRS Report From K.W. Whitt  
To G. Wadewitz Dated 9/23/85

ERT Investigation Report  
IN-85-218-001 Dated  
7/18/85

Note: Additional reports may be added throughout this evaluation.

- B) Obtain IEU assistant and review NCRs 6172 and 6359 to determine the required corrective action and perform a review of the implementation process.
- C) Obtain IEU assistance and review drawings associated with engineering change notice (ECN) 5846 and work plans 5320, 5846-1, and 5846-2.
- D) Obtain IP personnel and IEU assistance as required to review the instrumentation project action plan-activity 1210 for an overview of problems related to slope; corrective actions required and those taken.
- E) Obtain IEU assistance to determine if exception controls are in place during installation and inspection processed and/or procedures.
- F) Check NCR listings to determine if additional NCRs have been generated which deal with the listed concerns.

Note: Personnel from IEU, IQC, NU PWR, Etc, will be interviewed and utilized during various phases of this evaluation. Estimates of man-hours will be provided at end of evaluation plan.

- G) Write a summary of findings, including any corrective actions, additional test/reinspections required, root cause and a generic applicability determination and obtain the appropriate line organization input as required.

Note: Specifically address employee concerns SQP-6-001-001 and XX-85-046-001 for generic applicability.



V. Action Plan - Initial - (continued)3.0 Bending

- A) Perform an evaluation of the bending deficiencies associated with Employee Concern Numbers IN-85-021-001, IN-85-707-002, IN-85-740-002, IN-85-740-003, IN-85-773-002, IN-85-831-001, WI-85-089-002 by verifying that all attributes are properly addressed in the following reports and corrective actions where required and are properly implemented.

## Reports

NSRS Report IN-85-824-002  
From K.W. Whitt to E.R. Ennis  
Dated 10/30/85

ERT Investigation Report  
IN-85-824-002 Dated  
8/23/85 "including  
supplement A"

PMO Report From G. Wadewitz  
To K.W. Whitt Dated 10/18/85  
Reference IN-85-021-001

NSRS Report From K.W. Whitt  
To H.G. Parris Dated 8/8/85  
Reference IN-85-021-001  
(Tube Bender)

## Reports

PMO Report From G. Wadewitz  
To K.W. Whitt Dated  
10/18/85 Reference IN-85-  
824-002

NSRS Report From K.W. Whitt  
To E.R. Ennis (IN-85-021-001)  
Dated 10/30/85

QTC/ERT Report QTC 85.0418  
Reference IN-85-021-001  
Dated 9/5/85

ERT Investigation Report  
IN-85-021-001 Dated  
7/27/85

Note: Additional reports may be added throughout this  
evaluation

V. Action Plan - Initial - (continued)

- B) Obtain IEU and IQC assistance as required to review the scope, corrective action, and implementation related to NCRs 3864, 4633, 6275, 6276, and audit deficiency WB-M-81-08.
- C) Obtain IEU assistance and review the associated documentation related to finding No. 7/invalid heat number identified by QTC.
- D) Obtain assistance from I.D. personnel and review the instrumentation project action plan activity 1230 for an overview of problems related to tube bending, and determine the corrective actions required and those taken.
- E) Obtain I.<sup>P</sup> personnel and IEU assistance to review system 90, "Radiation Monitoring", (Units 1 and 2) tubing installation or bending activities to determine by visual examination, if apparent damage exist.
- F) Check NCR listings to determine if additional NCRs have been generated which deal with the listed concerns.
- G) Write a summary of findings, including any corrective actions, additional test/reinspections required, root cause and a generic applicability determination and obtain the appropriate line organization input as required.

4) Compression Fittings

- A) Perform an evaluation of the compression fitting deficiencies associated with Employee Concern Numbers: A07850919005-091, IN-85-143-002, IN-85-514-001, IN-85-795-001, IN-85-795-002, PH-85-002-027; by verifying that all attributes are properly addressed in the following reports and corrective actions where required and are properly implemented.

## Reports

NSRS Report IN-85-795-001  
From K.W. Whitt to  
W.T. Cottle Dated 1/31/86

Memo No. F01-60108-603  
Dated 1/8/86

Attachment B (Meeting  
Notes) Titled "Compression  
Fittings Meeting) Dated  
11/12/85 Reported by  
W.M. Stone

## Reports

Response Report from W.T.  
Cottle to K.W. Whitt Dated  
1/20/86

Memo F01-851211-601  
Dated 12/11/85

NSRS Report From K.W. Whitt  
to H.G. Parris Dated  
8/12/85

V. Action Plan - Initial - (continued)

## Reports

ERT Investigation Report  
IN-85-795-001, IN-85-  
795-002 Dated 8/3/85

ERT Investigation Report  
IN-85-514-001 Dated 8/15/85

## Reports

Response Report From W.T.  
Cottle To K.W. Whitt Dated  
1/8/86

NSRS Report IN-85-514-001  
Dated 8/23/85

Note: Additional reports may be added throughout this  
evaluation.

- B) Obtain IEU and IQC assistance, as required, to review to the scope, corrective action, and implementation related to NCR 6278.
- C) Obtain IP personnel and/or IEU personnel assistance to review the instrumentation project action plan-activity 1240 for an overview of problems related to compression fittings and determine the corrective actions required and those take specific issues including: design specifications, installation, cutting and reaming activities. Inspection training and certification will be addressed.
- D) Determine methods employed to ensure internal cleanliness is established and maintained.

Note: This attribute will be further evaluated in the cleanliness attribute section of this plan; however, it must be addressed to some extent relating to compression fitting installation.

- E) Check NCR listings to determine if additional NCRs have been generated which deal with the listed concerns.
- F) Write a summary of findings, including any corrective actions, additional test/reinspections required, root cause, and a generic applicability determination; and obtain the appropriate line organization input as required.

5) Cleanliness.

- A) Perform an evaluation of the cleanliness deficiencies associated with Employee Concern Numbers IN-85-447-001, IN-86-289-001, WBP-6-011-001; by verifying that all attributes are properly addressed in the following reports and corrective actions where required and are properly implemented.

V. Action Plan - Initial - (continued)

## Reports

ERT Investigation Report  
PH-85-001-002 Dated  
7/6/85

QTC Report 85.0115  
Dated 7/31/85

PMO Report From G. Wade-  
witz To K.W. Whitt  
Dated 10/14/85

PMO Report From  
W.T. Cottle To E.R.  
Ennis Dated 2/19/86

Response Report From  
W.T. Cottle To K.W.  
Whitt Dated 1/8/86

ERT Investigation  
Report IN-85-218-001  
Dated 7/18/85

## Reports

PMO Report From R.M. Pierce  
To K.W. Whitt Dated 7/19/85  
Reference PH-85-001-002

PMO Report From G. Wadewitz  
To K.W. Whitt Dated 9/18/85

General Construction Specifi-  
cation G-29 Spec. 4.M.4.1(R2)

NSRS Report From K.W. Whitt  
To W.T. Cottle Dated 1/17/86

ERT Investigation Report  
IN-85-514-001 Dated 8/15/85

Note: Additional reports may be added throughout this  
evaluation.

- B) Review exception to QTC request (by PMO) related to revision of NCR 6172 to incorporate cleanliness aspects of finding.
- C) Obtain IP and IEU personnel assistance as required to determine the external stainless/steel cleanliness requirements established by design (GCS-G-29) and review the procedure requirements and implementation.
- D) Review and discuss PIR-WBN-NEB 8532 with the appropriate personnel and determine its impact on external stainless/steel cleaning.
- E) Obtain IEU and/or IP personnel assistance as required to determine internal cleanliness requirements-reference drawings and G.C.S.-G-39.

Note: Application to drain lines.

- F) Determine project position as related to adherence to NRC Reg guide 1.36 in so far as FSAR commitments, procedure requirements, etc.

Note: IP, IEU, and OE personnel will be interviewed as  
required to establish specifics related to this issue.

V. Action Plan - Initial - (continued)

- G) Review and discuss applicable PMO reports with line management as related to the use of Teflon tape for a thread sealant to be used on instrument tubing connections.
- H) Check NCT listings to determine if additional NCR's have been generated which deal with the listed concerns.
- I) Write a summary of findings, including any corrective actions required, additional test/reinspections, root cause, and a generic applicability determination; and obtain the appropriate line organization input as required.

6) Clamps

- A) Perform an evaluation of the clamping deficiencies associated with Employee Concern number: EX-85-047-001, IN-85-016-003; by verifying that all attributes are properly addressed in the following reports and corrective actions where required and are properly implemented.

## Reports

EAT Investigation  
Report IN-85-218-001  
Dated 7/18/85

NSRS Investigation Report  
Number I-85-165-WBN  
Dated 9/3/85

## Reports

PMO Report from G. Wadewitz  
To W.T. Cottle Dated  
12/27/85 Reference  
IN-85-016-003

Note: Additional reports may be added throughout this evaluation.

- B) Obtain IP personnel and IEU personnel assistance to review the instrumentation project action plan activity 1220 for an overview of problems related to clamping activities and determine the corrective actions required and those taken.

Note: Specific areas of concerns will include, but may not be limited to:

- 1) Installation methods & controls related to type, size, and workmanship.
- 2) Damage its potential causes.
- 3) Rework instructions
- 4) Inspection procedures

V. Action Plan - Initial - (continued)

- 5) Preventative measures taken to assure quality is maintained.
- C) Obtain IP and IEU personnel assistance as required to review the scope, corrective action and implementation related to NCR 6356 Rev-0, Rev-1 and SCR-6356-5 Rev-0.
- D) Check NCR listings to determine if additional NCRs have been generated which deal with the listed concerns.
- E) Write a summary of findings including any corrective actions required, additional test/reinspections, root cause and a generic applicability determination; and obtain the appropriate line organization input as required.

7) Inspection and Documentation

- A) Perform an evaluation of inspection and documentation deficiencies associated with Employee Concern Numbers: IN-85-824-002, IN-86-135-003, PH-85-001-008; PH-85-001-009, PH-85-002-018, IN-86-029-001, \*IN-85-532-002, \*IN-85-866-002: By verifying that all attributes are properly addressed in the following reports and corrective actions where required and are properly implemented.

## Reports

ERT Investigation Report  
IN-85-824-002 Dated  
8/23/85 "including  
supplement A"

ERT Investigation Report  
IN-85-021-001 Dated  
7/27/85

## Reports

General Construction Specifi-  
cation G-29 spec. 4.M.1(R2)

- \* Special consideration will be given to these concerns because hardware configuration i.e., routing and testing controls should be present and utilized to prevent occurrence.

Note: Additional reports may be added throughout this evaluation.

- B) Obtain IP, IEU and IQC personnel assistance as required to discuss and obtain pertinent information regarding; 1) program requirements for bending, personnel certification, machine qualification, 2) partial verification and testing, 3) requirement application - verbal interpretations, and 4) instrument drain inspection requirements/slope and routing.

V. Action Plan - Initial - (continued)

- C) Obtain IP and IEU personnel assistance to review applicable hydrostatic test procedures to ensure high point venting of systems is provided and review various test packages as required for compliance.
- D) If possible - observe hydrostatic testing being performed.
- E) Check NCR listings to determine if additional NCRs have been generated which deal with the listed concerns.
- F) Write a summary of the findings, including any corrective actions, additional test/reinspection required, root cause, generic applicability determination; and obtain the appropriate line organization input as required.

Staffing: It is estimated that this evaluation plan will require 230 evaluator manhours, 80 IP personnel manhours, 120 OC engineering manhours, 40 OC inspection manhours and 20 OE (design) manhours.

Utilizing parallel activities based on one evaluator - 7 days/week - 10 hours/day starting 4/8/86; the early finish of this activity is estimated to be 4/30/86.

- \* Efficiency could be enhanced utilizing an additional evaluator. Additional time (not included) will be report preparation.

VI. Instruction/Criteria for Additional Data Evaluations  
(This is to be used when limited additional inspections, test,  
evaluations are necessary to answer the question in section VIII.)

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.



VII. Progress Reporting Requirements and Milestones

VIII. Answer the Question, are Statistical Sampling Actions Tests/Reinspections Necessary?  
(Proceed to preparation of final EP if answer is yes)

IX. Root Cause Determination

X. Generic Applicability Determination: Section \_\_\_\_\_, Paragraph \_\_\_\_\_  
of Program Manual \_\_\_\_\_ WBN \_\_\_\_\_ SQN \_\_\_\_\_ BFN \_\_\_\_\_ BLN

XI. Proposed Immediate and Long-Term Corrective Actions

XII. Prepare Report

Attachment A

QTC QUESTIONNAIRE

Concern No. \_\_\_\_\_

Date: \_\_\_\_\_

1. Without revealing the identity of the CI, can a timeframe for the concern be identified, if so when?
2. Without revealing the identity of the CI, can specific items be identified, if so when?
3. Without revealing the identity of the CI, can any specific locations be identified, if so what are they?
4. Without revealing the identity of the CI, can any other individuals be identified, if so who?
5. Without revealing the identity of the CI, is there any other information in the QTC file that may be of aid in this investigation (such as, QTC, NSRS, NRC, Construction, Nuclear Power investigation, etc.), if so what?
6. Is this a concern of the Office of Nuclear Power, Construction, or both?

Additional Comments:

04/23/86

(EMPLOYEE CONCERNS)

PAGE: 1

09:01:12

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								A07850919005-091	CD070

KEYWORDS:

X: BLN Y: Z: INC

INCORRECT FITTINGS FOUND ON TUBING INSTALLATIONS ACCEPTED BY GC. INSPECTION DRAWINGS DID NOT CLEARLY DEPICT INSPECTION BOUNDARIES (ATT. 4, G)

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								EX-85-047-001	CD070

KEYWORDS:

X: Y: Z:

UNIT 1, ELEVATION 676, 3/4" PIPE CLAMPS HAVE BEEN USED IN PLACE OF THE REQUIRED 1/2" PIPE CLAMPS, IN INSTRUMENT PANEL APPLICATIONS. CI HAD BEEN TOLD BY OTHER PERSONNEL THAT THIS TYPE OF SUBSTITUTION HAD BEEN DONE THROUGHTOUT THE PLANT. CONSTRUCTION DEPT CONCERN. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								IN-85-016-003	CD070

KEYWORDS:

X: Y: Z:

TUBING NOT CLAMPED PROPERLY. THIS IS A SITEWIDE CONDITION. TUBE 3/8" O S.S. INSTRUMENT LINES. UNIT 1. CLAMPS ARE BENT, CROOKED, TIGHT OR LOOSE. CONDITION WAS NOTICED ABOUT A YEAR AGO.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								IN-85-021-001	CD070

KEYWORDS:

X: Y: Z:

UNIT 2 TUBE BENDERS (PERSONNEL) ARE REQUIRED TO BE CERTIFIED. THE SAME TUBE BENDERS WERE NOT REQUIRED TO BE CERTIFIED FOR TUBE BENDING WORK IN UNIT 1.

TECHNICAL COMMENTARY:

04/23/86

(EMPLOYEE CONCERNS)

PAGE: 2

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-119-001	CD070

KEYWORDS:

X: Y: Z:

DRAWING 47W600 REQUIRES 1/8" PER FT. SLOPE, CONTRARY TO THE ABOVE, SYSTEM 68 (REACTOR TRIP) UNIT 1, 702' ELEV. IN CONTAINMENT. INST. LINES LAYING IN RACEWAYS DO NOT HAVE 1/8" PER FT. "SLOPE". SPECIFIC AREAS NOT AVAILABLE, BUT C/I INDICATED THAT A TOUR OF THE ELEVATION WOULD PROVIDE SEVERAL EXAMPLES.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-143-002	CD070

KEYWORDS:

X: Y: Z:

INSTRUMENT PANEL DRAIN FITTINGS WERE REWORKED/REDESIGNED IN UNIT 2 BUT HAVE NOT BEEN CORRECTED IN UNIT 1. PANELS LOCATED IN REACTOR & AUX. BLDGS, SYSTEMS 62, 63 AND 68. CI HAS NOT FURTHER INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
						D		IN-85-197-001	CD070

KEYWORDS: CONCERN

X: Y: Z:

SYSTEM 68 IN UNIT 1 REACTOR BLDG. RACEWAY AREA INSTRUMENTATION SENSING LINES HAVE NEGATIVE SLOPE IN SOME AREAS WHICH COULD TRIP REACTOR. THIS SITUATION WAS LOOKED AT BY ENDES IN KNOXVILLE AND THEY STATED ON NCR 5750 TO MSE-AS-IS. CONSTRUCTION DEPT. CONCERN. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-218-001	CD070

KEYWORDS:

X: Y: Z:

INSTRUMENTATION LINE, SYSTEM 68, IS NOT PROPERLY SLOPED ON UNIT #1. DESIGN/ENG RECEIVED THE AS-BUILT CONDITION BUT MAY NOT HAVE APPROVED CONDITION

TECHNICAL COMMENTARY:

04/23/86

(EMPLOYEE CONCERNS)

PAGE: 3

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-447-001	CD070

KEYWORDS:

X: Y: Z:

PRIOR TO MARCH 1985 THE PIPE BENDING MACHINE WAS STORED IN A SHACK THAT LEAKED AND THE HEAD OF THE MACHINE WAS COATED WITH RUST. STAINLESS STEEL INSTRUMENTATION PIPE WAS BENT ON THE MACHINE (NOW STORED IN TURBINE BLDG)

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-514-001	CD070

KEYWORDS:

X: Y: Z:

1/4" O TUBING FROM DRN 150 VLV TO DRN HDR ON SYSTEM 276 CLOSED DRAIN SYS REQUIRES REAMING WHEN CUT WITH A TUBE CUTTER. THIS IS NOT ALWAYS DONE, NOR IS THERE AN INSPECTION HOLD POINT. IT IS POSSIBLE, BECAUSE OF TUBING DEFORMATION DURING CUTTING PROCESS, THAT DRAIN SYS WILL NOT FUNCTION AS DESIGNED AND AN INDIVIDUAL CUTTING INTO A "HOT" SYSTEM COULD BECOME CONTAMINATED. BOTH UNITS #1&2.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-532-002	CD070

KEYWORDS:

X: Y: Z:

DRAIN LINES IN REACTOR ARE ROUTED TO INCORRECT (NOT PER DESIGN) FLOOR DRAINS. THE ORIGINAL DESIGN CALLED FOR A "CLOSED" SYSTEM BY SEAL WELDING A PLATE OVER THE TOP OF THE DRAIN; NOW OPEN DRAINS ARE USED.

CI DECLINED TO PROVIDE INFORMATION.  
CONSTRUCTION DEPARTMENT CONCERN.  
NO FOLLOW UP REQUIRED.

TECHNICAL COMMENTARY:

04/23/86

(EMPLOYEE CONCERNS)

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09:01:12

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	---	---		
								IN-85-707-002	CO070

KEYWORDS:

X:

Y:

Z:

TUBING CRACKED WHEN BENT WITH HAND BENDER. WAS LOCATED IN REACTOR BUILDING 2, THROUGH HATCH, UP SPIRAL STAIRCASE, ON 1ST LANDING- 3/8" COPPER TUBING. HAS BEEN REPLACED WITH ACCEPTABLE TUBING. CRACKED TUBING HADN'T BEEN INSPECTED AT TIME THAT IT WAS DISCOVERED AND FIXED. C/I HAS NO MORE DETAIL.

NOTE: C/I HAS NO MORE INFORMATION. HE REPLACED CRACKED TUBING WHENEVER HE FOUND IT - KNOWS OF NO MORE.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	---	---		
								IN-85-740-002	CO070

KEYWORDS:

X:

Y:

Z:

ALL HAND BENDERS ARE THE "IMPERIAL" BRAND, AND ALL BEND THE SAME. THESE BENDERS WORK OK FOR STAINLESS STEEL, BUT THEY CRACK AND "EGG SHAPE" COPPER TUBING. CI DECLINED TO PROVIDE FURTHER INFORMATION. CONSTRUCTION DEPT. CONCERN.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	---	---		
								IN-85-740-003	CO070

KEYWORDS:

X:

Y:

Z:

HAND MADE TUBING BENDERS USED TO BEND RADIATION MONITORING TUBING (1" AND 1 1/2") DAMAGE TUBING. BENDERS LOCATED 729" OF TURBINE BUILDING (14" AND 20" RADIUS). TUBING LOCATED IN ADDITIONAL EQUIPMENT BUILDING: GO IN CRANE BAY DOOR OF UNIT 2, TAKE RIGHT HAND DOOR, LOOK BEHIND WING WALL NEAR OR BEHIND SOME STAIRS. CONSTRUCTION DEPT. CONCERN. CI DECLINED TO PROVIDE FURTHER INFORMATION.

TECHNICAL COMMENTARY:

04/23/86

(EMPLOYEE CONCERNS)

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
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								IN-85-773-002	CO070

KEYWORDS:

X: Y: Z:

COPPER TUBING BREAKS OR SQUEEZES TOGETHER WHEN BENDING 90 DEGREES.  
MATERIAL OR BENDER IS DEFECTIVE.  
NO MORE INFORMATION AVAILABLE.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								IN-85-795-001	CO070

KEYWORDS:

X: Y: Z:

COMPRESSION FITTINGS ON INSTRUMENT TUBING ARE NOT INSTALLED PER  
VENDOR INSTRUCTIONS.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								IN-85-795-002	CO070

KEYWORDS:

X: Y: Z:

NO HYDRO TEST IS PERFORMED ON TUBING FROM THE DRAIN VALVE TO  
THE CLOSED DRAIN. IF THE FERRULE IS REVERSED, THE TUBING WILL  
LEAK RADIOACTIVE FLUID ONTO THE FLOOR.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								IN-85-824-002	CO070

KEYWORDS:

X: Y: Z:

UNIT 1 - "ALL OVER" --NO APPROVED BENDING PROCEDURE, NO CERTIFIED  
"BENDING" PERSONNEL, NO QUALIFIED BENDING MACHINES UNTIL  
APPROXIMATELY THREE YEARS AGO. (ALL OF THE ABOVE IN PLACE FOR  
UNIT 2). PAPERWORK HAS "MYSTERIOUSLY" APPEARED FOR ALL BENDING  
ACTIVITIES CONDUCTED PREVIOUS TO THIS THREE-YEAR TIME PERIOD.  
NO ADDITIONAL INFORMATION AVAILABLE.

TECHNICAL COMMENTARY:



04/23/86

(EMPLOYEE CONCERNS)

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09:01:12

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-831-001	CD070

KEYWORDS:

X: Y: Z:

COPPER INSTRUMENTATION TUBING IS CONSISTENTLY "BREAKING" WHEN BENT USING THE MECHANICAL (HAND-OPERATED) BENDING TOOLS. BECAUSE OF THE CONSISTENCY AT WHICH THE "BREAKAGE" OCCURS, THERE IS A CONCERN THAT THE "GOOD" BENDS MAY VIOLATE MINIMUM WALL OR OTHERWISE WEAKEN THE COPPER TUBING. PROBLEM MAY BE THE CONDITION OF THE BENDING TOOLS. (NO SPECIFICS GIVEN)

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-866-002	CD070

KEYWORDS:

X: Y: Z:

CI STATED PIPING SYSTEMS ARE NOT PROPERLY VENTED PRIOR TO HYDROSTATIC TESTING. THIS IS A GENERIC CONCERN. CI DECLINED TO PROVIDE ADDITIONAL INFORMATION. CONSTRUCTION DEPARTMENT CONCERN.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-982-002	CD070

KEYWORDS:

X: Y: Z:

OVERALL MINIMUM SLOPE REQUIREMENTS COULD NOT BE MET; BUT DRAIN LINE HAD TO BE REWORKED TO ESTABLISH 1/2" SLOPE OVER PART OF LINE (PREVIOUS INSTALLATION HAD 1/8" SLOPE IN SAME AREA--BOTH LINES ENDED IN UP-HILL VERTICAL RUN OF SEVERAL FEET TO ROOT VALVE) LOCATIONS GO FROM AUX. 737' DOWN TO 713' ELEV. BY SECURITY FENCE. ROOT VALVE IS AT CORNER WHERE FENCE TURNS LEFT. LINE RUNS APPROXIMATELY 14' ALONG LEFT LEG OF FENCE INTO SECURITY FENCE AND INTO PANEL AGAINST FENCE. CI HAS NO FURTHER INFORMATION. NO FOLLOW UP REQUIRED.

TECHNICAL COMMENTARY:

04/23/86

(EMPLOYEE CONCERNS)

PAGE: 7

09:01:12

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
			YES					IN-86-029-001	CD070

KEYWORDS:

X: Y: Z:

ITEMS NOT SUPPORTED IN ACCORDANCE WITH SPECIFICATIONS.  
DETAILS KNOWN TO QTC, WITHHELD DUE TO CONFIDENTIALITY. UNIT 1 & 2,  
CONSTRUCTION CONCERN TIME FRAME - PRESENT CRAFT AND SYSTEM WITHHELD DUE  
TO CONFIDENTIALITY.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-135-003	CD070

KEYWORDS:

X: Y: Z:

INSTRUMENTATION LINES AND SUPPORTS WERE NOT COMPLETELY INSPECTED IN  
UNIT 1. CI DOESN'T KNOW IF WALKDOWNS WERE PERFORMED TO VERIFY IF  
DOCUMENTATION AGREED WITH HARDWARE INSTALLATION. NO SPECIFIC SYSTEMS  
IDENTIFIED BY CI. CONSTRUCTION DEPT CONCERN. CI HAS NO FURTHER  
INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-222-001	CD070

KEYWORDS:

X: Y: Z:

INSTRUMENT LINES ON AUXILIARY FEEDWATER, STEAM GENERATOR  
BLOWDOWN, AND STEAM GENERATOR LEVEL; POSSIBLY DO NOT MEET MINIMUM SLOPE  
REQUIREMENTS AS SHOWN ON 47W600 DRAWINGS, SHEET O. UNIT 1 & 2.  
CONSTRUCTION INSTR. ALL SYSTEMS. CONSTRUCTION DEPT. CONCERN. CI HAS  
NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-289-001	CD070

KEYWORDS:

X: Y: Z:

CI WOULD LIKE TO BE ABLE TO USE TEFLON TAPE ON PIPE FITTINGS  
INSTEAD OF PIPE DOPE (LOCK-TITE) WHEN WORKING ON INSTRUMENTATION LINES.  
CONSTR. DEPT. CONCERN. CI HAS NO ADDITIONAL INFORMATION.

TECHNICAL COMMENTARY:

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(EMPLOYEE CONCERNS)

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09:01:12

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								PH-001-002	CD070

KEYWORDS:

X: Y: Z:

SLOPE PROBLEM WITH INSTRUMENT LINES IN SUS 68. PANELS 226, 227, 228. PREVIOUS NCR ONLY ADDRESSES 4 OF 28 SPECIFIC LINES FROM THESE PANELS. MORE SPECIFICS MAY BE AVAILABLE LATER AS INDIVIDUAL CLAIMS TO HAVE A DIARY, HOWEVER CONTACT IS NOT PRESENTLY POSSIBLE.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
			YES					PH-85-001-008	CD070

KEYWORDS:

X: Y: Z:

INSTRUMENT DRAIN LINES HAVE NOT BEEN INSPECTED FOR SLOPE REQUIREMENTS BECAUSE OF VERBAL AGREEMENTS BETWEEN ENGINEERING SUPERVISOR (NAME KNOWN) AND QUALITY CONTROL SUPERVISOR (NAME KNOWN). DETAILS KNOWN TO QTC. WITHHELD DUE TO CONFIDENTIALITY. CONST DEPT CONCERN. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
			YES					PH-85-001-009	CD070

KEYWORDS:

X: Y: Z:

INSTRUMENT SENSING LINES WERE NOT INSPECTED FOR PIPE CLEANLINESS IN UNIT 1, THEREFORE THERE IS NO ASSURANCE THAT FOREIGN MATERIAL SUCH AS PAINT, TAPE, ETC WERE REMOVED FROM THE STAINLESS STEEL. DETAILS KNOWN TO QTC, WITHHELD DUE TO CONFIDENTIALITY. CONSTRUCTION DEPT CONCERN. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
			YES					PH-85-002-018	CD070

KEYWORDS:

X: Y: Z:

HYDROSTATIC TESTS ON INSTRUMENTATION LINES IN UNIT 1 RUNNING TO THE CONDENSER SHELL AND THROUGH OUT TURBINE AND AUXILLIARY BUILDING. RACEWAY AND REACTOR BUILDING WERE NOT COMPLETE. HOWEVER THE INSPECTORS WOULD SAY EVERYTHING IS FINE AND SIGN IT OFF. TIME FRAME '80 OR '81. ANY FURTHER INFORMATION WOULD COMPROMISE CONFIDENTIALITY. CONSTR. DEPT. CONCERN.  
NO FOLLOWUP REQUIRED.

TECHNICAL COMMENTARY:

04/23/86

(EMPLOYEE CONCERNS)

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09:01:12

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
			YES					PH-85-002-027	CD070

KEYWORDS:

X:

Y:

Z:

INSTRUMENTATION TUBING WHICH AHD BEEN CUT SHORT WAS NOT RECUT,  
BUT WAS IMPROPERLY INSTALLED IN THE FERRULE CONNECTION TO COMPENSATE  
FOR THE IMPROPER LENGTH. DETAILS KNOWN TO QTC, WITHELD DUE TO  
CONFIDENTIALITY. CONSTRUCTION DEPT CONCERN. CI HAS NO FURTHER  
INFORMATION.  
NO FOLLOW UP REQUIRED

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								SQP-6-001-001	CD070

KEYWORDS: CONCERN

X:

Y:

Z:

DRAWINGS REQUIRE AN 1/8" PER FOOT SLOPE AND CONTRARY TO THIS  
THE INSTRUMENTATION LINES DO NOT COMPLY WITH DRAWING REQUIREMENTS.  
CONSTRUCTION DEPT. CONCERN.  
CI HAS NO FURTHER INFORMATION.  
NO FOLLOW UP REQUIRED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								WBF-6-011-001	CD070

KEYWORDS:

X:

Y:

Z:

THE "HOMEMADE" BENDERS IN THE TOP OF THE TURBINE BUILDING  
APPEAR TO BE CARBON STEEL AND ARE BEING USED TO BEND STAINLESS STEEL.  
THESE BENDERS HAVE BEEN IN USE FOR AT LEAST FOUR YEARS. THESE SAME TYPE  
BENDERS ARE IN THE STAINLESS STEEL SHOP LOCATED TO THE LEFT OF THE  
HANGER SHOP.  
CONSTRUCTION DEPT. CONCERN.  
CI HAS NO FURTHER INFORMATION.  
NO FOLLOW UP REQUIRED.

TECHNICAL COMMENTARY:

04/23/86

(EMPLOYEE CONCERNS)

PAGE: 10

09:01:12

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
			YES					WI-85-089-002	CD070

KEYWORDS:

X: Y: Z:

SMALL BENDERS ARE BE IN STORED IN SHACK 565 AND ARE NOT CONTROLLED. THE KEY TO THE SHACK IS BEING GIVEN FREELY TO NUMEROUS PERSONS. (NAMES/DETAILS TO THE SPECIFIC CASE ARE KNOWN TO QTC AND WITHHELD TO MAINTAIN CONFIDENTIALITY). CONSTRUCTION DEPT. CONCERN. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
			YES					XX-85-046-001	CD070

KEYWORDS:

X: SDN Y: Z:

INSTRUMENT SENSING LINES FOR SYSTEM 68 AT SEQUOYAH MAY HAVE SLOPE. DEFICIENCIES. DETAILS KNOWN TO QTC, WITHHELD DUE TO CONFIDENTIALITY. CONSTRUCTION DEPT. CONCERN. C/I HAS NOT FURTHER INFORMATION.

TECHNICAL COMMENTARY:

Subcategory C0071  
Subcategory Title: Mechanical

<u>Employee Concern Number</u>	<u>NSRS or QTC Report Number (If Issued)</u>	<u>Line Response (Organization-If Issued)</u>
EX-85-034-001		
EX-85-046-001		
IN-85-008-002	NSRS I-85-757-WBN	
IN-85-070-001	NSRS I-85-667-WBN	OE
IN-85-089-007		
IN-85-169-001	NSRS IN-85-169-001	OE
IN-85-173-001	ERT IN-85-173-001	
IN-85-186-001		CO-PMO IN-85-186-001
IN-85-210-001		CO-PMO IN-85-210-001
IN-85-211-001	NSRS I-85-118-WBN	
IN-85-211-002	NSRS I-85-166-WBN	NUC PR
IN-85-352-003		
IN-85-442-X10		PMO IN-85-442-X10
IN-85-463-003		
IN-85-534-005	NSRS I-85-398-WBN	CO
IN-85-559-001		
IN-85-719-001		
IN-85-793-003		
IN-85-820-001		
IN-85-868-003		
IN-85-879-001		
IN-85-964-X06	NSRS I-85-677-WBN	
IN-85-982-003		
IN-86-055-002	NSRS I-85-414-WBN	
IN-86-184-002		
IN-86-184-004	NSRS I-85-680-WBN	
IN-86-200-004		PMO IN-86-200-004
IN-86-205-001-071	NSRS I-85-598-WBN	
IN-86-282-004		
IN-86-284-002		
IN-86-311-001		
PH-85-003-004		
PH-85-035-001		
PH-85-035-004		
WI-85-096-001		
XX-85-094-007		

INITIAL EVALUATION PLAN

Category: CONSTRUCTION

Subcategory: MECHANICAL (CO-071)

Prepared by:

John H. Bryant 1-7-86  
Preparer Date

Recommended by:

W. J. [Signature] 1-8-86  
Group Leader Date

Approved by:

M. U. [Signature] 1-9-86  
Group Head Date

INITIAL EVALUATION PLAN FOR  
SUBCATEGORY

Description of Perceived Problems:

Concerns relating to elements normally considered in the mechanical engineering discipline; that is, pipe, valves, HVAC, tanks and thermal insulation:

- a) Material Substitutions
- b) Hydrostatic/Pneumatic Testing
- c) Clearance
- d) Gouges/Arc Strikes
- e) Routing

Lead Evaluator: JACK R. BARNETT

Evaluators: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



## Initial Evaluation Plan

- I. List of Concerns by Concern Number
- II. Elements and Attributes of Concerns
- III. List of Criteria (Including Document Numbers and Revisions)
- IV. Interviews
- V. Action Plan (Including Staffing and Scheduling)
- VI. Instructions/Criteria for Additional Data Evaluations
- VII. Progress Reporting Requirements and Milestones
- VIII. Determination as to Whether or Not Surveillance, Test/Reinspections are Necessary
- IX. Root Cause Determination
- X. Generic Applicability Determination
- XI. Proposed Immediate and Long-Term Corrective Actions
- XII. Prepare Report

Element

[illegible]

## attributes

1. Pipe/Fittings	<ul style="list-style-type: none"> <li>a. Temporary Support</li> <li>b. Material Substitutions</li> <li>c. Leaks</li> <li>d. Hydrostatic Testing</li> <li>e. Clearance</li> <li>f. Configuration</li> </ul>
2. Valves	<ul style="list-style-type: none"> <li>a. Maintenance</li> <li>b. Hydrostatic Testing</li> <li>c. Orientation</li> <li>d. Clearance</li> <li>e. Material Substitutions</li> </ul>
3. Insulation	<ul style="list-style-type: none"> <li>a. Metal Cover</li> <li>b. Slit Alignment</li> <li>c. Configuration</li> </ul>
4. HVAC	<ul style="list-style-type: none"> <li>a. Damper Operation</li> <li>b. Duct Blockages</li> </ul>
5. Mechanical Equipment	<ul style="list-style-type: none"> <li>a. Overpressurization</li> <li>b. Fabrication/Installation</li> </ul>

### 3.1.1. List of Criteria

[illegible]

2. State attribute and how it relates with requirement.



V. Action Plan -- Initial

## CROSS-REFERENCE MATRIX

Evaluation Plan Step Number	Concern(s) Addressed By Step	Element(s) Addressed	Attribute(s) Addressed
1A.	IN-86-200-004	Pipe/Fittings	Temporary Support
1B.	IN-86-184-004	Pipe/Fittings	Material Substitutions
	IN-85-173-001	Pipe/Fittings	Material Substitutions
	IN-85-352-003	Pipe/Fittings	Material Substitutions
	IN-85-068-003	Pipe/Fittings	Material Substitutions
	PH-85-035-001	Pipe/Fitting	Material Substitutions
	IN-85-964-X06	Pipe/Fittings	Material Substitutions
	IN-85-982-003	Pipe/Fittings	Material Substitutions
	IN-85-211-002	Pipe/Fittings	Material Substitutions
1C.	IN-85-442-X10	Pipe/Fittings	Leaks
	IN-85-211-001	Pipe/Fittings	Leaks
	IN-86-055-002	Pipe/Fittings	Leaks
1D.	IN-86-205-001-071	Pipe/Fittings	Hydrostatic Testing
	IN-86-282-004	Pipe/Fittings	Hydrostatic Testing
	IN-85-866-002	Pipe/Fittings	Hydrostatic Testing
	IN-85-534-005	Pipe/Fittings	Hydrostatic Testing
	IN-85-210-001	Pipe/Fittings	Hydrostatic Testing
	XX-85-068-002	Pipe/Fittings	Hydrostatic Testing
1E.	IN-85-820-001	Pipe/Fittings	Clearance
1F.	IN-85-532-002	Pipe/Fittings	Configuration
	WI-85-096-001	Pipe/Fittings	Configuration
1G.	IN-86-232-001	Pipe/Fittings	Procedure Violation

V. Action Plan - Initial

## CROSS-REFERENCE MATRIX

Evaluation Plan Step Number	Concern(s) Addressed By Step	Element(s) Addressed	Attribute(s) Addressed
2A.	A02841113009	Valves	Maintenance
2B.	IN-85-719-001	Valves	Hydrostatic Testing
	IN-86-284-002	Valves	Hydrostatic Testing
2C.	XX-85-094-007	Valves	Orientation
	A02851028008	Valves	Orientation
2D.	IN-85-463-003	Valves	Clearance
	EX-85-034-001	Valves	Clearance
2E.	IN-85-169-001	Valves	Material Substitutions
3A.	IN-85-186-001	Insulation	Metal Cover
3B.	IN-85-008-002	Insulation	• Slit Alignment
3C.	PH-85-003-004	Insulation	Configuration
4A.	EX-85-046-001	HVAC	Damper Operation
4B.	IN-85-879-001	HVAC	Duct Blockage
5A.	PH-85-035-004	Mechanical Equipment	Overpressurization
5B.	IN-85-559-001	Mechanical Equipment	Fabrication/ Installation
	IN-85-070-001	Mechanical Equipment	Fabrication/ Installation

## V. Action Plan - Initial

## Evaluation Plan

## I. Pipe/Fittings

## A. Temporary Support

Request additional information from QTC and other Employee Concern Groups (ECGs) regarding the specific instance of temporary support failure (IN-86-200-004).

## B. Material Substitutions

- a) Request QTC and other ECGs provide additional information regarding specific instances of mixed pipe/fitting schedule connections.
- b) Review and evaluate for concern resolution adequacy the NSRS and PMO reports previously generated on the following concerns.

IN-85-173-001

IN-85-211-002

IN-85-352-003

IN-85-868-003

IN-85-964-X06

IN-86-184-004

- c) Field investigate three specific concerns relating to pipe and fittings material substitutions: IN-85-982-003, IN-85-793-003 and PH-85-035-001.
- d) Review applicable site procedures (G-29) and compare to field findings to determine whether violation occurred and/or was documented.

## C. Leaks

- a) Request additional information from QTC and other ECGs regarding the specific instance referenced in IN-85-442-X10.
- b) Review and evaluate FCR-F3376 and associated documentation for background information on the above listed concern.
- c) Review and evaluate for concern resolution adequacy the NSRS reports previously generated on IN-85-211-001 and IN-86-055-002.

## D. Hydrostatic Testing

- a) Request additional information from QTC and other ECGs relative to hydro testing.
- b) Review and evaluate for concern resolution adequacy the NSRS and PMO reports previously generated regarding:
  - IN-86-205-001-071
  - IN-85-210-001
  - IN-85-534-005
- c) Review hydro test package procedures and evaluate for system venting requirement adequacy prior to hydro test conduct.
- d) Review and evaluate Bellefonte concern XX-85-068-002 for Watts Bar/subcategory applicability and evaluate as necessary.



V. Action Plan - Initial

## Evaluation Plan (Continued)

- E. Clearance
    - a) Review and evaluate for concern resolution adequacy the PMO report regarding IN-85-820-001.
    - b) G-43 will be used for a reference governing this concern.
  - F. Configuration
    - a) Request additional information from QTC and ECGs regarding IN-85-532-002 and WI-85-096-001.
    - b) Review preop test TVA-44A, Liquid Waste Drains, Collection, and Transfer Facilities, for proof of concern and if corrective action implemented.
    - c) Field investigate WI-85-096-001 for evidence of pipe deformation and evaluate findings as necessary.
  - G. Procedure Violation
    - a) Review and evaluate for concern resolution adequacy the NSRS report regarding IN-86-232-001.
2. Valves
- A. Maintenance
    - a) Review and evaluate Stone and Webster report A02841113009 to gather information
    - b) As required; perform necessary interviews, document research, field investigation, etc.
  - B. Hydrostatic Testing
    - a) Request additional information from QTC and ECGs regarding IN-85-719-001.
    - b) Review specific hydro test package relative to the above mentioned concern.
    - c) Review maintenance records relative to the referenced leaky valve.
    - d) Review and evaluate for concern resolution adequacy previously written NSRS report on IN-86-284-002.
  - C. Orientation

Evaluate Bellefonte concern XX-85-094-007 for applicability to Watts Bar and evaluate as necessary.
  - D. Clearance
    - a) Field inspect specific clearance problem cited in IN-85-463-003 to verify validity of concern based on G-43.
    - b) If possible, interview individuals responsible for installation of referenced equipment.
    - c) Request additional information from QTC and ECGs regarding EX-85-034-001.

V. Action Plan - Initial

## Evaluation Plan (Continued)

- E. Material Substitution  
Review and evaluate for concern resolution adequacy the NSRS report for IN-85-169-001.
- 3. Insulation
  - A. Metal Cover  
Interview the line management responsible supervisor to obtain reports of previous investigations relative to IN-85-186-001. Review the reports for concern resolution adequacy.
  - B. Slit Alignment  
Review and evaluate for concern resolution adequacy the previously written NSRS report on IN-85-008-002.
  - C. Configuration
    - a) Request additional information from QTC and other ECGs regarding PH-85-003-004.
    - b) Review insulation specifications relative to specific case.
    - c) Field investigate to determine if specific insulation installation meets specifications.
- 4. HVAC
  - A. Damper Operation  
Review and evaluate for concern resolution adequacy the NSRS report previously written.
  - B. Duct Blockages
    - a) Request additional information from QTC and other ECGs regarding the specific instance of Ice Condenser duct blockages outlined in IN-85-879-001.
    - b) Review relative preop test for documentation and resolution of the CI identified problems.
- 5. Mechanical Equipment
  - A. Overpressurization  
Review and evaluate previously written NSRS report for concern resolution adequacy. NOTE: This occurrence previously documented under NCR-3877.
  - B. Fabrication/Installation
    - a) Request additional information from QTC and other ECGs relative to IN-85-070-001 and IN-85-559-001.
    - b) Review and evaluate PMO report on IN-85-559-001 for concern resolution adequacy.
    - c) Field investigate sleeve at biological shield wall (IN-85-070-001) for evidence of referenced crack.
    - d) Review mechanical documentation of sleeve installation prior to pour for documentation of cited crack and proper resolution.

V. Action Plan - Initial

Evaluation Plan (Continued)

6. Summary Report

The report shall include, but not be limited to:

- a) Description of elements evaluated and findings there of
- b) Corrective actions required
- c) Additional tests or reinspections as necessary
- d) A root cause determination
- 3) A generic applicability determination.

7. Staffing and Scheduling

This evaluation plan should require one evaluator and 375 man-hours. The plan; however, was written so additional evaluators may be effectively utilized to investigate elements in parallel.

VI. Instruction/Criteria for Additional Data Evaluations

(This is to be used when limited additional inspections, test, evaluations are necessary to answer the question in section VIII.)

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

VII. Progress Reporting Requirements and Milestones

VIII. Answer the Question, are Statistical Sampling Actions  
Tests/Reinspections Necessary?

(Proceed to preparation of final EP if answer is yes)

IX. Root Cause Determination

X. Generic Applicability Determination: Section \_\_\_\_\_, Paragraph \_\_\_\_\_  
of Program Manual \_\_\_\_\_ WBN \_\_\_\_\_ SQN \_\_\_\_\_ BFN \_\_\_\_\_ BLN

XI. Proposed Immediate and Long-Term Corrective Actions

XII. Prepare Report

Attachment A

QTC QUESTIONNAIRE

Concern No. \_\_\_\_\_

Date: \_\_\_\_\_

1. Without revealing the identity of the CI, can a timeframe for the concern be identified, if so when?
2. Without revealing the identity of the CI, can specific items be identified, if so when?
3. Without revealing the identity of the CI, can any specific locations be identified, if so what are they?
4. Without revealing the identity of the CI, can any other individuals be identified, if so who?
5. Without revealing the identity of the CI, is there any other information in the QTC file that may be of aid in this investigation (such as, QTC, NSRS, NRC, Construction, Nuclear Power investigation, etc.), if so what?
6. Is this a concern of the Office of Nuclear Power, Construction, or both?

Additional Comments:

04/23/86

(EMPLOYEE CONCERNS)

PAGE: 1

09:07:16

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								A02841113009-004	CO071

KEYWORDS:

X: Y: Z:

LACK OF PROCEDURAL GUIDANCE WITH CONCERN TO CONFIGURATION LOG USE AND INDEPENDENT VERIFICATION REQUIREMENTS LED TO IMPROPER VLV ALIGNMENT AND RECORDS NOT FILED P3.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								A02851028008-010	CO071

KEYWORDS:

X: WBN Y: Z:

(ENC 1 PG 10) SOLENOID VALVES NOT MOUNTED FLUSH WITH THEIR HANGERS AND FOUND WITH MISSING OR LOOSE NUTS ON SCREWS INDICATING POOR WORKMANSHIP AND IS GENERIC TO SITE

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
			YES					EX-85-034-001	CO071

KEYWORDS:

X: Y: Z:

MECHANICAL DISCREPANCIES ON MOTOR OPERATED VALVES. DETAILS KNOWN TO QTC, WITHHELD DUE TO CONFIDENTIALITY. CONSTRUCTION DEPT. CONCERN. CI HAS NO FURTHER INFORMATION OR DETAILS. NO FOLLOW UP REQUIRED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								EX-85-046-001	CO071

KEYWORDS:

X: Y: Z:

CI IS CONCERNED THAT THE FIRE DAMPERS IN DIESEL GENERATOR BUILDINGS #1 AND #5 HAVE NEVER BEEN OBSERVED TO OPERATE PROPERLY OR PASS THE REQUIRED TESTS. CI EXPRESSED THAT THIS COULD BE A PROBLEM WITH THE DAMPER DESIGN. THE ONLY DAMPER NUMBER CI COULD RECALL IS 1-ISD-30-650. WHICH IS IN BUILDING #5. THE PROBLEM MAY APPLY TO ALL DIESEL GENERATOR BUILDINGS. NUCLEAR POWER DEPT CONCERN. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:



04/23/86

(EMPLOYEE CONCERNS)

PAGE: 2

09:07:16

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-008-002	CD071

KEYWORDS:

X: Y: Z:

IN FALL OF 1984, IN AUXILIARY BLDG. 737, ELECTRICIANS AND INSULATORS WERE INSTALLING INSULATION OVER CEILING PLATES AND CABLE TRAY SUPPORTS. SOME INSULATION WAS INSTALLED CONTRARY TO PROCEDURE IN THAT SLITS MADE IN INSULATION (TO GO AROUND SUPPORT) WERE OVER EACH OTHER IN TWO LAYERS-INSTEAD OF AT LEAST 90 DEGREES TO SLIT IN OTHER LAYER. CONST. DEPT. CONCERN. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-070-001	CD071

KEYWORDS:

X: Y: Z:

POSSIBLE CRACKED SLEEVE THROUGH CRANE WALL AND AROUND REACTOR COOLANT SYSTEM PIPING IN UNIT 1. C/I DOES NOT KNOW WHICH LOOP OR WHETHER PIPING IS HOT LEG OR COLD LEG PIPING. NO FURTHER INFORMATION AVAILABLE. NO FOLLOW-UP REQUIRED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-089-007	CD071

KEYWORDS:

X: Y: Z:

THE WRONG SIZE EXPANSION JOINT IS INSTALLED ON A 10-12" STAINLESS STEEL PIPE IN THE "ARGON PIT" IN THE AUXILIARY BUILDING, UNIT 2. THE FITTING TO THE PIPE IS TOO COMPRESSED TO WORK PROPERLY. THE "ARGON PIT" IS EAST OF THE SOUTH VALVE ROOM ONE LEVEL BELOW ELEVATION 757'. CONSTRUCTION DEPARTMENT CONCERN. NO FURTHER INFORMATION AVAILABLE IN FILE.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-169-001	CD071

KEYWORDS:

X: Y: Z:

2" CLASS "B" VALVE INSTALLED IN A CLASS "A" SYSTEM (SYSTEM 62 AUXILIARY SPRAY). LOCATED--UNIT #1 AROUND ELEVATION 720. AZ 130 DEG. @ THE CRANE WALL.

TECHNICAL COMMENTARY:

04/23/86

(EMPLOYEE CONCERNS)

PAGE: 3

09:07:16

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-173-001	CO071

KEYWORDS:

X:

Y:

Z:

POSSIBILITY OF LEAKS IN THE SPRINKLER SYSTEM IN THE 5TH DIESEL GENERATOR BUILDING. POSSIBILITY OF WRONG CLASS OF FITTINGS BEING USED. LEAKS WERE FOUND WHILE TESTING.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-186-001	CO071

KEYWORDS:

X:

Y:

Z:

HIGH PRESSURE 24" AND 48" STEAM LINES IN BOTH UNITS, WHICH WERE INSULATED BY NORTH BROS. CONTACTORS ARE INSULATED WRONG. INDIVIDUAL STATED THAT THE METAL INSULATION COVERING OVERLAPS -1" WHICH DOES NOT COMPLY WITH THE SPECIFICATION REQUIREMENT THAT THE METAL EDGES TOUCH WITHOUT OVERLAP. EXAMPLE TURBINE BUILDING ON EL. 755'.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-210-001	CO071

KEYWORDS:

X:

Y:

Z:

ENGINEERS FAIL TO COMPLETELY FILL OUT DOCUMENTATION IN ACCORDANCE WITH PROCEDURAL REQUIREMENTS, RESULTING IN UNNECESSARY REWORK DUE TO LACK OF APPROPRIATE OBJECTIVE EVIDENCE. EXAMPLE: THE HYDRO TESTING DOCUMENTATION. BOTH UNITS INVOLVED

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-211-001	CO071

KEYWORDS:

X:

Y:

Z:

ERCW LINE COMING FROM PUMPING STATION TO REACTOR BLDG HAS HAD A LEAK FOR APPROXIMATELY 2 MONTHS. THE LEAK HAS BEEN IDENTIFIED BUT AS YET NOT REPAIRED. ERCW LINE ORIGINALLY WAS TO BE STAINLESS STEEL HOWEVER SS WAS NOT INSTALLED. EMPLOYEE DOES NOT KNOW IF THERE WAS A DESIGN CHANGE. AT LEAST 1, IF NOT 2, PUMPS HAD TO BE REPLACED DUE TO INSUFFICIENT WATER. LINE IS BURIED IN GROUT. THIS IS A BLOW DOWN LINE.

TECHNICAL COMMENTARY:

04/23/86

(EMPLOYEE CONCERNS)

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09:07:16

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-211-002	CO071

KEYWORDS:

X: Y: Z:

ERCW LINE WAS DESIGNED TO BE STAINLESS STEEL HOWEVER IT IS NOT.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-352-003	CO071

KEYWORDS:

X: Y: Z:

PIPE IS INSTALLED TO WITHSTAND HIGHER PSI, IE DESIGN REQUIRES SCHEDULE 20- SCHEDULE 40 IS INSTALLED. DESIGN REQUIRES SCH. 40, SCH. 80 IS INSTALLED. THIS SUPPOSEDLY ALSO ALLOWS FOR MORE INTENSE CLEANING AND NOT EXCEED MIN. WALL THICKNESS.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-442-X10	CO071

KEYWORDS:

X: Y: Z:

COOLING TOWER BLOWDOWN DRAINS, DWG 17W 303 SHT 1-5 TVA DIVERS INSPECTED AND FOUND PLASTIC LINER THAT HAD BEEN PATCHED ABOUT 6 YEARS AGO HAD FAILED. AN FCR (F3376) WAS ISSUED FOR FIX, BUT DIDN'T WORK VERY WELL.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-463-003	CO071

KEYWORDS:

X: Y: Z:

REACTOR #2, IN-CORE INSTRUMENT ROOM, TVA IDENTIFIER 2-FCV-30-20 OR 2-FCV-30-58, CONTROL VALVE ON SYSTEM 30 INSTALLED AGAINST EN ELECTRICAL PENETRATION WHICH CREATES AN OPERATIONAL AND PERSONAL SAFETY PROBLEM. SHEET METAL COVER BOX CANNOT BE INSTALLED; ARM OF VALVE WILL MAKE CONTACT WITH CONDUCTORS (COMING THRU PENETRATION) IF NOT COVERED; PEOPLE COULD EASILY MAKE CONTACT WITH ENERGIZED CONDUCTORS.

TECHNICAL COMMENTARY:

04/23/86

(EMPLOYEE CONCERNS)

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09:07:16

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-534-005	CO071

KEYWORDS:

X: Y: Z:

THE UNIT 1 FIRE PROTECTION HYDRO WAS CONDUCTED IMPROPERLY, THE TEST PRESSURE WAS MAINTAINED THROUGHOUT THE TEST BY RUNNING THE PUMP. THIS HAPPENED 3 YEARS AGO. CI HAS NO FURTHER INFORMATION. CONSTRUCTION DEPARTMENT CONCERN.  
NO FURTHER FOLLOW UP REQUIRED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-559-001	CO071

KEYWORDS:

X: Y: Z:

NEUTRON DETECTOR BOXES, INCORE REACTOR #2, 713' ELEV OR A LITTLE ABOVE. 40"X30" WERE SHOWN ON THE WESTINGHOUSE DRAWING BUT WERE FABRICATED AND INSTALLED ON SITE. 1974/1975. IRON WORKERS FABRICATED AND INSTALLED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-719-001	CO071

KEYWORDS:

X: Y: Z:

A 36" MAIN STEAM LINE WAS HYDROSTATICLY TESTED (1979) AND THE VALVE WHICH ISOLATED THE TURBINE (IN SOUTH VALVE ROOM) LEAKED. CI WAS INFORMED THAT THIS VALVE WOULD BE LAPPED/REPAIRED BUT DOES NOT KNOW IF THIS WAS EVER DONE. UNIT #1.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-793-003	CO071

KEYWORDS:

X: Y: Z:

IN LATE 1983, SUPERVISION (NAME KNOWN) DIRECTED CRAFT (NAME KNOWN) TO WELD SCHEDULE 40 & 60 FITTINGS, THAT HAD BEEN UPGRADED BUT NOT TORQUED DOWN TO PIPE WALL THICKNESS, TO SCHEDULE 40 PIPE. UNIT #2 SECTION C OF MAIN CONDENSER, COMPONENT COOLING, ELEVATION 737, CLASS G PIPE (8", 10", 12" PIPE).  
CONSTRUCTION DEPT. CONCERN  
CI HAS NO FURTHER INFORMATION

TECHNICAL COMMENTARY:

04/23/86

(EMPLOYEE CONCERNS)

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09:07:16

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-820-001	CO071

KEYWORDS:

X: Y: Z:

REACTOR BUILDING #2, AZ 90 DEGREES, APPROXIMATELY E1. 714', THERE IS A STAINLESS STEEL 2" PIPE RUBBING AGAINST AN ACCESS LADDER. THIS INSTALLATION WAS REPORTED TO MANAGEMENT SEVERAL WEEKS AGO, BUT NO ACTION HAS BEEN TAKEN. THE SAME CONDITION MAY EXIST IN UNIT #1. NO FURTHER DETAILS AVAILABLE.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-868-003	CO071

KEYWORDS:

X: Y: Z:

CI STATED THAT MIXED CONNECTIONS IN PIPE CHASE BUILDING ARE NOT PER AISC CODE. CI DECLINED TO PROVIDE ADDITIONAL INFORMATION. CONSTRUCTION DEPARTMENT CONCERN.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-879-001	CO071

KEYWORDS:

X: Y: Z:

AN INSPECTION WAS PERFORMED AROUND 1980 OR 1981 IN UNIT 1. ICE CONDENSER, AIR SUPPLY AND RETURN WALL DUCT. THIS INSPECTION REVEALED THAT A NUMBER OF DUCTS WERE BLOCKED/RESTRICTED VARYING FROM 30% TO 100%. THE INSPECTION WAS TERMINATED WITH NO FOLLOW-UP ACTION. CONSTRUCTION DEPT CONCERN. CI HAS NO MORE INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-964-X06	CO071

KEYWORDS:

X: Y: Z:

CRAFT PRSONNEL USE "SUPERGLUE" INSTEAD OF "PERMATEx" TO SEAL GASKETS TO FLANGES. CI HAS NO MORE INFORMATION. CONSTRUCTION DEPT. CONCERN

TECHNICAL COMMENTARY:

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(EMPLOYEE CONCERNS)

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-982-003	00071

KEYWORDS:

X:

Y:

Z:

SCHEDULE 80 PIPE WELDED TO SCH. 40 FITTINGS AND SCHEDULE 80 FITTINGS WELDED TO SCH. 40 PIPE ON "CLASS H" LINE (8 DIA) DONE IN MID-1970.

ENTER T.B. #2 VIA RAIL DOOR, LOOK UP AND TO RIGHT. PIPE IS ABOUT 12' ABOVE 729' EL., NEAR HAND RAILING.  
NO FOLLOW UP REQUIRED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-055-002	00071

KEYWORDS:

X:

Y:

Z:

LEAKING PIPE ON 692' ELEV., AUX. BLDG., UNIT #1. CI HAS NO MORE INFORMATION. TIME FRAME: CURRENT.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-184-002	00071

KEYWORDS:

X:

Y:

Z:

CLASSIFICATION OF STAINLESS STEEL PIPING SHOULD BE OF CONCERN. DIFFERENT GRADES AND DIFFERENT CLASS OF PIPE ARE ASSEMBLED IN THE SAME PIPING SYSTEM. CONSTRUCTION DEPT. CONCERN. CI HAS NO ADDITIONAL INFORMATION.

TECHNICAL COMMENTARY:

THIS CONCERN WAS PREVIOUSLY A PART OF IN-86-184-001

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-184-004	00071

KEYWORDS:

X:

Y:

Z:

THERE ARE DIFFERENT SIZE (GAUGE) PIPE WELDED TOGETHER. THIS OCCURRED IN REACTOR #1 AND THE FEED WATER HEATER STORAGE TANK. CONSTRUCTION DEPT. CONCERN. CI HAS NO ADDITIONAL INFORMATION.

TECHNICAL COMMENTARY:

THIS CONCERN WAS PREVIOUSLY A PART OF IN-86-184-001

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(EMPLOYEE CONCERNS)

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LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-200-004	CD071

KEYWORDS:

X: Y: Z:

10/15/85: CI OBSERVED 100'-150' RUN OF 30" O.P. PIPE DROP 3"-4" WHEN STEAMFITTERS REMOVED A HANGER (HANGER WAS BEING REMOVED IN ACCORDANCE WITH A WORK PACKAGE). LINE LOCATED IN TURBINE BUILDING, ELEV 685', COLUMN T-14 AROUND "C" LINE. CONSTRUCTION DEPT. CONCERN. CI HAS NO ADDITIONAL INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-205-001-071	CD071

KEYWORDS:

X: Y: Z:

ERCW (3" INTAKE) PIPELINES ARE UNSUITABLE FOR SERVICE. ALL FOUR LINES WERE SUBJECTED TO STRESS DURING ORIGINAL BACKFILLING WITH IMPROPER METHODS (UNCONTROLLED DUMPING) DURING ORIGINAL INSTALLATION; ABOUT 1976. LATENT STRESS BECAME EVIDENT .....[PIPE WAS HYDROSTATICALLY TESTED IN SHORT SECTIONS, THEN AFTER INSTALLATION, MUCH OF THIS PIPE WAS TESTED SEVERAL TIMES AT >600 PSI AND COULD HAVE BEEN DAMAGED BY EXCESSIVE TESTING.] A DOWNSTREAM 90 DEGREE ELBOW AND BUTTERFLY VALVE (BOTH 24" DIAMETER) HAVE BEEN REPLACED BECAUSE THEY HAD BEEN WORN THROUGH BY LOOSE FLAKES OF THE INTAKE LINE'S MORTAR LINING. CONSTR. DEPT. CONCERN. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

MULTIPLE CONCERN. ONLY [.....] CONSIDERED IN CD071.

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
			YES					IN-86-282-004	CD071

KEYWORDS:

X: Y: Z:

PRESSURE TESTS WERE NOT APPLIED ON MANY VENDOR NPP-1 ASME CODE DATA FORMS FOR CONTAINMENT PENETRATIONS. THE PENETRATIONS WERE INSTALLED AND HYDRO TESTS WERE NEVER VERIFIED AND DOCUMENTED. ADDITIONAL INFORMATION KNOWN TO QTC, WITHHELD TO MAINTAIN CONFIDENTIALITY. NO FURTHER INFORMATION MAY BE RELEASED. CONSTRUCTION DEPARTMENT CONCERN. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

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(EMPLOYEE CONCERNS)

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09:07:16

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-284-002	CD071

KEYWORDS:

X: Y: Z:

VALVES V329 & V330 IN THE IN-CORE INSTRUMENT BUILDING WERE PRESSURE-TESTED BY AIR IN 1980, BUT THESE VALVES SHOULD HAVE BEEN HYDRO-TESTED. CI STATED THAT THE VALVES WERE REPLACED (POSSIBLY AFTER TESTING). CI HAS NO FURTHER INFORMATION. CONSTRUCTION DEPT CONCERN.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-311-001	CD071

KEYWORDS:

X: Y: Z:

BELLOWS WERE INSTALLED WITHOUT PROPER PAPERWORK IN THE ANNULUS AREA BEHIND THE NORTH FIRE ROOM, IN THE SUMMER OF 1985. NAMES AND DETAILS KNOWN TO QTC, BUT WITH HELD TO MAINTAIN CONFIDENTIALITY. NO ADDITIONAL INFORMATION MAY BE RELEASED. CONSTRUCTION DEPARTMENT CONCERN.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
			YES					PH-85-003-004	CD071

KEYWORDS:

X: Y: Z:

THERE IS NO INSULATION BETWEEN PUMPS ON EL. 692'. (NAMES KNOWN TO QTC AND RELEASE OF THIS INFORMATION WOULD JEOPARDIZE CI'S CONFIDENTIALITY) CI HAS NO MORE INFORMATION AVAILABLE.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								PH-85-035-001	CD071

KEYWORDS:

X: Y: Z:

4" S.S. DRAIN LINE RUNNING FROM 676' ELEV TO 713' ELEV FROM THE COLLECTOR TANK IN UNIT 1 SYSTEM 77 OR 26 WAS INSTALLED AS A TEMPORARY LINE, HOWEVER THE LINE WAS LEFT AS PERMANENT, WITH NO INSPECTION OR PAPERWORK DOCUMENTED. CONSTRUCTION DEPT. CONCERN. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:



04/23/86

(EMPLOYEE CONCERNS)

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09:07:16

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								PH-85-035-004	CD071

KEYWORDS:

X: Y: Z:

A TANK IN AUX BUILDING, ELEV. 713, IN UNIT 1 WAS OVER PRESSURIZED APPROXIMATELY 200 PSI. THIS CAUSED A BULGE IN THE TANK AT ANGLE IRON BAND. CI STATED, THE TANK WAS BOUGHT OFF BY ENGINEERING, BECAUSE IT COULD NOT BE REMOVED FOR REPAIR. CONSTRUCTION DEPT. CONCERN. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								WI-85-096-001	CD071

KEYWORDS:

X: Y: Z:

IN UNIT #1 RAD. LAB. A LARGE DIAMETER PIPE MAY BE DEFORMED. THE DEFORMITY MAY BE COVERED WITH INSULATION. CI HAS NO ADDITIONAL INFORMATION. ANONYMOUS CONCERN.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								XX-85-094-007	CD071

KEYWORDS:

X: BLN Y: Z:

BELLEFONTE: LIMITORQUE VALVES WERE STORED AND INSTALLED WITH WRONG ALTITUDE (UPSIDE DOWN) AND WERE NOT MAINTAINED (STROKED, ETC). CONSTRUCTION DEPT. CONCERN. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

Subcategory C0080

Subcategory Title: Structural

<u>Employee Concern Number</u>	<u>NSRS or QTC Report Number (If Issued)</u>	<u>Line Response (Organization-If Issued)</u>
IN-85-231-001	None	None
IN-85-793-002	None	None
IN-85-035-001	None	WBN-PMO
IN-85-630-002	NSRS IN-85-534-WBN	None
IN-85-544-005	None	WBN-CO
IN-85-088-001	ERT IN-85-088-001	None

INITIAL EVALUATION PLAN

Category: CONSTRUCTION

Subcategory: STRUCTURAL

Prepared by:

Gary L. Pockm 4-2-86  
Preparer Date

Recommended by:

James M. Brath 4-2-86  
Group Leader Date

Approved by:

M. W. Rudolph 4-2-86  
Group Head Date

INITIAL EVALUATION PLAN FOR  
SUBCATEGORY

Description of Perceived Problems: The concerns in this subcategory deals with structures:

1. where holes in concrete were made in an improper manner;
2. where improper/inadequate finishing techniques was used on concrete block wall;
3. where construction changes were made to permanent structure but not properly documented;
4. improper vacuum testing was performed on internal doors;
5. where expansion joint seal leakage could potentially allow for contamination of groundwater system;
6. where doors were installed by craft at direction of management but not shown on drawings.

Lead Evaluator:

*Gregory L. Pothman*

Evaluators:

*N/A*

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Initial Evaluation Plan

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- I. List of Concerns by Concern Number
- II. Elements and Attributes of Concerns
- III. List of Criteria (Including Document Numbers and Revisions)
- IV. Interviews
- V. Action Plan (Including Staffing and Scheduling)
- VI. Instructions/Criteria for Additional Data Evaluations
- VII. Progress Reporting Requirements and Milestones
- VIII. Determination as to Whether or Not Surveillance, Test/Reinspections are Necessary
- IX. Root Cause Determination
- X. Generic Applicability Determination
- XI. Proposed Immediate and Long-Term Corrective Actions
- XII. Prepare Report





III. List of Criteria

1. Information Source - (Applicable Procedures, OE Documents, Previous Reports, NSRS/QTC/ERT Investigation Reports Including revision or date)			2. Comments
:	Date Added to List	Applicable Section	:
ERT Report IN-85-088-001	:	All	: ABSCE vacuum testing of internal
:	:	:	: doors where rags were used on
:	:	:	: door edges to achieve acceptable
:	:	:	: test.
:	:	:	:
WBN-PMO Response	:	All	: Undocumented changes to the
IN-85-035-001	:	:	: Gatehouse are addressed.
:	:	:	:
NSRS Investigation Report	:	All	: Leakage of expansion joint seals
IN-84-534-WBN	:	:	: and waterstops and the potential
:	:	:	: contamination of groundwater is
:	:	:	: addressed.
:	:	:	:
WBN-Const Response	:	All	: Door installation by the craft at
IN-85-544-005	:	:	: management's direction; not per
:	:	:	: applicable drawings is addressed.
:	:	:	:
TVA General Construction	:	Drilling/	: Review to determine criteria that
Specification G-32	:	Chipping	: addresses drilling/chipping of
:	:	:	: permanent concrete.
:	:	:	:
WBN-QCP 1.47 R6	:	Concrete/	: Review those sections, if any,
:	:	Masonry Block	: that apply to the finishing
:	:	Finishing	: requirements for cavities in
:	:	:	: concrete/masonry block.
:	:	:	:

1. Additional sources will be added by the evaluator.
2. State attribute and how it relates with requirement.



[illegible]

V. Action Plan - Initial

Evaluation Plan

1. Contact QTC, Jim Murray, to determine if there is additional info available on the concerns in this subcategory. (See Attachments)
2. Investigate and review other existing files (NSRS, ERT, PMO) to determine if any previous investigations have been initiated and/or completed.
3. Review ERT investigation report IN-85-088-001 to determine if the response adequately addresses ABSCE vacuum testing of internal doors where rags were used to seal door edges to obtain acceptable test results. Determine any additional actions that may be required.
4. Review WBN-PMO investigation report IN-85-035-001 to determine if the subject concern that addresses undocumented changes to the Gatehouse has been sufficiently answered and documented. Determine any additional action(s) that may be required.
5. Review NSRS investigation report IN-84-534-WBN (concern IN-85-630-002) to determine if the potential contamination of groundwater due to leaking expansion joint seals/waterstops has been adequately addressed. Reply and address any additional action that is required.
6. Review WBN-CONST response to concern IN-85-544-055 to determine if the response adequately addresses the installation of 5 doors by the craft at managements' direction which were not shown on applicable drawings. Determine any additional action(s) that may be required.
7. For concern IN-85-793-002:
  - A. Review site procedures as necessary to determine specific criteria that governs the area of concern (i.e. drilling/chipping of permanent concrete) and ensure that applicable upper tier criteria has been implemented.
  - B. Interface with responsible engineering and QC units to verify the proper documentation was initiated to control the required work, that the work accomplished in the field is required by applicable drawings and was done in accordance with appropriate procedures as required.
  - C. Review inspection documentation as required to determine if records were falsified (i.e. the hole being installed in an improper manner but documented to reflect procedure compliance).
  - D. Interview responsible unit supervisors/personnel as necessary to determine if in the past a quality and/or documentation problem has existed with regards to drilling/chipping of permanent concrete.

8. For concern IN-85-231-001:
  - A. Review site procedures as necessary to determine specific criteria which governs there area of concern (i.e. concrete/masonry block finishing) and establish that applicable upper tier criteria has been implemented as required.
  - B. Verify that the work addressed in the concern was initiated, controlled and inspected in accordance with applicable procedures and/or drawings.
  - C. Interview cognizant unit supervisors to establish compliance with applicable criteria that governs concrete/masonry block finishing.
  - D. Interview appropriate craft foremen/supervisors as required to establish the parameters of the construction schedule which allegedly casued finishing work to not be completed. Follow-up as necessary by investigating the scheduling and work performed according to the schedule and/or supervisor's direction.
  - E. Review applicable documentation as required to determine if there is any indication of document falsification with regards to required inspections being performed on what is potentially incomplete work.
9. Write a summary of findings for each of the investigations and concerns. This summary shall include as a minimum: the findings and determinations for each case and address any additional action that may be required.
10. Record source doucments and other applicable criteria as well as an interview schedule on Attachments B and C respectively.
11. Coordinate with other ECP Groups to determine if their findings are relevant to the concerns addressed herin:
12.
  - A. STAFFING: One (1) evaluator
  - B. SCHEDULED MANHOURS: 150

V. Action Plan - Initial

## CROSS-REFERENCE MATRIX

Evaluation Plan Step Number	Concern(s) Addressed By Step	Element(s) Addressed	Attribute(s) Addressed
1, 2, 4, 9, 10, 11	IN-85-035-001	Gatehouse	Changes
1, 2, 5, 9, 10, 11	IN-85-630-002	Structural Seals	Leakage
1, 2, 8, 9, 10, 11	IN-85-231-001	Concrete/Masonry Block	Finishing
1, 2, 7, 9, 10, 11	IN-85-793-002	Concrete	Drilling/Chipping
1, 2, 3, 9, 10, 11	IN-85-088-001	Doors	Testing
1, 2, 6, 9, 10, 11	IN-85-544-005	Doors	Installation



SUBCATEGORY REPORT

Subcategory CO080  
Structural  
CONSTRUCTION

I. Introduction

Six concerns, involving structural features of the plant have been evaluated. These six were addressed as six separate elements:

- A. Concrete/Masonry Block IN-85-231-001
- B. Concrete IN-85-793-002
- C. Gatehouse IN-85-035-001
- D. Structural Seals IN-85-630-002
- E. Door Installation IN-85-544-005
- F. Door Testing IN-85-088-001

II. Summary of Perceived Problems

- A. Inadequate and/or improper finishing of cavities where masonry blocks are joined on what the CI identified as a "radiation wall."
- B. Some type of hole was made in a concrete floor in an improper manner, potentially in a protected area of the plant.
- C. Construction changes were made to a permanent plant feature (Gatehouse) but were not properly documented.
- D. Expansion joint seal leakage (waterstops) could potentially allow for contamination of groundwater system (aquifer).
- E. Fire rated doors were installed by craft at management's instruction but not shown on applicable drawings.
- F. Improper vacuum tests were performed on internal doors.

III. Summary of Findings

- A. Investigation revealed that there was no documented requirement that all cavities be filled where blocks join. In addition, safeguards exist to control against radiation exposure to personnel in the cleanshop areas. Final evaluation is that the concern cannot be substantiated.

SUBCATEGORY REPORT

Subcategory CO080  
Structural

- B. This concern cannot be investigated with any degree of detail or accuracy due to the vagueness of the concern and the inability to obtain additional information from QTC. Therefore, no substantiation can be determined.
- C. Additional investigation was performed to further clarify and provide more detailed information to the WBN-PMO investigation and subsequent response. This additional investigation revealed the WBN-PMO response to be accurate, although somewhat vague. Final conclusion is that the concern, as expressed by the CI, cannot be substantiated.
- D. This concern was evaluated by NSRS investigation IN-84-534-WBN which answered the concern in a fully adequate manner. Additional investigation was performed to verify the findings of the NSRS investigation and response. Final conclusion is that the concern *cannot* be substantiated.
- E. Additional evaluation was performed to provide more detailed information and further clarify the WBN-Construction investigation and subsequent response. The additional evaluation revealed the WBN-Construction response to be accurate but considerably deficient in documentation and detail. Final conclusion is that the concern, as stated by the CI, cannot be substantiated.
- F. This concern was addressed by ERT Report IN-85-088-001 which answered in a fully adequate and detailed manner all aspects of the expressed concern. Further evaluation was performed to clarify/verify the ERT response to the subject concern. Final evaluation revealed that the concern could not be substantiated.

(G)

Attachment

## INDEX

1. ELEMENT REPORT - Concrete Masonry Block IN-85-231-001
2. ELEMENT REPORT - Concrete IN-85-793-002
3. ELEMENT REPORT - Gatehouse IN-85-035-001
4. ELEMENT REPORT - Structural Seals IN-85-<sup>630</sup>~~6630~~-002
5. ELEMENT REPORT - Door Installation IN-85-544-005
6. ELEMENT REPORT - Door Testing IN-85-088-001
7. LISTING OF CONCERNS



ELEMENT REPORT

Subcategory CO080  
Structural  
Concrete/  
Masonry Block

I. Introduction

The concern evaluated relates to cavities within masonry block walls.  
IN-85-231-001

II. Summary of Perceived Problems

Inadequate and/or improper finishing of cavities where masonry blocks join on what the CI identified as a "radiation wall."

III. Evaluation Methodology

- A. Determined through the use of applicable drawings the exact location and characteristics of the subject wall. Interfaced with cognizant CEU personnel as required to further determine exact wall location and characteristics.
- B. Reviewed applicable drawings as required to define wall characteristics with respect to block type, height, width, shielding requirements, concrete and/or grout requirements and parameters surrounding the filling of cavities.
- C. Interviewed cognizant CEU personnel to determine what documentation was initiated to perform and control the work associated with the construction and inspection of the subject wall.
- D. Visually inspected subject wall to determine if there were any obvious cavities that existed and evaluated finished wall characteristics as they related to drawing requirements.
- E. Interfaced with cognizant OE design and architectural personnel to determine the requirements for constructing and finishing the subject wall, the design intent with respect to the radiological shielding requirements and the overall purpose of the wall with respect to the Hot Shop area.
- F. Interviewed responsible craft supervisor(s) to determine what problems may have been encountered, if any, during wall construction and the parameters of the schedule which allegedly caused cavities to not be filled where blocks were joined.

ELEMENT REPORT

Subcategory C0080  
Structural  
Concrete/  
Masonry Block

- G. Determined whether additional documentation was initiated to document discrepancies, nonconforming conditions, design and/or field changes, etc. with respect to the subject wall.
- H. Interfaced with cognizant Health Physics personnel to further define radiological shielding requirements and other HP Instruction that related to the subject wall.

IV. Summary of Findings

- A. Reviewed Civil Drawing 46W421-3 R13 (Architectural Floor Plan, Elevation 713.0), 46W423-8 R10 (Architectural Wall Sections) which supplied details of the subject wall. The wall was found to be the 12" block wall (2-6" hollow block walls, concrete filled, with a 3/8" steel plate sandwiched between) that separated the Health Physics Lab, Hot Instrument Shop, and the Snubber Shop from the nonprotected, clean areas on elevation 713.0.
- B. Reviewed Concrete Tracking System Master Report maintained by CQC to determine the Concrete Pour Cards that were applicable to the filling of the hollow block cavities. A total of 13 cards were identified as applicable, all of which were found and reviewed. No obvious discrepancies or inconsistencies were noted - all documentation was complete and legible. The pour cards were segregated within the aforementioned computer program by being applicable to the "filling of hollow block cells."

Pour Cards Reviewed: GSBC 76, 101, 111, 121, 125A, 126, 129, 130, 135, 142, 145, 147, and GSBG 144.

Note: With the exception of Workplans 2814 and 2835, no additional documentation existed other than the aforementioned Pour Cards to record inspection of the block wall construction. To elaborate, the Service Building is not a Category 1 structure and the subject wall is considered to be non-QA, therefore, no inspection was required outside of daily surveillance and the workplan inspection hold points applied by CEU.

- C. Accompanied responsible engineer, CEU, to the field and visually inspected subject wall. This inspection encompassed all accessible areas on both sides of the wall and revealed no obvious exterior cavities. While the north side of the wall had protective coating applied and the south side had received a standard coat of paint, any existing cavities would have been readily visible.

## ELEMENT REPORT

Subcategory CO080  
Structural  
Concrete/  
Masonry Block

- D. Interfaced with cognizant OE personnel who had both past and present responsibilities and knowledge concerning the subject wall within the Hot Shop area. Conversations with responsible design engineer, responsible architectural engineer, and responsible NEB engineer revealed that the design intent of the subject wall was for purposes other than radiological shielding and that the information communicated to the CI that "this was a radiation wall" was in error. Further conversation with each engineer revealed that any cavities that might exist where blocks were joined would have no detrimental effect toward the design intent of the wall. To further support his information, Civil Drawing 46W425-7 showed the 6" block wall detail and included the note, "no shielding is required." Detail 5-3 on drawing 46W421-3 reflects this specific block detail and detail 5-8 on drawing 46W423-8 also addresses the same detail.
- E. Interviewed responsible Construction Superintendent who indicated that, although the applicable drawings called for the use of a masonry contractor for block laying, TVA forces were used to accomplish the work. He indicated that he did not remember being required to apply a "full mortar bed" where blocks joined at the vertical joint and that because of this, there could, in fact, be small cavities in the vertical joints where mortar was applied along vertical block edges rather than on the entire vertical face of the block. He also indicated that the applicable construction schedule was not met but that the total manhour estimates were adhered to. He emphasized that the construction schedule had no impact whatsoever on the overall quality of work performed by the masonry personnel.
- F. Based on the information provided by the aforementioned Construction Superintendent and each of the responsible engineers referenced in Section D, applicable civil drawings were again reviewed, along with Workplans 2814 and 2835 and ECN 3658 to determine if a "full mortar bed" requirement existed for the subject 6" block wall. None was found. General Construction Specification G-21 was also reviewed and while pertinent information concerning hollow cell block was provided, no requirement for a full mortar bed was found.
- G. Cognizant CEU personnel were again interviewed with respect to the full mortar bed requirement and the response was unanimous that the full mortar bed requirement existed only on drawings where shield walls were addressed and therefore, was not applicable to the subject 6" hollow cell block wall.

## ELEMENT REPORT

Subcategory CO080  
Structural  
Concrete/  
Masonry Block

H. Interviewed site ALARA engineer (Ken Grim, 8261) to determine Health Physics requirements and intent with regard to the subject wall. I advised him that there was not a design/site requirement for a full mortar bed at vertical block joints and therefore, it was conceivable that small cavities might exist throughout the subject wall. His response was that Health Physics was aware that the subject wall was not a shield wall by definition, but because of its proximity to the Hot Instrument Shop and Snubber Shop it would provide a certain degree of shielding to the adjacent clean shop area, stairway, and sewage ejector pit. To control potential exposure of personnel in these adjacent clean areas, two ARMs (Area Radiation Monitors) were installed and HP Instruction TSIL-172 addressed the routine radiation survey assignments of the subject wall on the "clean" side. Additional shielding and/or surveys would be made in the event a higher than normal radiation level was detected in the Hot Shop area.

I. The statement made by the CI that "cavities exist where two blocks join" may, in fact, be a true statement. However, since the investigation revealed that the design intent was not directed toward radiation shielding, the fact that cavities may exist has no detrimental effect toward the subject wall. Therefore, the concern cannot be substantiated.

V. Root Cause

None

VI. Corrective Actions

None

VII. Generic Applicability

None

VIII. Attachments

None

ELEMENT REPORT

Subcategory CO080  
Structural  
Concrete

I. Introduction

The concern evaluated relates to a hole being made in concrete.  
IN-85-793-002

II. Summary of Perceived Problems

The concern addresses a hole being made in the floor over the contaminated Laundry Room in an improper manner.

III. Evaluation Methodology

- A. Attempted to coordinate with QTC to obtain further detailed information with regard to the subject concern.
- B. Performed visual inspection of the affected areas to determine if any obvious deficiencies existed with regards to the improper drilling/chipping of concrete.
- C. Interviewed cognizant CEU personnel to obtain their input toward possible deficiencies that may have existed prior to, during, or upon completion of any drilling/chipping operations in the area above the contaminated Laundry Room.

IV. Summary of Findings

- A. The attempt to obtain further detailed information from QTC was unsuccessful. Because of the almost complete lack of information provided in the concern, the attempt to investigate the "hole installed in an improper manner" proved to be less than effective.
- B. Accompanied responsible CEU engineer to visually inspect the contaminated Laundry Room ceiling and the concrete floor above the room. The ceiling proved to be ribbed metal decking throughout the entire laundry area. Several HVAC ducts and some small diameter piping penetrate from the floor above but because of the metal decking and congestion that exists in the ceiling area, no effective inspection could be performed to identify potential deficiencies. Further inspections were performed in both the Waste Bailer Shipping Room and Barrel Preparation Room. These areas are located directly over the contaminated Laundry Room on elevation 729.0 adjacent to the Power Stores loading dock. No obvious discrepancies were noted nor were any questionable areas or holes

ELEMENT REPORT

Subcategory C0080  
Structural  
Concrete

→ observed. Numerous HVAC ducts and small diameter piping penetrated through the floor of the aforementioned rooms but, as previously stated, no obvious deficient areas were noted.

- C. Conversation with CEU personnel revealed that, to the extent of their knowledge, no holes had been drilled or chipped in an improper manner. They further replied that they were not aware of any NCRs or other documentation that had been initiated to document any deficient work or work method used in the area addressed by the concern.
- D. Due to the lack of relevant information with respect to the concern as stated by the CI and the inability to obtain further data from QTC, substantiation cannot be determined.

V. Root Cause

None

VI. Corrective Actions

None

VII. Generic Applicability

None

VIII. Attachments

None

## ELEMENT REPORT

Subcategory CO080  
Structural  
Gatehouse

### I. Introduction

The concern evaluated involves construction changes to the Gatehouse.  
IN-85-035-001

### II. Summary of Perceived Problems

Construction changes were made to the Gatehouse but not documented by the field after verbal approval was obtained from OE.

### III. Evaluation Methodology

- A. Reviewed existing WBN-PMO response to the subject concern to determine if the issues addressed by the CI had been adequately evaluated and answered.
- B. Interviewed cognizant CEU personnel to determine if the statements made by the CI with respect to FCRs not being provided and changes not being documented could be substantiated.
- C. Reviewed applicable documentation that initiated and documented the Gatehouse changes as well as ECN 4039 to determine the scope and a complete description of the changes.

### IV. Summary of Findings

- A. Review of the WBN-PMO response revealed that reasonable explanation was provided with respect to why the changes were made and the parameters of the changes. However, the response was not totally adequate since it did not address ECN 4039 or other relevant documentation with respect to the changes to the Gatehouse.
- B. Interview with responsible CEU personnel revealed:
  - 1. FCRs F2602 and F2603 R1 were initiated 6/2/83 to modify the Gatehouse. FCR F2602 initiated Gatehouse modifications according to EN DES sketches 52083-1, 2 and general notes while FCR F2603 R1 initiated modifications by requiring all interior glass, tubular partitions, and millwork to be removed according to Nuclear Power request.
  - 2. As a result of the aforementioned FCRs, ECN 4039 was initiated to document the Gatehouse modifications.

## ELEMENT REPORT

Subcategory C0080

Structural

Gatehouse

- C. A review of other applicable documentation revealed that memorandum SDP 830617 002 was initiated by the Special Design Project to Watts Bar Design Project on 6/17/83 and directed the Design Project to initiate ECN 4039. The memorandum also addressed the fact that the aforementioned FCRs documented the work to be done and that the issuing of the ECN should be expedited since the work was already underway. Additionally, the memorandum stated that the original intent was to handle the work entirely by FCR but the Special Design Project was unable to issue the drawings using the FCR process for reasons stated in memorandum OQA 830527 002 from J. W. Anderson to M. N. Sprouse dated 5/27/83.
- D. The findings detailed in Sections B and C reveal that the major changes to the Gatehouse were, in fact, documented according to FCRs F2602, F2603 R1 and ECN 4039. It is conceivable that since a large portion of the correspondence concerning the Gatehouse modifications was transmitted between the Special Design Project and Watts Bar Design Project, the CI was not aware of the paperwork generated to document the subject modifications. That portion of the concern that addresses the actual work done as being indeterminate has been adequately evaluated by the aforementioned WBN-PMO response.
- E. The concern, as expressed by the CI, contains some statements that could be considered at least partial truths. However, based on the documentation provided herein and the WBN-PMO response, as well as the fact that a safeguards area is not involved but rather a non QA support facility, the concern cannot be substantiated.

## V. Root Cause

None

## VI. Corrective Actions

None

## VII. Generic Applicability

None

## VIII. Attachments

None



## ELEMENT REPORT

Subcategory CO080  
Structural  
Structural Seals

### I. Introduction

The concern evaluated involves leakage/seepage of structural seals and waterstops. IN-85-630-002

### II. Summary of Perceived Problems

Expansion joint seals between the Reactor and Auxiliary Buildings leak and permit seepage of groundwater into the buildings. These leaks could potentially allow contamination of the groundwater system if a radioactive spill occurred.

### III. Evaluation Methodology

- A. Reviewed existing NSRS investigation IN-85-534-WBN to determine if their response addresses directly and answers adequately the subject concern.
- B. Interfaced with cognizant NSB personnel to determine the status of the Workplan addressed in the aforementioned NSRS report.

### IV. Summary of Findings

- A. The NSRS investigation of the subject concern addressed the issue of expansion joint seal leakage in two different areas. The first encompassed the actual existence of, the significance of and the resolution of the inleakage problem. A key point to be made in this area is the WBN-DP comment that the Auxiliary Building was never intended to be leakproof. Additionally, it was noted that NCR-W-233-P had been initiated to document the subject leakage areas and Workplan 4976 was subsequently issued to repair the Unit 1 and Unit 2 leakages. It was also noted that the work to eliminate the leakage had already been initiated by CONST NSB. The second area addressed directly the concern with respect to the potential contamination of the groundwater system (aquifer). In this area, research was performed and a review conducted of the WBN site geology to determine the parameters of radiological monitoring of the groundwater system. This revealed an extensive monitoring program that includes a routine sampling of the local groundwater system as well as local drinking water, river sediment, agricultural and livestock products.

ELEMENT REPORT

Subcategory CO080  
Structural  
Structural Seals

B. Interface with cognizant NSB personnel revealed that Workplan 4976 was closed, the repair of the subject expansion joint seal having been completed. Additionally, NSB was continually monitoring other areas of the plant where inleakage had been recorded.

C. As stated in the NSRS investigation report, the OE assessment of the seepage was not a condition adverse to quality. This statement in conjunction with the investigation findings, causes the concern to not be substantiated.

V. Root Cause

None

VI. Corrective Actions

None

VII. Generic Applicability

None

VIII. Attachments

None

## ELEMENT REPORT

Subcategory C0080  
Structural  
Door Installation

### I. Introduction

The concern evaluated involves specific doors being installed at management's direction rather than according to applicable drawings.  
IN-85-544-005

### II. Summary of Perceived Problems

Specific doors were installed that were procured from an offsite source after the doorframes for each of the subject doors had already been installed. The specific doors installed were not shown on the initial door schedule.

### III. Evaluation Methodology

- A. Reviewed existing WBN-CONST response to the subject concern to determine if it adequately addressed those issues raised by the CI.
- B. Reviewed applicable drawings to determine the location and characteristics of the subject doors as required by those drawings. Also reviewed other documentation relevant to the installation, inspection, and changes made to the subject doors.
- C. Interviewed cognizant CEU personnel to determine what knowledge they possessed and what role they may have played with respect to the door installations and inspections. Also determined specific documentation that was initiated to document changes made to the subject doors and what criteria addressed the parameters of fire door certification and installation.
- D. Visually inspected each of the subject doors and doorframes to determine if any obvious discrepancies existed with regard to UL Certification Tags, location and doors/doorframes installed vs. doors/doorframes required according to drawings.
- E. Interfaced with responsible OE Architectural Engineer to further determine design requirements and other relevant criteria with respect to UL fire rated door certification.

### IV. Summary of Findings

- A. Review of the WBN-CONST response to the subject concern revealed that the response provided reasonable explanation with regard to the actions taken to accomplish the door installations and changes

## ELEMENT REPORT

Subcategory C0080  
Structural  
Door Installation

made to meet fire rating criteria. However, it was inadequate in that it failed to provide specific information such as applicable drawings and hardware schedules, UL fire rating criteria, and documentation initiated to reflect as-constructed specifications.

- B. Reviewed Civil Drawings: 46W452-8 R2 (Architectural Secondary Chemical Lab Plans), 46W454-16 R4, R5, R6 (Architectural Door and Hardware Schedule), 46W454-9 R21 (Architectural Door and Hardware Schedule-Door Details). Specific door locations and specifications were addressed by these drawings as well as applicable fire rating criteria. According to Drawing 46W452-8 R2, the subject doors are numbered T100, T101, T102, T103, and T104. Door T101 was the only interior door, all others being exterior entrance/exit doors. Drawing 46W454-16 R4 required that doors T100, T102, T103, and T104, all of which are exterior doors, have a "B" fire rating while door T101 carried no fire rating. Additionally, doors T100 and T104 were type "G" which according to Drawing 46W454-9 reflected doors with glass window, doors T102 and T103 were type "L" which were solid doors with bottom louvers and door T101 was a type "F" door which was solid with no glass window or louver.
- C. Interviewed responsible CEU personnel and obtained the following information:
1. The Secondary Chemical Lab is located in the Turbine Building and is considered a non-QA structure.
  2. The door frames were available from WBN and installed prior to procurement of the subject doors from Hartsville and Phipps Bend.
  3. Construction Change Notification C-54 was initiated to correct a drawing discrepancy (46W454-16 R4) concerning doors T100 and T104—the drawing reflected type "G" doors which did not meet the required fire rating criteria therefore, the CCN changed the drawing to reflect a type "V" door. This change was reflected on revision 5 of the aforementioned drawing.
  4. The doors and doorframes receive fire rating certification from UL independently and each should have a separate UL tag attached. To clarify, the doors and doorframes are not tested and certified as an assembly or a unit but receive this testing/certification individually.

✓

ELEMENT REPORT

Subcategory CO080  
Structural  
Door Installation

D. Visual inspection of the subject doors revealed:

1. Doors T100, T102, T103, and T104 all had UL certification tags attached to both doors and doorframe—each tag reflected the "B" fire rating according to the applicable drawing.
2. Door T101 had no UL tag attached to the door or doorframe but this being a type "F" door, it carried no UL fire rating so no tag was required.
3. Each of the subject doors were of the type and configuration required by the applicable drawing.

E. Interfaced with responsible OE Architectural engineer whose response agreed with CEU personnel with respect to UL fire rating criteria and individual testing/certification of doors and doorsframes.

F. Based on the findings of this report in association with the findings of the WBN-CONST report the concern as expressed by the CI cannot be substantiated.

V. Root Cause

None

VI. Corrective Actions

None

VII. Generic Applicability

None

VIII. Attachments

None

## ELEMENT REPORT

Subcategory CO080  
Structural  
Door Testing

### I. Introduction

The concern evaluated involves vacuum leak testing of various internal doors. IN-85-088-001

### II. Summary of Perceived Problems

An ABSCE test (vacuum test on internal doors) would not meet the necessary acceptance criteria so door edges were sealed with rags to achieve test acceptance.

### III. Evaluation Methodology

- A. Reviewed existing ERT investigation report to determine if the report addressed the subject concern directly and provided sufficient data to substantiate their findings.
- B. Interfaced with cognizant OE personnel to verify their concurrences with the ERT findings and determined if additional testing will, in fact, be required due to door modifications being performed as stated in the ERT report.

### IV. Summary of Findings

- A. The ERT investigation report addressed directly the concern as expressed by the CI. It was comprehensive with respect to the details provided as well as the documentation reviewed to provide substance to these details. It also addressed the fact that additional testing was required which would further verify the acceptability of the subject doors.
- B. Conversation with cognizant NSB engineer and Nuclear Power engineer revealed both to be in complete agreement with the findings addressed in the ERT report. Additionally, the Nuclear Power engineer confirmed the fact that additional testing will be required prior to Mode 4 as described in the aforementioned ERT report. Retesting is also required as part of the surveillance requirement addressed in the FSAR and SI 7.9.
- C. Based on the additional data gathered to verify the ERT response as outlined in Sections A and B, the concern, as expressed by the CI, was based on incomplete information. Fully adequate documentation exists to certify proper test performance and completion as well as future tests which are required to further verify door acceptability, therefore, the concern cannot be substantiated.

ELEMENT REPORT

Subcategory C0080  
Structural  
Door Testing

V. Root Cause

None

VI. Corrective Actions

None

VII. Generic Applicability

None

VIII. Attachments

None

04/14/86  
13:45:10

(EMPLOYEE CONCERNS)

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LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-035-001	CC080

KEYWORDS: GATEHOUSE MODIFICATIONS UNAUTHORIZED

X: Y: Z:

CONSTRUCTION CHANGES TO GATE HOUSE WERE NOT DOCUMENTED. FIELD CONSTRUCTION CALLED DE BY TELEPHONE TO ASK IF FIELD CHANGES COULD BE MADE. DE REPLIED VERBALLY THAT THE CHANGES COULD BE MADE AND ISSUED ECN 4039. THE FIELD NEVER SUPPLIED THE NECESSARY FCR'S, THUS THE ACTUAL WORK PERFORMED PER ECN 4039 IS INDETERMINATE. THIS MAY INVOLVE A SAFEGUARDS AREA.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-088-001	CC080

KEYWORDS: DOORS TESTING

X: Y: Z:

ABSCE TEST (VACUUM TEST ON INTERNAL DOORS) TEST WOULD NOT MEET ACCEPTANCE CRITERIA. PERSONNEL SEALED EDGES OF DOORS WITH RAGS UNTIL TEST ACCEPTANCE MET.

TECHNICAL COMMENTARY:

STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
							IN-85-231-001	CC080

KEYWORDS: MASONRY HOLLOW CORE FILL

X: Y: Z:

UNIT #1: 713' ELEVATION - HOT SHOP - 4" THICK WALL FLOOR TO CEILING MADE OF CONCRETE BLOCKS WITH CAVITIES. CAVITIES ALL FILLED IN EXCEPT WHERE TWO BLOCKS JOIN. EMPLOYEE WAS TOLD THIS WAS A RADIATION WALL. FINISHERS DID NOT FILL IN DUE TO A HURRY TO MEET SCHEDULE.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-544-005	CC080

KEYWORDS:

X: Y: Z:

MANAGEMENT TOLD CRAFT TO INSTALL FIVE DOORS NOT ON THE DRAWING. NO INSPECTIONS WERE INVOLVED.

TECHNICAL COMMENTARY:



04/14/86

(EMPLOYEE CONCERNS)

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13:45:10

LOC	STATUS	RESP	-GTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM
----	-----	----	-----	----	----	-----	---		ID
								IN-85-630-002	CO080

KEYWORDS: SEALS/W-STOPS LEAKS

X: Y: Z:

EXPANSION JOINT SEAL BETWEEN REACTOR BLDG. AND AUXILIARY BLDG. (UNITS 1 AND 2), 692' ELEVATION, LEAKS AND PERMITS SEEPAGE OF GROUND WATER INTO BUILDING. CONCERN EXPRESSED IS THAT THIS SITUATION COULD ALSO PERMIT CONTAMINATION OF GROUND WATER SYSTEM (AQUIFER) IF A RADIOACTIVE LIQUID SPILL OCCURRED IN THESE BUILDINGS. CONSTR. DEPT. CONCERN. CI HAS NO ADDITIONAL INFORMATION.

## TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-GTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM
----	-----	----	-----	----	----	-----	---		ID
			YES					IN-85-793-002	CO080

KEYWORDS: CONCRETE DRILL/CHIP IMPROPER

X: Y: Z:

A HOLE WAS MADE IN THE FLOOR OVER THE CONTAMINATED LAUNDRY ROOM IN AN IMPROPER MANNER. DETAILS KNOWN TO GTC, WITHHELD DUE TO CONFIDENTIALITY. CONSTRUCTION DEPT CONCERN. CI HAS NO FURTHER INFORMATION.  
NO FOLLOWUP REQUIRED.

## TECHNICAL COMMENTARY:

04/23/86

(EMPLOYEE CONCERNS)

PAGE: 1

09:13:24

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
7								IN-85-035-001	CD080

KEYWORDS: GATEHOUSE MODIFICATIONS UNAUTHORIZED

X:

Y:

Z:

CONSTRUCTION CHANGES TO GATE HOUSE WERE NOT DOCUMENTED.  
FIELD CONSTRUCTION CALLED OE BY TELEPHONE TO ASK IF FIELD CHANGES  
COULD BE MADE. OE REPLIED VERBALLY THAT THE CHANGES COULD BE MADE  
AND ISSUED ECN 4039. THE FIELD NEVER SUPPLIED THE NECESSARY FCR'S  
, THUS THE ACTUAL WORK PERFORMED PER ECN 4039 IS INDETERMINATE.  
THIS MAY INVOLVE A SAFEGUARDS AREA.

## TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-088-001	CD080

KEYWORDS: DOORS TESTING

X:

Y:

Z:

ABSCE TEST (VACUUM TEST ON INTERNAL DOORS) TEST WOULD NOT  
MEET ACCEPTANCE CRITERIA. PERSONNEL SEALED EDGES OF DOORS WITH  
RAGS UNTIL TEST ACCEPTANCE MET.

## TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-231-001	CD080

KEYWORDS: MASONRY HOLLOW CORE FILL

X:

Y:

Z:

UNIT #1: 713' ELEVATION - HOT SHOP - 6" THICK WALL FLOOR  
TO CEILING MADE OF CONCRETE BLOCKS WITH CAVITIES. CAVITIES ALL  
FILLED IN EXCEPT WHERE TWO BLOCKS JOIN. EMPLOYEE WAS TOLD THIS WAS  
A RADIATION WALL. FINISHERS DID NOT FILL IN DUE TO A HURRY TO  
MEET SCHEDULE.

## TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-544-005	CD080

KEYWORDS:

X:

Y:

Z:

MANAGEMENT TOLD CRAFT TO INSTALL FIVE DOORS NOT ON THE  
DRAWING. NO INSPECTIONS WERE INVOLVED.

## TECHNICAL COMMENTARY:

04/23/86

(EMPLOYEE CONCERNS)

PAGE: 2

09:13:24

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-630-002	00080

KEYWORDS: SEALS/W-STOPS LEAKS

X: Y: Z:

EXPANSION JOINT SEAL BETWEEN REACTOR BLDG. AND AUXILIARY BLDG. (UNITS 1 AND 2), 692' ELEVATION, LEAKS AND PERMITS SEEPAGE OF GROUND WATER INTO BUILDING. CONCERN EXPRESSED IS THAT THIS SITUATION COULD ALSO PERMIT CONTAMINATION OF GROUND WATER SYSTEM (AQUIFER) IF A RADIOACTIVE LIQUID SPILL OCCURRED IN THESE BUILDINGS. CONSTR. DEPT. CONCERN. CI HAS NO ADDITIONAL INFORMATION.

## TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
			YES					IN-85-793-002	00080

KEYWORDS: CONCRETE DRILL/CHIP IMPROPER

X: Y: Z:

A HOLE WAS MADE IN THE FLOOR OVER THE CONTAMINATED LAUNDRY ROOM IN AN IMPROPER MANNER. DETAILS KNOWN TO QTC, WITHHELD DUE TO CONFIDENTIALITY. CONSTRUCTION DEPT CONCERN. CI HAS NO FURTHER INFORMATION.

NO FOLLOWUP REQUIRED.

## TECHNICAL COMMENTARY:

Subcategory C0090  
Subcategory Title: Cable

Employee Concern Number	NSRS or QTC Report Number (If Issued)	Line Response (Organization-If Issued)
EX-85-073-001		
EX-85-076-003		
EX-85-086-001		
EX-85-092-002		
EX-85-092-003		
EX-85-157-002		
EX-85-157-003		
IN-85-009-001		
IN-85-018-004	I-85-699-WBN	
IN-85-046-001		
IN-85-120-001		
IN-85-186-002	ERT report on IN-85-186-002	
IN-85-186-010		
IN-85-201-002		PMO report on IN-85-201-002
IN-85-213-001		
IN-85-255-001		
IN-85-295-003		
IN-85-300-002		
IN-85-314-001		
IN-85-318-001		
IN-85-318-002		
IN-85-318-003		
IN-85-323-002		
IN-85-325-005		
IN-85-346-001		
IN-85-373-001	I-85-123-WBN	OE
IN-85-374-001		
IN-85-425-001		
IN-85-425-004		
IN-85-433-002		
IN-85-436-004		
IN-85-506-002		
IN-85-527-001	I-85-852-WBN	
IN-85-581-001		
IN-85-581-002	I-85-445-WBN	
IN-85-719-002		
IN-85-720-003		
IN-85-733-001		
IN-85-774-006		
IN-85-856-005		
IN-85-864-001		
IN-85-878-X01		
IN-85-935-001		
IN-85-978-001		
IN-85-986-X02		
IN-85-993-002		

Subcategory C0090  
Subcategory Title: Cable

Employee Concern Number	NSRS or QTC Report Number (If Issued)	Line Response (Organization-If Issued)
IN-85-993-006		
IN-85-993-X03		
IN-86-028-001		
IN-86-028-003		
IN-86-036-002		
IN-86-199-001	I-85-467,466,568,573,518,575-WBN	
IN-86-201-001	I-85-461,466,568,573,518,575-WBN	
IN-86-212-001		
IN-86-252-004		
IN-86-254-001		
IN-86-254-002		
IN-86-254-006		
IN-86-259-001	I-85-467-466,568,573,518,575-WBN	
IN-86-259-002		
IN-86-259-004	I-85-467,466,568,573,518,575-WBN	
IN-86-259-005	I-85-569-WBN	OE
IN-86-259-007		
IN-86-259-014		
IN-86-259-015		
IN-86-262-003	I-85-467,466,568,573,518,575-WBN	
IN-86-266-001		
IN-86-266-002		
IN-86-266-005		
IN-86-266-006		
IN-86-268-002		
IN-86-268-003	I-85-570-WBN	OE
IN-86-314-001		
IN-86-314-002		
IN-86-314-003		
IN-86-314-005		
OW-85-007-004		
OW-85-007-005		
OW-85-007-012		
PH-85-050-001		
WI-85-011-002		
WI-85-028-001		
WI-85-100-012		
WI-85-100-013		
WI-85-100-020		
XX-85-008-001		
XX-85-094-004		
XX-85-094-005		

Subcategory C0090

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INITIAL EVALUATION PLAN

Category: CONSTRUCTION

Subcategory: CABLE (C0090)

Prepared by:

Margaret E. Skurki 4/1/86  
Preparer Date

Recommended by:

Jay M. Brath 4-1-86  
Group Leader Date

Approved by:

M. W. Rupp 4/1/86  
Group Head Date

INITIAL EVALUATION PLAN FOR  
SUBCATEGORY CABLE (CO090)

Description of Perceived Problems:

All attributes of the cable program are in question.

They include:

- A. Cable Pulling
- B. Cable Splicing
- C. Cable Terminations
- D. Inspection of Cables
- E. Fireproofing of Cables
- F. Maintaining Cables

Lead Evaluator: Margaret E. Selewski

Evaluators: \_\_\_\_\_

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\_\_\_\_\_

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Initial Evaluation Plan

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- I. List of Concerns by Concern Number
- II. Elements and Attributes of Concerns
- III. List of Criteria (Including Document Numbers and Revisions)
- IV. Interviews
- V. Action Plan (Including Staffing and Scheduling)
- VI. Instructions/Criteria for Additional Data Evaluations
- VII. Progress Reporting Requirements and Milestones
- VIII. Determination as to Whether or Not Surveillance, Test/Reinspections are Necessary
- IX. Root Cause Determination
- X. Generic Applicability Determination
- XI. Proposed Immediate and Long-Term Corrective Actions
- XII. Prepare Report



I. Concerns for Subcategory

<u>Concern No.</u>	<u>Element</u>
A02841018009-002	Cable
A02851213001-001	
EX-85-073-001	
EX-85-086-001	
EX-85-092-002	
EX-85-092-003	
EX-85-157-002	
EX-85-157-003	
IN-85-009-001	
IN-85-018-004	
IN-85-046-001	
IN-85-120-001	
IN-85-186-002	
IN-85-186-010	
IN-85-201-002	
IN-85-213-001	
IN-85-255-001	
IN-85-295-003	
IN-85-300-002	
IN-85-314-001	
IN-85-318-001	
IN-85-318-002	
IN-85-318-003	
IN-85-323-002	
IN-85-325-005	
IN-85-346-001	
IN-85-373-001	
IN-85-374-001	
IN-85-425-001	
IN-85-425-004	
IN-85-433-002	
IN-85-436-004	
IN-85-506-002	
IN-85-527-001	
IN-85-581-001	
IN-85-581-002	
IN-85-719-002	
IN-85-720-003	
IN-85-733-001	
IN-85-774-006	
IN-85-856-005	
IN-85-864-001	
IN-85-878-X01	
IN-85-935-001	
IN-85-978-001	
IN-85-993-002	
IN-85-993-006	
IN-85-993-X03	
IN-86-028-001	
IN-86-028-003	
IN-86-036-002	

I. Concerns for Subcategory

<u>Concern No.</u>	<u>Element</u>
IN-86-199-001	Cable
IN-86-201-001	
IN-86-212-001	
IN-86-212-002	
IN-86-252-004	
IN-86-254-001	
IN-86-254-002	
IN-86-254-006	
IN-86-259-001	
IN-86-259-002	
IN-86-259-004	
IN-86-259-005	
IN-86-259-007	
IN-86-259-014	
IN-86-259-015	
IN-86-262-003	
IN-86-266-001	
IN-86-266-002	
IN-86-266-006	
IN-86-266-X09	
IN-86-268-002	
IN-86-268-003	
IN-86-314-001	
IN-86-314-002	
IN-86-314-003	
IN-86-314-005	
OW-85-007-004	
OW-85-007-005	
OW-85-007-012	
PH-85-050-001	
WI-85-011-002	
WI-85-028-001	
WI-85-100-012	
WI-85-100-013	
WI-85-100-020	
XX-85-008-001	
XX-85-094-004	
XX-85-094-005	
89 TOTAL	

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012

## III. List of Criteria

Information Source - (Applicable Procedures, OE Documents, Previous Reports, NSRS/QTC/ERT Investigation Reports Including revision or date)	Date Added to List	Applicable Section	2. Comments
G-38, R7 (1/15/86)	3/17/86	Entire Document:	Upper tier document for all attributes of the cable sub- category except fireproofing cable
WBNP-QCP-1.55, R6 (3/6/85)	3/17/86	6.10, 7.10	Site procedure for applying flame-retardant cable coatings
WBN-QCI-3.05, R10 (11/26/85)	3/17/86	Entire Document:	Site procedure for cable instal- lation. Deals with cable pull- ing and maintaining.
WBN-QCP-3.05, R25 (11/26/85)	3/17/86	Entire Document:	Site EQC procedure for cable in- stallation. Deals with cable pulling inspection.
WBN-QCI-3.06-4, R4 (8/28/85)	3/17/86	Entire Document:	Site procedure for cable splic- ing
WBN-QCP-3.06-4, R4 (8/28/85)	3/17/86	Entire Document:	Site procedure for inspection of cable splicing.
Memo from NRC to TVA dated 10/15/84 (RIMS A02 841018 009)	3/17/86	Item 5b	Memo discusses the removal of Vimasco from cable. Deals with the area of fireproofing cable
Memo from NRC to TVA dated 12/12/85 (RIMS A02 851213 001)	3/17/86	Item 5	Memo discusses the use of Panduit tie plates as spacers. Deals with the area of cable terminations.

1. Additional sources will be added by the evaluator.
2. State attribute and how it relates with requirement.

III. List of Criteria

1. Information Source - (Applicable Procedures, OE Documents, Previous Reports, NSRS/QTC/ERT Investigation Reports Including revision or date)				2. Comments	
	Date Added to List	Applicable Section			
PMO response to IN-85-201-002	3/18/86	Entire Report	:	Report deals with the area of	
			:	cable pulling.	
NSRS Investigation Report	3/18/86	Entire Report	:	Report deals with cable pulling	
I-85-467-WBN dated 10/31/85			:	problems.	
NSRS Investigation Report	3/18/86	Entire Report	:	Report deals with cable pulling	
I-85-466-WBN dated 10/31/85			:	problems.	
NSRS Investigation Report	3/18/86	Entire Report	:	Report deals with cable pulling	
I-85-568-WBN dated 10/31/85			:	problems.	
NSRS Investigation Report	3/18/86	Entire Report	:	Report deals with cable pulling	
I-85-573-WBN dated 10/31/85			:	problems.	
NSRS Investigation Report	3/18/86	Entire Report	:	Report deals with cable pulling	
I-85-518-WBN dated 10/31/85			:	problems.	
NSRS Investigation Report	3/18/86	Entire Report	:	Report deals with cable pulling	
I-85-575-WBN dated 10/31/85			:	problems.	
NSRS Investigation Report	3/18/86	Entire Report	:	Report discusses separation of	
I-85-570-WBN dated 11/1/85			:	cable trays. Dealt with under	
			:	cable pulling.	

1. Additional sources will be added by the evaluator.

State attribute and how it relates with requirement.

### III. List of Criteria

1. Information Source - (Applicable Procedures, OE Documents, Previous Reports, NSRS/QTC/ERT Investigation Reports Including revision or date)	Date Added to List	Applicable Section	2. Comments
NSRS Investigation Report	3/18/86	Entire Report	Report deals with damaged cable
I-85-123-WBN dated 6/26/85			and is related to the attribute of maintaining cable.
NSRS Investigation Report	3/18/86	Entire Report	Report discusses cable over-
I-85-569-WBN dated 11/14/85			heating due to the fireproof coating.
ERT Investigation Report	3/18/86	Entire Report	Report discusses insulation of
IN-85-186-002 dated 7/6/85			cable trays. Dealt with under fireproofing cable.
NSRS Investigation Report on	3/18/86	Entire Report	Report discusses the use of non-
IN-85-445-WBN dated 10/17/85			electricians to terminate cables
NSRS Investigation Report	3/22/86	Entire Report	Report deals with cable pulling
I-85-06-WBN dated 7/8/85			problems.

1. Additional sources will be added by the evaluator.
2. State attribute and how it relates with requirement.

#### IV. Interviews

[illegible]

V. Action Plan - Initial

## Evaluation Plan

1. Determine from QTC if there is any further information to be obtained on any of the concerns listed on the attached cross-reference matrix. Coordinate with other ECTG category groups, as needed, for any duplication of concern evaluations.
2. Review the listed NSRS/ERT/PMO investigation reports to ensure the responses fully address the problem areas and if corrective actions are complete:

I-85-06-WBN  
I-85-123-WBN  
I-85-445-WBN  
I-85-466-WBN  
I-85-569-WBN  
I-85-570-WBN  
ERT Report on IN-85-186-002  
PMO Report on IN-85-201-002

3. Determine what resolutions there are for the following:
  - a. NRC unresolved items 390/85-61-01 and 391/85-50-01
  - b. NRC violation 390/84-66-02
4. Review the site procedures (QCIs and QCPs) dealing with the areas of cable pulling, cable splices, cable terminations, inspection of cable, fireproofing cable, and maintaining cable to ensure the acceptance criteria is in accordance with that of upper tier documents.
5. Interview OC (EQC, EEU, and electricians) and OE personnel in the problem areas of cable pulling, cable terminations, cable splicing, inspection of cable, fireproofing cable, and maintaining cable.
6. Following is a list of specific concerns which require specific actions. They are:
  - a. IN-85-120-001 - Determine if the cables for the Neutron Flux Detectors are required to be supported in the area in question.
  - b. EX-85-073-001 - Determine with the aid of a QC inspector if there is a bend radius problem at 2-FCV-31-329. Also, determine if cable 2-3V-31-7229 for this valve has been spliced with the splice now inside conduit. If so, locate what documentation there is for the problem.



V. Action Plan - Initial (continued)

## Evaluation Plan (continued)

## 6. (continued)

- c. IN-85-719-002 - Locate cables at penetrations 2RR-3065, 3060, 3064, 3074, and 3075 with a QC inspector to determine:
    - i. if the minimum bend radius has been exceeded and
    - ii. if the cables exit over sharp edges. Locate documentation of deficient condition if it exists.
  - d. WI-85-028-001 - Determine from OC records if cables to O-PMP-40-5 (MH 2) failed the HI-POT or megger test. Try to determine if this was due to improper splicing.
  - e. IN-85-318-003 - Try to determine what is meant by "Reactor Cooling Fan." If this can be defined, go through documentation for the pulls to this piece of equipment to determine if the split in the cable insulation was documented.
  - f. EX-85-157-003 - Examine motor leads of fans in RB2. If not terminated, review termination slips to determine if they have been signed off.
  - g. IN-85-425-001 - Examine JB 1918 in accumulator room 4 (unit 2) with a QC inspector to determine if a bent lug or minimum bend radius problem exists. If problems exist, determine what documentation, if any, exists for the problem.
  - h. IN-85-864-001 - Examine micro limit switches in the "south" fan room (unit 2) with a QC inspector to determine if the minimum bend radius has been violated at the terminations.
  - i. IN-85-009-001 - Determine from design drawings and interviews with EEU personnel if the 480V receptacles in the Additional Diesel Generator Building have been resized.
7. Conduct a walk-through in various plant areas to try to locate examples of sloppy cable routing practices. Determine what, if any, documentation is available for those problem areas found.
8. Review the inspection process by:
- a. observing a QA cable pull for compliance with procedures

V. Action Plan - Initial (continued)

## Evaluation Plan (continued)

## 8. (Continued)

- b. observing a QA cable termination for compliance with procedures.

Write a summary of the findings of this evaluation. Include a description of the findings and any corrective action required. Also include any additional tests/reinspections required, the root cause determination, and a generic applicability determination.

Staffing: This evaluation plan will require 1 or 2 evaluators. An OC QC inspector will be required on a periodic basis. It will require 500 man-hours for the evaluator with 160 man-hours for the EQC inspector and 250 man-hours for EEU personnel required for assistance.

NOTE: Hours based on one evaluator with 10-hour working days.

V. Action Plan - Initial (continued)

## Evaluation Plan (continued)

## CROSS-REFERENCE MATRIX

Evaluation Plan Step Number	Concern(s) Addressed By Step	Element(s) Addressed	Attribute(s) Addressed
3, 4, 5	A02841018009-002	Cable	Fireproofing cable
3, 4, 5	A02851213001-001	Cable	Cable terminations
4, 5, 6	EX-85-073-001	Cable	Cable splicing Cable pulling
1, 4, 5	EX-85-086-001	Cable	Cable pulling
1, 4, 5, 8	EX-85-092-002	Cable	Cable terminations
1, 4, 5	EX-85-092-003	Cable	Maintaining cable
1, 4, 5	EX-85-157-002	Cable	Cable pulling
1, 4, 5, 6	EX-85-157-003	Cable	Cable terminations
1, 4, 5, 6	IN-85-009-001	Cable	Cable pulling
1, 4, 5	IN-85-018-004	Cable	Cable pulling
1, 4, 5	IN-85-046-001	Cable	Cable pulling
4, 5, 6	IN-85-120-001	Cable	Cable pulling
2	IN-85-186-002	Cable	Fireproofing cable
1, 4, 5	IN-85-186-010	Cable	Cable pulling
2	IN-85-201-002	Cable	Cable pulling
1, 4, 5	IN-85-213-001	Cable	Cable pulling
1, 4, 5	IN-85-255-001	Cable	Cable pulling
1, 4, 5	IN-85-295-003	Cable	Cable pulling
1, 4, 5, 7	IN-85-300-002	Cable	Cable pulling
1, 4, 5, 8	IN-85-314-001	Cable	Cable pulling
4, 5, 8	IN-85-318-001	Cable	Cable pulling
1, 4, 5	IN-85-318-002	Cable	Cable pulling
1, 4, 5, 6	IN-85-318-003	Cable	Cable pulling
1, 4, 5, 8	IN-85-323-002	Cable	Cable pulling
4, 5, 8	IN-85-325-005	Cable	Cable pulling
1, 4, 5	IN-85-346-001	Cable	Maintaining cable
2	IN-85-373-001	Cable	Maintaining cable
1, 4, 5	IN-85-374-001	Cable	Maintaining cable
4, 5, 6	IN-85-425-001	Cable	Cable terminations
1, 4, 5	IN-85-425-004	Cable	Cable pulling
1, 4, 5	IN-85-433-002	Cable	Cable pulling Inspection of cable
1, 4, 5	IN-85-436-004	Cable	Cable pulling
1, 4, 5, 7	IN-85-506-002	Cable	Cable pulling
1, 4, 5	IN-85-527-001	Cable	Cable pulling
1, 4, 5	IN-85-581-001	Cable	Cable pulling
2	IN-85-581-002	Cable	Cable terminations

V. Action Plan - Initial (continued)Evaluation Plan (continued)  
CROSS-REFERENCE MATRIX

Evaluation Plan Step Number	Concern(s) Addressed By Step	Element(s) Addressed	Attribute(s) Addressed
4, 5, 6	IN-85-719-002	Cable	Cable pulling
1, 4, 5	IN-85-720-003	Cable	Cable splicing
1, 4, 5, 8	IN-85-733-001	Cable	Cable pulling
1, 4, 5	IN-85-774-006	Cable	Cable pulling
4, 5	IN-85-856-005	Cable	Cable pulling
1, 4, 5, 6, 8	IN-85-864-001	Cable	Cable terminations
1, 4, 5	IN-85-878-X01	Cable	Cable pulling
4, 5, 8	IN-85-935-001	Cable	Cable pulling
4, 5	IN-85-978-001	Cable	Cable pulling
1, 4, 5	IN-85-993-002	Cable	Cable terminations
1, 4, 5	IN-85-993-006	Cable	Cable pulling
4, 5	IN-85-993-X03	Cable	Cable terminations
1, 4, 5	IN-86-028-001	Cable	Cable pulling
4, 5	IN-86-028-003	Cable	Fireproofing cable
1, 4, 5, 8	IN-86-036-002	Cable	Cable pulling
2	IN-86-199-001	Cable	Cable pulling
2	IN-86-201-001	Cable	Cable pulling
1, 4, 5	IN-86-212-001	Cable	Cable pulling
4, 5	IN-86-212-002	Cable	Cable pulling
1, 4, 5	IN-86-252-004	Cable	Maintaining cable
4, 5	IN-86-254-001	Cable	Cable pulling
4, 5	IN-86-254-002	Cable	Cable pulling
1, 4, 5, 8	IN-86-254-006	Cable	Inspection of cable
2	IN-86-259-001	Cable	Cable pulling
1, 4, 5	IN-86-259-002	Cable	Cable pulling
2	IN-86-259-004	Cable	Cable pulling
			Inspection of cable
2	IN-86-259-005	Cable	Fireproofing cable
1, 4, 5	IN-86-259-007	Cable	Cable terminations
1, 4, 5	IN-86-259-014	Cable	Cable pulling
			Cable splicing
4, 5	IN-86-259-015	Cable	Cable terminations
			Inspection of cable
2	IN-86-262-003	Cable	Cable pulling
1, 4, 5	IN-86-266-001	Cable	Cable pulling
1, 4, 5	IN-86-266-002	Cable	Cable pulling
1, 4, 5	IN-86-266-006	Cable	Cable pulling
2	IN-86-266-X09	Cable	Inspection of cable
1, 4, 5	IN-86-268-002	Cable	Fireproofing cable
2	IN-86-268-003	Cable	Cable pulling
1, 4, 5	IN-86-314-001	Cable	Cable pulling
1, 4, 5, 8	IN-86-314-002	Cable	Cable pulling
4, 5	IN-86-314-003	Cable	Cable terminations
1, 4, 5	IN-86-314-005	Cable	Cable splicing
1, 4, 5	OW-85-007-004	Cable	Fireproofing cable

V. Action Plan - Initial (continued)

## Evaluation Plan (continued)

## CROSS-REFERENCE MATRIX

Evaluation Plan Step Number	Concern(s) Addressed By Step	Element(s) Addressed	Attribute(s) Addressed
4, 5	OW-85-007-005	Cable	Fireproofing cable
4, 5	OW-85-007-012	Cable	Cable pulling
1, 4, 5	PH-85-050-001	Cable	Cable pulling
1, 4, 5	WI-85-011-002	Cable	Cable splicing
1, 4, 5, 6	WI-85-028-001	Cable	Cable splicing
1, 4, 5	WI-85-100-012	Cable	Inspection of cable
1, 4, 5	WI-85-100-013	Cable	Cable pulling
1, 4, 5, 7	WI-85-100-020	Cable	Cable pulling
5	XX-85-008-001	Cable	Cable pulling
5	XX-85-094-004	Cable	Cable pulling
5	XX-85-094-005	Cable	Maintaining cable

VI. Instruction/Criteria for Additional Data Evaluations

(This is to be used when limited additional inspections, test, evaluations are necessary to answer the question in section VIII.)

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

## II. Progress Reporting Requirements and Milestones

MILESTONESCONSTRUCTION CATEGORY

<u>MILESTONE</u>	<u>DATE</u>
<u>No. 1</u> PREPARE FINAL EVALUATION PLAN (FINISH)	<u>31 MAR 86</u>
<u>No. 2</u> PERFORM FINAL EVALUATION (FINISH)	<u>29 APR 86</u>
<u>No. 3</u> COORDINATE WITH LINE MANAGEMENT (FINISH)	<u>06 MAY 86</u>
<u>No. 4</u> FINAL REPORT/CA DRAFT (FINISH)	<u>12 MAY 86</u>
<u>No. 5</u> SRB REVIEW/APPROVAL (FINISH)	<u>16 MAY 86</u>
<u>No. 6</u> ISSUE FINAL REPORT (FINISH)	<u>23 MAY 86</u>

- II. Answer the Question, are Statistical Sampling Actions Tests/Reinspections Necessary?  
(Proceed to preparation of final EP if answer is yes)
- IX. Root Cause Determination
- X. Generic Applicability Determination: Section \_\_\_\_\_, Paragraph \_\_\_\_\_  
of Program Manual         WBN         SQN         BFM         BLN
- XI. Proposed Immediate and Long-Term Corrective Actions
- XII. Prepare Report



Attachment A

QTC QUESTIONNAIRE

Concern No. \_\_\_\_\_

Date: \_\_\_\_\_

1. Without revealing the identity of the CI, can a timeframe for the concern be identified, if so when?
2. Without revealing the identity of the CI, can specific items be identified, if so when?
3. Without revealing the identity of the CI, can any specific locations be identified, if so what are they?
4. Without revealing the identity of the CI, can any other individuals be identified, if so who?

Without revealing the identity of the CI, is there any other information in the QTC file that may be of aid in this investigation (such as, QTC, NSRS, NRC, Construction, Nuclear Power investigation, etc.), if so what?

6. Is this a concern of the Office of Nuclear Power, Construction, or both?

Additional Comments:

04/23/86

(EMPLOYEE CONCERNS)

PAGE: 1

09:15:25

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								A02841018009-002	CD090

KEYWORDS:

X: Y: Z:

CONCERN THAT PROCEDURES DO NOT CONTROL REMOVAL OF COATINGS FROM CABLE (IE, USE OF CORRECT TOOLS, INSPECTION FOR DAMAGE AFTER COATING REMOVAL) (ATT, ITEM 5B)

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								A02851213001-001	CD090

KEYWORDS:

X: Y: Z:

PGS 1 & 2- INSTALLATION OF CABLES USING PANDUIT TIE PLATES FOR CABLE SPACERS IS NOT IN COMPLIANCE WITH WESTINGHOUSE FDSK PROCEDURES & TVA CONTROL DWG 45W1640

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								EX-85-073-001	CD090

KEYWORDS:

X: Y: Z:

BEND RADIUS ON A CABLE HAD TO BE VIOLATED IN ORDER TO MAKE A SPLICE, YET THE CABLE SPLICE WAS INSPECTED AND ACCEPTED. CABLE SCV 2-3V-31-7229 ON VALVE 2 SCV-31-329 LOCATED IN THE INCORE INST. ROOM 105 ELEV. 716 IN SYSTEM #31. THE WIRES WERE SPLICED OUTSIDE, THEN STUFFED INSIDE THE FITTINGS. CONST. DEPT. CONCERN. UNIT 2. C/I HAS NO ADDITIONAL INFO..

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								EX-85-076-003	CD090

KEYWORDS:

X: Y: Z:

CABLE BREAK LINKS WERE NOT USED PRE-1984 CABLE PULLING. POSSIBLE CABLE DAMAGE MAY HAVE RESULTED IN UNIT 2. GENERIC CONCERN. CONSTRUCTION DEPT. CONCERN. CI HAS NO ADDITIONAL INFORMATION.

TECHNICAL COMMENTARY:

04/23/86

(EMPLOYEE CONCERNS)

PAGE: 2

09:15:25

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
			YES					EX-85-086-001	CD090

KEYWORDS:

X: Y: Z:

DURING THE WEEK OF OCTOBER 14, 1985 A CABLE WAS PULLED USING A "COME ALONG" DURING A LONG PULL THAT WENT FROM MANHOLE TO MANHOLE. (NAMES/DETAILS TO THE SPECIFIC CASE ARE KNOWN TO QTC AND WITHHELD TO MAINTAIN CONFIDENTIALITY). CONSTRUCTION DEPT. CONCERN. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								EX-85-092-002	CD090

KEYWORDS:

X: Y: Z:

WIRING WORK AT WATTS BAR IS VERY POOR. THIS IS A GENERIC CONCERN. CI HAS NO FURTHER DETAILS OR SPECIFIC INFORMATION. CONSTRUCTION DEPT. CONCERN.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								EX-85-092-003	CD090

KEYWORDS:

X: Y: Z:

AT WATTS BAR, STEEL FILINGS ARE FOUND INSIDE OPEN CONDUITS WHICH COULD POTENTIALLY DAMAGE INSTALLED CABLE. THIS IS A GENERIC CONCERN. CI HAS NO FURTHER DETAILS OR SPECIFIC INFORMATION. CONSTRUCTION DEPT. CONCERN.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								EX-85-157-002	CD090

KEYWORDS:

X: Y: Z:

LL AND LR CONDUILETTE FITTINGS CAUSE TOO GREAT OF A BEND AT THE FITTINGS FOR THE CABLES. THEY ARE USED SITE WIDE. CONSTRUCTION DEPT. CONCERN. CI HAS NO ADDITIONAL INFORMATION. -GENERIC CONCERN-

TECHNICAL COMMENTARY:

04/23/86

(EMPLOYEE CONCERNS)

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LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
			YES					EX-85-157-003	CD090

KEYWORDS:

X: Y: Z:

UNIT 2, REACTOR BUILDING, MOTOR LEADS FOR 6 OR 7 FAN MOTORS WERE LUGGED BUT NOT TERMINATED AS INDICATED ON THE TERMINATION SLIPS. THE LEADS WERE FRAYED AND DAMAGED. CONSTRUCTION DEPT. CONCERN. CI HAS NO ADDITIONAL INFORMATION. (DETAILS KNOWN TO QTC, WITHHELD DUE TO CONFIDENTIALITY).

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-009-001	CD090

KEYWORDS:

X: Y: Z:

IN MARCH OR APRIL 1985, 480V RECPT'S IN THE ADDITIONAL DIESEL GENERATOR BUILDING FEED CABLES WERE SIZED LARGER THAN THE PLUGS COULD HANDLE. THE ELECT. ENGR. AIDE IN CHARGE OF THIS WORK (NAME GIVEN) DISCUSSED THIS PROBLEM WITH DESIGN ENGINEERING AND WAS TOLD AN ECR WOULD BE ISSUED TO ADDRESS THIS PROBLEM. WHEN ELECT. ENGR. AIDE (NAME GIVEN) TOLD THE ELECT. ENGINEER IN CHARGE OF THE SYSTEM (NAME GIVEN), ENGINEER IN CHARGE OF SYSTEM STATED THAT "I DON'T HAVE TIME TO WORRY ABOUT THIS PROBLEM BECAUSE THE TRANSFER (SCHEDULE) HAD TO BE MET". C/I WITNESSED THE DISCUSSION BETWEEN ENGINEER AND ENG. AIDE AND IS CONCERNED THAT SCHEDULE TOOK

TECHNICAL COMMENTARY:

PRECEDENCE OVER QUALITY.

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
			YES					IN-85-018-004	CD090

KEYWORDS:

X: Y: Z:

SUPERVISION (KNOWN) WOULD NOT FOLLOW CABLE PULLING PROCEDURE. THE WORK PROCEEDED WITHOUT PERMITS AS REQUIRED BY PROCEDURE. SUMMER 1984. CONSTRUCTION DEPT CONCERN. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

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(EMPLOYEE CONCERNS)

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
			YES					IN-85-046-001	CD090

KEYWORDS:

X: Y: Z:

DURING CABLE PULL IN UNIT 1, ELEV. 737', FAN ROOM A-2 & T, CABLES BEING PULLED THROUGH 3" CONDUIT BECAME STUCK. AFTER SEVERAL ATTEMPTS TO PULL IN CABLES WITHOUT ANY SUCCESS, GENERAL FOREMAN (NAME GIVEN) INSTRUCTED ELECTRICAL FOREMAN (NAME GIVEN) TO USE A COME-A-LONG TO PULL OUT CABLES FROM 3" CONDUIT. G.C. INSPECTOR (NAME GIVEN) WITNESSED AND REPORTED THE USE OF THE COME-A-LONG TO PULL OUT CABLES. ELECT. FOREMAN WAS GIVEN 2 WEEKS OFF FOR VIOLATION WHILE GENERAL FOREMAN, WHO WAS RESPONSIBLE FOR VIOLATION, WAS NOT. C/I DOES NOT KNOW CABLE, SYSTEM OR CONDUIT NUMBERS. NO FOLLOW-UP REQUIRED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-120-001	CD090

KEYWORDS:

X: Y: Z:

WBNF UNIT 1, THE TRIAXIAL CABLES (WTV TYPE) FOR THE NEUTRON FLUX DETECTORS IS NOT SUPPORTED FROM WHERE THE CABLES EXIT FROM THE REACTOR CAVITY STAINLESS STEEL WALL FROM A RACEWAY, TO THE TERMINATIONS ON THE DETECTORS. C/I COULD NOT PROVIDE ANY ADDITIONAL INFORMATION.  
NO FURTHER INFORMATION AVAILABLE.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-186-002	CD090

KEYWORDS:

X: Y: Z:

INSULATION ON CONDUIT AND CABLE WRAP IS WRONG IN SELECTED AREAS OF BOTH UNITS, PARTICULARLY ON THE 737' ELEVATION, LINES A-8 & S. PROCEDURE CALLS FOR FIVE LAYERS "PINCHED INSTALLATION". THE TOP LAYER (5TH) SHOULD BE REMOVED AND THE FIRST FOUR LAYERS CHECKED FOR PROCEDURE COMPLIANCE.

TECHNICAL COMMENTARY:

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(EMPLOYEE CONCERNS)

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-186-010	CD090

KEYWORDS:

X: Y: Z:

INDIVIDUAL (NAME KNOWN) WAS ORDERED BY FORMAN (NAME AVAILABLE) TO INSULATE A PENETRATION (DOSEN'T KNOW LOCATION) IN #2 AUX. BLDG. WHICH HAD A CUT WIRE PRESENT IN THE PENETRATION, THUS MASKING A DEFECTIVE CONDITION. INDIVIDUAL FELT HE HAD NO RECOURSE EXCEPT TO COMPLY WITH THIS INSTRUCTION DUE TO THE CERTAINTY OF JOB REPRISAL ACTIONS IF HE DID NOT COMPLY.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-201-002	CD090

KEYWORDS:

X: Y: Z:

DURING CABLE PULLING CI RECOMMENDS GETTING THE CABLE THROUGH TO THE FIRST OUTLET BEFORE MAKING THE PULL TEST ON THE CABLE. UNITS 1 AND 2. CONSTRUCTION DEPT. CONCERN. CI COULD NOT PROVIDE ANY ADDITIONAL DETAILS/SPECIFICS.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-213-001	CD090

KEYWORDS:

X: Y: Z:

CABLE PULLING PROCEDURES WERE CHANGED AROUND 1981. ITEMS SUCH AS PULL TENSIONS WERE MODIFIED. NO CORRECTIVE ACTION WAS TAKEN FOR CABLE PULLED PRIOR TO PROCEDURE CHANGE. PERTAINS TO BOTH UNITS.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-255-001	CD090

KEYWORDS:

X: Y: Z:

CONDUIT ARE TOO FULL AND CABLE PULLING WAS VIOLATED IN THAT THE MAXIMUM TENSION FOR PULLING CABLE WAS EXCEEDED. NO PULL TENSION MEASURING DEVICE WAS AVAILABLE FOR USE. THIS EXISTED PRIOR TO 1 YEAR AGO (5/84) AND OCCURRED IN THE TURBINE AND AUX BLDGS., UNITS 1 & 2.

TECHNICAL COMMENTARY:

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(EMPLOYEE CONCERNS)

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LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-295-003	CD090

KEYWORDS:

X: Y: Z:

CABLE PULLS WERE PERFORMED IN A "RUSHED" MANNER. CABLES WHICH WERE PULLED UNDER THE OLD "UNCONTROLLED" PROCEDURE WERE POSSIBLY NOT RECHECKED. TIME FRAME OF OLD PROCEDURE PRIOR TO 1982 (APPROX.) NO FURTHER DETAILS AVAILABLE.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-300-002	CD090

KEYWORDS:

X: Y: Z:

CABLES IN CABLE TRAYS, PARTICULARLY IN THE CABLE SPREADING ROOM (BOTH UNITS), ARE IMPROPERLY ROUTED AND PULLED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-314-001	CD090

KEYWORDS:

X: Y: Z:

CABLE IS PULLED ONE AT A TIME AND THEREFORE THE TENSION EXCEEDS THE MAX. VALUE DUE TO TANGLING IN UNIT #2. CI COULD PROVIDE NO SPECIFIC LOCATIONS. CONSTRUCTION CONCERN. NO FURTHER INFORMATION AVAILABLE.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-318-001	CD090

KEYWORDS:

X: Y: Z:

CABLE PULL EXCEEDS MAX. TENSION DUE TO HAVING TO PULL SO MANY FEET IN ONE SHIFT. UNITS 1 & 2. CI COULD NOT PROVIDE ANY SPECIFIC LOCATIONS OF DEFECTIVE WORK. CI HAS NO FURTHER INFORMATION. CONSTRUCTION CONCERN. UNIT 1 & 2.

TECHNICAL COMMENTARY:

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(EMPLOYEE CONCERNS)

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LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-318-002	CO090

KEYWORDS:

X: Y: Z:

CABLE PULLED SO TIGHT WHITE NYLON ROPE BROKE AND WAS BLACK FROM RUBBING AGAINST CABLE. MANHOLE OUTSIDE OF SERVICE BUILDING AT BIG DRIVE-IN DOORS. MAX. TENSION EXCEEDED. CABLE WAS BEING PULLED BY TRUCK. TWO YEARS AGO. CONSTRUCTION CONCERN. UNIT 1. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-318-003	CO090

KEYWORDS:

X: Y: Z:

PULLING 750 KV CABLE UNDER A TIGHT SCHEDULE TO DO SO MANY FEET OF CABLE PER SHIFT. CABLE WAS DEFECTIVE WITH A 7" - 8" SPLIT IN INSULATION. CALLED QC. QC INSPECTOR SAID GO AHEAD AND PULL IT AND IT WOULD BE CORRECTED LATER. NO HOLD TAG WAS HUNG AND CI DOES NOT KNOW IF AN NCR WAS LATER WRITTEN. UNIT #2 REACTOR BUILDING 703' ELEVATION. CABLE WENT TO REACTOR COOLING FAN (SEE 4' SQUARE CAN ON OUTSIDE WALL). CI COULD NOT PROVIDE ANY ADDITIONAL INFORMATION. CONSTRUCTION CONCERN. UNIT 1.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-323-002	CO090

KEYWORDS:

X: Y: Z:

CABLE PULLED THRU ALREADY OVERLOADED CONDUIT MAY BE DAMAGED DUE TO EXCESSIVE FORCE. THIS CONCERN WAS EXPRESSED AS SECOND-HAND INFORMATION TO ERT AS A GENERIC CONCERN. INTAKE PUMPING STATION CABLES TO POWER BLOCK WERE PULLED WITH EXCESSIVE FORCE CAUSING DAMAGE TO CABLES. CI DOESN'T KNOW IF CABLES WERE REPAIRED. NUC POWER CONCERN. UNIT 1 & 2. CI HAS NO ADDITIONAL INFORMATION.

TECHNICAL COMMENTARY:



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(EMPLOYEE CONCERNS)

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-325-005	CO090

KEYWORDS:

X: Y: Z:

NUMEROUS NON-SPECIFIC INSTANCES WERE RELATED REGARDING  
OVERSTRESS OF CABLES DURING PULLING OPERATIONS. (ELECTRICAL  
CABLES, BOTH UNITS 1&2) OVERSTRESS WAS OF SUFFICIENT SEVERITY TO  
CAUSE MULTIPLE INSTANCES OF 1" MANILA ROPE BREAKING. NO SPECIFICS  
(NAMES, DATES, LOCATIONS) WERE PROVIDED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-346-001	CO090

KEYWORDS:

X: Y: Z:

CABLE IS LEFT UNPROTECTED ON FLOOR WHEN PULLED THROUGH  
CONDUIT AND VALVE, ETC., IS NOT INSTALLED OR READY FOR CONNECTION.  
LOCATION IS VALVE ROOM CONNECTED TO AUX BLDG. APPROXIMATELY 727'  
ELV. UNDERNEATH BORON TANK, UNIT # 2, MID-MAY 1985.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-373-001	CO090

KEYWORDS:

X: Y: Z:

DAMAGED CABLE IN RB 11 ROD DRIVE CONTROL CABINET. CABLE  
SIZE IS A.W.G 1/0 OR 2/0 LOCATED IN AUX. BLDG. ELE. 272 ABOUT 3'  
FROM END OF CABLE.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-374-001	CO090

KEYWORDS:

X: Y: Z:

CABLE UNPROTECTED AFTER PULL AND WHEN THE RECIPIENT  
(VALVE, ETC....) IS NOT AVAILABLE TO TERMINATE CABLE. THE CABLE IS  
USUALLY TIED ORIGINALLY BUT BECOMES UNTIED AND IS ON FLOOR AND  
NEVER WRAPPED TO PROTECT FROM ENVIRONMENT.

TECHNICAL COMMENTARY:

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(EMPLOYEE CONCERNS)

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-425-001	CD090

KEYWORDS:

X:

Y:

Z:

JUNCTION BOX 1918 (JB # COULD BE IN ERROR) AT  
ACCUMULATOR #4, UNIT #2, WBNP HAS APPROX 200 TERMINATIONS. JB IS  
SO OVER-CROWDED THAT THE DOOR HAS TO BE PRIED SHUT. POSSIBILITY  
EXISTS FOR MINIMUM BEND RADIUS VIOLATIONS, BENT LUGS, ETC.  
INDIVIDUAL REPORTED THIS TO SUPERVISOR WHO TURNED IT OVER TO QC.  
NO RESPONSE OR CORRECTIVE ACTION THAT THE INDIVIDUAL IS AWARE OF.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-425-004	CD090

KEYWORDS:

X:

Y:

Z:

QCI (NUMBER UNKNOWN) REQUIRES "SWABBING" OF CONDUIT PRIOR TO CABLE  
PULLS. INDIVIDUAL STATED THAT THERE HAVE BEEN "MANY" CABLES PULLS WITHOUT  
SWABBING THE CONDUITS. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-433-002	CD090

KEYWORDS:

X:

Y:

Z:

THE CABLE ON UNITS 1&2 HAS BEEN PULLED SO HARD (MANUALLY  
NOT MECHANICALLY) THAT THE INSULATION SLIPS OR BREAKS. THE CABLE  
THAT BREAKS IS CORRECTED BUT THE DAMAGED CABLE IS IGNORED AND LEFT  
FOR THE MEGGER TEST TO DETERMINE DAMAGE. CRAFT ARE OFTEN ORDERED  
NOT TO WAIT FOR QC INSPECTORS.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-436-004	CD090

KEYWORDS:

X:

Y:

Z:

TOO MANY WIRES IN ONE CONDUIT BEING PULLED OVER ENERGIZED  
WIRES. PRIOR TO 1 YR. AGO THIS DATE (6-8-85) THE MAX. PULL  
TENSION WAS NOT MONITORED.

TECHNICAL COMMENTARY:

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(EMPLOYEE CONCERNS)

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								IN-85-506-002	CD090

KEYWORDS:

X: Y: Z:

A GENERIC CONCERN WAS EXPRESSED REGARDING "SLOPPY" ROUTING OF CABLES IN CABLE TRAYS AND CABLES PARTIALLY OUT OF TRAYS AT CORNERS AND VERTICAL RISERS. NO SPECIFIC LOCATIONS, UNITS, OR OTHER DETAILS WERE PROVIDED. CONCERN WAS RELATED AS "ANYWHERE YOU LOOK".

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								IN-85-527-001	CD090

KEYWORDS:

X: Y: Z:

AN A-TRAIN CABLE WAS APPARENTLY PULLED WITHOUT FUSE LENGTH. SUPERVISORS SAID TO CUT OFF EXCESS CABLE EVEN WITH ADJACENT CABLE THAT HAD BEEN PULLED CORRECTLY. WHEN A CRAFT WORKER WROTE A NOTE DOCUMENTING THIS ORDER, THE SUPERVISOR TOLD THE CREW TO HOLD OFF BECAUSE "DAY SHIFT MIGHT BE SETTING US UP." THE SUPERVISOR SAID HE WOULD SEND THE QC INSPECTOR ON A WILD GOOSE CHASE SO CRAFT COULD CUT THE WIRE.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								IN-85-581-001 A	CD090

KEYWORDS:

X: Y: Z:

CABLE PULLING METHODS USED DURING 1976-1979 WERE NOT PROPER. AND COULD HAVE DAMAGED THE CABLE. EXAMPLES: CONDUIT WAS NOT CLEANED ON SYSTEM 257 RUNS FROM UNIT 1 AUX BLDG TO 692' ELEVATION CONTROL BLDG. WHEN CABLE WAS PULLED, A LARGE QUANTITY OF ORGANICS, WATER, ROCKS AND GRAVEL WERE PUSHED OUT OF THE CONDUITS. THIS COULD HAVE DAMAGED THE CABLE INSULATION. CABLES THAT RUNS FROM INTAKE PUMPING STATION TO MANHOLE AT SOUTH EAST CORNER OF TURBINE BLDG NEXT TO THE RAILROAD BAY ALSO WERE PULLED WITHOUT CLEANING CONDUIT.

TECHNICAL COMMENTARY:

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-581-001 B	CD090

KEYWORDS:

X: Y: Z:

6900 VOLT CABLE THAT POWERS THE REACTOR COOLING PUMPS WAS PULLED WITH A WINCH TRUCK, AND NO DYNOMETER WAS USED. (THESE CABLES RUN FROM AUX BLDG 737' ELEV., NORTH EST SIDE. THROUGH PENETRATION TO 757' ELEV. TO 780' ELEV., AND THEN TO ANNULUS PENETRATION (WHERE CABLE TYPE CHANGES). CI HAD NO MORE INFORMATION. CONSTRUCTION DEPT. CONCERN.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-581-002	CD090

KEYWORDS:

X: Y: Z:

WELDERS WHICH WERE NOT QUALIFIED AS ELECTRICIANS WERE USED TO TERMINATE ELECTRICAL CABLES. THIS WAS DONE ON DAY SHIFT AT SENIOR MANAGERS (KNOWN) DIRECTION IN THE AUX. BLDG. -TO-INTAKE PUMP STRUCTURE UNDERGROUND DUCTS. (1979, CONSTRUCTION) THE CI HAD NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-719-002	CD090

KEYWORDS:

X: Y: Z:

ELECTRIC CABLES EXIT CABLE TRAY OVER A SHARP EDGE INTO A PENETRATION. THESE CABLES MAY ALSO VIOLATE MINIMUM BEND CRITERIA. LOCATION IS AZIMUTH 330 (CRANE WALL) ELEVATION 745' OVER LOOP #3 PUMP, UNIT #2. PENETRATION NUMBERS INCLUDE 2RR-3065/2RR-3060/2RR-3064/2RR-3074/2RR-3075.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-720-003	CD090

KEYWORDS:

X: Y: Z:

THE MAIN SWITCHYARD ON WATTS BAR SITE HAS ELECTRICAL CABLES WHICH HAVE SPLICES. THESE SPLICES HAVE ALREADY CAUSED PROBLEMS. CI DECLINED TO BE CONTACTED FOR ADDITIONAL INFORMATION.

TECHNICAL COMMENTARY:

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								IN-85-733-001	CD090

KEYWORDS:

X: Y: Z:

SUPERVISION IS INTERESTED IN QUANTITY RATHER THAN QUALITY.  
"GET IT IN" IS THE SLOGAN. CABLES ARE PULLED ROUGHLY AROUND SHARP  
CORNERS AND BENDS, WHEN THE CONDUITS ARE FULL. ELEV 729', 737', 747',  
AND 759' AUX. BLDG. UNIT 2. ALSO PROBLEM EXISTS IN CONTROL ROOM UNITS  
1 & 2. CI HAS NO FURTHER INFORMATION. CONSTRUCTION DEPT. CONCERN.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								IN-85-774-006	CD090

KEYWORDS:

X: Y: Z:

CABLE WAS PULLED UTILIZING A "COME-ALONG". CABLE IS LOCATED IN UNIT 1, FAN ROOM  
AUX. BLDG. A2 T&U LINE LINE, ELEV. 737. INCIDENT OCCURED IN 1983. DETAILS KNOWN  
TO QTC, WITHHELD DUE TO CONFIDENTIALITY. NO FURTHER INFORMATION MAY BE RELEASED.  
CONST. DEPT. CONCERN

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								IN-85-856-005	CD090

KEYWORDS:

X: Y: Z:

THE PRACTICE OF USING A BREAK ROPE WHEN PULLING CABLE DID NOT  
BECOME EFFECTIVE UNTIL 1984 AFTER ALL THE "BIG" PULLS WERE MADE 3+YEARS  
AGO WITHOUT BREAK ROPES.  
NO MORE INFORMATION AVAILABLE.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								IN-85-864-001	CD090

KEYWORDS:

X: Y: Z:

SOMETIMES ELECTRICIANS MUST VIOLATE THE MINIMUM BEND RADIUS  
TO COMPLETE A TERMINATION. THIS IS DONE BECAUSE IT IS IMPOSSIBLE TO  
GET THE WIRES INTO TERMINATING POSITION WITHOUT THIS EXCESSIVE BENDING.  
EXAMPLES MAY BE FOUND IN THE MICRO LIMIT SWITCHES LOCATED IN THE SOUTH  
FAN ROOM OF UNIT #2. NO ADDITIONAL INFORMATION AVAILABLE IN FILE.  
CONSTRUCTION DEPARTMENT CONCERN.

TECHNICAL COMMENTARY:

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LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-878-X01	CD090

KEYWORDS:

X: Y: Z:

INDIVIDUAL EXPRESSED THAT QA REQUIREMENTS RELATIVE TO CONSTRUCTION/ MAINTENANCE ACTIVITIES (PARTICULARLY CABLE PULLING) ARE "SILLY AND STUPID", AND THAT CI HAD NEVER PULLED CABLE IN THIS MANNER AT ANY OTHER TVA FACILITY.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-935-001-090	CD090

KEYWORDS:

X: Y: Z:

C.I. STATES THAT 70% TO 75% OF THE CABLE INSTALLED IS BAD AND IT SHOULD BE REPLACED. WHEN THE CABLE WAS INSTALLED, PRESSURE BY SUPERVISORS CAUSED PRODUCTION NOT QUALITY. CABLE WAS PULLED WITHOUT PROPER EQUIPMENT. BEND RADIUS WAS VIOLATED AND PULLING PROCEDURE WAS NOT FOLLOWED. AFTER CABLE WAS IN PLACE, IT WAS NOT PROTECTED AND WAS DAMAGED FURTHER BY CONSTRUCTION. (UNIT 2)

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
			YES					IN-85-978-001	CD090

KEYWORDS:

X: Y: Z:

SUPERVISOR (KNOWN) DIRECTED THAT ELECTRICAL CABLE BE PULLED WITH CHERRY PICKERS, MACK TRUCKS, AND TRUCK MOUNTED WINCHES. PROBLEM WAS WIDESPREAD. EXAMPLES INCLUDE (A) MUCH OF THE LARGE CABLE IN BURIED CONDUIT IN THE 500 KV SWITCHYARD, AND (B) 500 MCM CABLE THAT IS NOW INSIDE THE TURBINE BUILDING #1, BUT WHICH WAS PULLED BY A MACK TRUCK USING A STEEL CABLE. CONDUIT ENDS WERE IN LINE WITH THE DOOR IN THE TURBINE BLDG. THAT OPENS IN THE DIRECTION OF THE 500 KV SWITCHYARD. THE MACK TRUCK WAS STATIONED IN THE THEN INCOMPLETE SWITCHYARD. 1976. CI HAS NO FURTHER INFORMATION. CONSTRUCTION DEPT. CONCERN.

TECHNICAL COMMENTARY:

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-986-X02	CD090

KEYWORDS: DRAWINGS CONDUIT ISO. COMPLETENESS

X: Y: Z:

THE ISOMETRIC DRAWINGS FOR ALL THE CONDUIT IN UNIT #1 HAVE NOT BEEN GENERATED AS OF THIS DATE 7/31/85. CI HAS NO MORE INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
			YES					IN-85-993-002	CD090

KEYWORDS:

X: Y: Z:

ELECTRICAL LUGS WERE CRIMPED WITH WRONG SIZE CRIMPING TOOL, BUT INSTEAD OF REPLACING LUGS, THEY WERE RE-CRIMPED USING CORRECT SIZE TOOL. DETAILS KNOWN TO QTC, WITHHELD DUE TO CONFIDENTIALITY. NO FURTHER INFORMATION MAY BE RELEASED. CONSTRUCTION DEPARTMENT CONCERN.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-993-006	CD090

KEYWORDS:

X: Y: Z:

NOT ALL ELECTRICAL INSPECTIONS SHEETS PROVIDED OBJECTIVE EVIDENCE THAT ELECTRICAL CABLE SIDE WALL TENSION MAXIMUM VALUES WERE NOT EXCEEDED DURING PULLING. CI HAD NO FURTHER INFORMATION. CONST. DEPT. CONCERN NO FOLLOW UP REQUIRED

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-993-X03	CD090

KEYWORDS:

X: Y: Z:

WIRING LUGS HAVE BEEN INSTALLED BACKWARDS, AND THIS CAUSED PREVENTABLE REWORK. INCIDENTS HAVE OCCURRED PLANT WIDE. CONSTRUCTION DEPARTMENT CONCERN. C/I HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-028-001	CD090

KEYWORDS:

X: Y: Z:

CABLE PULL LIMITS WERE EXCEEDED ON THE CABLE GOING TO THE INTAKE PUMPING STRUCTURE (IPS) ELECTRICAL MAN HOLES 3, 4, 5, 6, 7, 8. CI HAS NO ADDITIONAL INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-028-003	CD090

KEYWORDS:

X: Y: Z:

TIE-WRAPPS WERE CUT (HOLDING ELECTRICAL CABLE TRAYS), AND CABLES "BUNCHED UP" (480 AND BELOW) PRIOR TO THE APPLICATION OF "FLAMEASTIC" (FIRE PROTECTION) TO THE CABLES. AFFECTED CABLE IS ANYPLACE ALONG "Q" LINE WALL BETWEEN THE CONTROL BUILDING AND THE AUXILIARY BUILDING; ELEVATION 741 ON THE CONTROL BUILDING SIDE, AND ELEVATION 737 ON THE AUXILIARY BUILDING SIDE. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
			YES					IN-86-036-002	CD090

KEYWORDS:

X: Y: Z:

CABLE PULLING PROCEDURES WERE VIOLATED BY NOT USING STRAIN GAUGES/FUSE LINKS AS REQUIRED. UNIT 2. DETAILS KNOWN TO QTC, WITHHELD DUE TO CONFIDENTIALITY. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-199-001	CD090

KEYWORDS:

X: Y: Z:

CABLE PULLS ARE NOT ALWAYS PERFORMED TO THE REQUIREMENTS OF THE QCI. FOR EXAMPLE, BREAK LINKS WERE NOT USED DURING CABLE PULLS, AND CONDUITS ARE TOO FULL. CONSTRUCTION CONCERN. CI HAS NO ADDITIONAL INFORMATION.

TECHNICAL COMMENTARY:



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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-201-001	CD090

KEYWORDS:

X:

Y:

Z:

CABLE PULLING LIMITS MAY HAVE BEEN EXCEEDED DURING CABLE PULLS BEFORE 1982. CI STATES THAT PULLING LIMITS WERE NOT ADHERED TO OR MONITORED BEFORE THAT DATE. CONST. DEPT. CONCERN. CI HAS NO ADDITIONAL INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-212-001	CD090

KEYWORDS:

X:

Y:

Z:

CI STATED THAT CABLE PULL LIMITS HAVE BEEN EXCEEDED IN CONSTRUCTION OF UNITS 1 & 2. (AUX BLDG, 737' ELEV, SYSTEM 31, MAY - JUNE 1985) CONSTRUCTION DEPT. CONCERN. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
			YES					IN-86-252-004	CD090

KEYWORDS:

X:

Y:

Z:

A CABLE WAS POTENTIALLY DAMAGED INADVERTENTLY BY CRAFT DRILLING IN A CABLE TRAY. DETAILS KNOWN TO QTC, WITHHELD DUE TO CONFIDENTIALITY. CONSTRUCTION DEPT. CONCERN. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-254-001	CD090

KEYWORDS:

X:

Y:

Z:

ELECTRICAL CABLES WERE OFTEN PULLED BY TRUCK OR OTHER MEANS NOT ALLOWED BY PROCEDURE. EXAMPLE CITED OCCURRED IN 1978-1979. CABLE PULLS TO THE INTAKE PUMPING STATION FROM THE TURBINE AND AUXILIARY BLDG. "FUSE LINKS" WERE BY PASSED BY USING STEEL CABLE CHOKERS. CONSTRUCTION DEPT. CONCERN. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								IN-86-254-002	CO090

KEYWORDS:

X:

Y:

Z:

ELECTRICAL CABLES WERE PULLED FROM MANHOLES 1 AND 2 TO AUX BUILDING ELEVATION 737. A STEEL CABLE WAS HOOKED BEFORE AND AFTER THE FUSE LINK TO ENABLE THE CABLE TO BE PULLED SHOULD THE FUSE LINK BREAK. THE CABLE WAS PULLED DURING 1ST SHIFT IN 1978-79. (CREWS KNOWN) THE CABLE BEING PULLED WAS LOW, MEDIUM, AND HIGH VOLTAGE. THE CABLE WAS FOR UNITS I & II. CI HAS NO FURTHER INFORMATION. CONSTRUCTION DEPT. CONCERN.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								IN-86-254-006	CO090

KEYWORDS:

X:

Y:

Z:

CONSTRUCTION CABLE PULLING INSPECTIONS PRIOR TO 1978-79. THAT WERE PERFORMED BY ENGINEERING WERE NOT THOROUGH. IN MANY CASES ENGINEERS WERE NEVER REQUESTED TO PERFORM INSPECTIONS. CI IS NOT SURE THAT THESE INSPECTIONS WERE EVER DOCUMENTED. QC INSPECTIONS ARE STILL INADEQUATE AS NOT ENOUGH INSPECTORS ARE UTILIZED DURING A LONG PULL. INSPECTORS ARE NOT STATIONED AT CRITICAL LOCATIONS DURING THE PULL. (EXAMPLE: IN AND OUT OF MANHOLES AND JB BOXES). CONSEQUENTLY, NONCONFORMING CONDITIONS MAY EXIST IN THE FIELD. (UNITS I AND II) CI HAS NO FURTHER INFORMATION. CONSTRUCTION DEPT. CONCERN.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								IN-86-259-001	CO090

KEYWORDS:

X:

Y:

Z:

TVA FAILED TO USE FUSE LINKS OR OTHER TENSION INDICATORS WHILE PULLING CABLE. FUSE LINKS HAVE ONLY BEEN USED IN THE PAST 1 1/2 YEARS. CONSTRUCTION DEPT. CONCERN. CI HAS NO ADDITIONAL INFORMATION.

TECHNICAL COMMENTARY:

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-259-002	00090

KEYWORDS:

X:

Y:

Z:

CONSTRUCTION ATTACHED A STEEL CABLE BEFORE AND AFTER THE FUSE LINK TO ENABLE THE CABLE PULL TO CONTINUE SHOULD THE FUSE LINK BREAK. FOR YEARS NO PROCEDURES EXISTED, NOR WERE FUSE LINKS USED TO PREVENT CABLE DAMAGE DURING CABLE PULLS. CABLES WERE DAMAGED OR BROKEN DURING MANY PULLS. EXAMPLE: AUX. BUILDING ELEVATION 737 ABOUT A2 AND "T" LINES. THERE'S A CONDUIT THAT RUNS INTO THE NORTH STEAM VALVE ROOM, UNIT 1. 2 OR 3 CONDUCTORS, #16, "Q" CABLE, BROWN TRAIN. THIS HAPPENED AROUND SUMMER 1980. CI HAS NO ADDITIONAL DETAILS. CONST. DEPT CONCERN.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
			YES					IN-86-259-004	00090

KEYWORDS:

X:

Y:

Z:

CABLES HAVE BEEN PULLED AT WATTS BAR BY USING A COME-A-LONG WINCH. DOORS WERE HELD SHUT TO PREVENT QC OBSERVATION. CONSTRUCTION DEPT CONCERN. (DETAILS TO THIS SPECIFIC CASE ARE KNOWN TO QTC AND WITHHELD TO MAINTAIN CONFIDENTIALITY). CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-259-005	00090

KEYWORDS:

X:

Y:

Z:

MANY ELECTRICAL CABLES WERE BUNCHED TOGETHER IN CABLE TRAYS TO MAKE IT EASIER TO COVER THEM WITH INSULATION (VEMASCO) OR FLAMEASTIC. THIS MAY RESULT IN HEAT BUILDUPS. CONSTRUCTION DEPT. CONCERN: CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

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LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
			YES					IN-86-259-007	CO090

KEYWORDS:

X: Y: Z:

AN ELECTRICIAN WAS ORDERED TO RELUG A 7 OR 9 WIRE #12 CABLE THAT WAS MISTAKENLY CUT DURING CONSTRUCTION. THE ELECTRICIAN WAS INSTRUCTED TO PERFORM THIS WORK WITHOUT PROPER PAPERWORK. THE CABLE IS LOCATED IN THE MAIN STEAM VALVE ROOM OF UNIT I, SOUTH ROOM. THE WORK WAS PERFORMED IN 1983. IN THE SUMMERTIME. THE CABLE RUNS FROM THE JUNCTION BOX INSIDE THE DOOR TO THE AUX. BUILDING. CI DOES NOT THINK THAT THE CABLE WAS RETESTED AFTER RELUGGING. DETAILS KNOWN TO QTC, WITHHELD DUE TO CONFIDENTIALITY. NO FURTHER INFORMATION MAY BE RELEASED. CONST. DEPT. CONCERN. CI HAS NO ADDITIONAL INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-259-014	CO090

KEYWORDS:

X: Y: Z:

CABLE BROKE DUE TO IMPROPER PULLING METHODS. CABLE WAS THEN SPLICED AND PULLED INTO CONDUIT. CABLE WAS CONTROL CABLE TWO, GOING FROM ELEV. 737' AUXILIARY BUILDING TO THE OUTSIDE MANHOLES. INCIDENT OCCURRED APPROX. 1980. CONSTRUCTION DEPT. CONCERN. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
			YES					IN-86-259-015	CO090

KEYWORDS:

X: Y: Z:

QC PERSONNEL (KNOWN) OBSERVED CABLES BEING RELUGGED WITHOUT PROPER PAPERWORK. AFTER THE WORK WAS COMPLETED, THE QC PERSONNEL INSPECTED THE UNAUTHORIZED WORK. UNIT I, SOUTH MAIN STEAM VALVE ROOM, SUMMER OF 1983. THE CABLE RUNS FROM THE JUNCTION BOX INSIDE THE DOOR, TO THE AUXILIARY BUILDING. CONST. DEPT. CONCERN. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-262-003	CD090

KEYWORDS:

X: Y: Z:

UNITS 1&2. APPROXIMATELY A YEAR AND ONE-HALF AGO (1983) A BREAK LINK WAS TO BE USED DURING A CABLE PULL; HOWEVER, A "STEEL CHOKER" IS STILL BEING ADDED AND THE PROBABILITY OF EXCEEDING THE MAXIMUM PULL TENSION IS VERY HIGH. MOST OF THE CABLE HAD BEEN PULLED BY 1983. CONSTRUCTION DEPT CONCERN. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-266-001	CD090

KEYWORDS:

X: Y: Z:

CABLE PULLING HAS BEEN ACCOMPLISHED BY TRUCKS, AND WINCHES AT DIFFERENT TIMES. NO ADDITIONAL INFORMATION AVAILABLE IN FILE. CONST. DEPT. CONCERN

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-266-002	CD090

KEYWORDS:

X: Y: Z:

MANY CABLES WERE PULLED AT WATTS BAR WITHOUT USING FUSE LINKS. NO ADDITIONAL INFORMATION IN FILE. CONST. DEPT. CONCERN

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-266-005	CD090

KEYWORDS:

X: Y: Z:

THE NRC WAS NOTIFIED, AND INVESTIGATED THE CONCERN REGARDING THE SPlicing OF ELECTRICAL CABLES; HOWEVER, C/I HAS NO KNOWLEDGE OF ANY ACTION TAKEN. NAMES KNOWN TO QTC, WITHHELD TO MAINTAIN CONFIDENTIALITY. NO FURTHER INFORMATION MAY BE RELEASED. CONSTRUCTION DEPARTMENT CONCERN. NO FOLLOW-UP REQUIRED.

TECHNICAL COMMENTARY:

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(EMPLOYEE CONCERNS)

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-266-006	CD090

KEYWORDS:

X: Y: Z:

MANY CABLES WERE PULLED AROUND 90 DEGREE BENDS WITHOUT MAINTAINING PROPER PLACEMENT IN THE CABLE TRAYS. NO ADDITIONAL INFORMATION AVAILABLE IN FILE. CONST. DEPT. CONCERN

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-268-002	CD090

KEYWORDS:

X: Y: Z:

BY REMOVING VAMUSCO FROM ELECTRICAL CABLES WITH A KNIFE OR OTHER SHARP OBJECTS PROVIDES A POTENTIAL FOR DAMAGING THE ELECTRICAL CABLES. CI DOES NOT KNOW ANY SPECIFICS, NOR HAS ANY ADDITIONAL INFORMATION. CONSTRUCTION DEPARTMENT CONCERN.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-268-003	CD090

KEYWORDS:

X: Y: Z:

CABLES WERE INSTALLED IMPROPERLY IN THE CONTROL BLDG., AT ELEVATION 729' AND 741' SPREADER ROOM. CABLE SEPERATION WAS IMPROPER BEFORE PAINTING WITH INSULATION. (FLANUASTIC OR VEMASCO). CONSTRUCTION DEPT. CONCERN. CI HAS NO ADDITIONAL INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-314-001	CD090

KEYWORDS:

X: Y: Z:

IT IS COMMON PRACTICE TO UTILIZE IMPROPER CABLE PULLING TECHNIQUES AT WATTS BAR. CABLES WERE PULLED FROM THE SWITCHYARD TO THE DIESEL GENERATOR BUILDING IN 1983 BY USING A WINCH TRUCK, AND HAND COME-ALONG . NO FURTHER DETAILS AVAILABLE IN FILE. CONST. DEPT. CONCERN  
NO FOLLOW UP REQUIRED

TECHNICAL COMMENTARY:

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								IN-86-314-002	CD090

KEYWORDS:

X: Y: Z:

CABLE PULLING PROCEDURES ARE INADEQUATE. CONSTRUCTION DEPT.  
CONCERN. C/I HAS NO ADDITIONAL INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								IN-86-314-003	CD090

KEYWORDS:

X: Y: Z:

MANY CABLES ARE TERMINATED WITHOUT HAVING ANY TYPE OF RESISTANCE OR CONTINUITY  
TEST PERFORMED FIRST. NO ADDITIONAL INFORMATION AVAILABLE IN FILE.CONST.DEPT.  
CONCERN. NO FOLLOW UP REQUIRED

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								IN-86-314-005	CD090

KEYWORDS:

X: Y: Z:

CABLE SPLICING IN MANY CASES HAS BEEN IMPROPER AND NOT DOCUMENTED CORRECTLY.  
(E.G. A CONDUCTOR HAD A HOLE IN THE OUTER INSULATION, A SUPERVISOR WAS CALLED TO  
LOOK AT IT AND HE SAID "TAPE IT OVER AND PULL IT IN", 1983). ADDITIONAL  
INFORMATION KNOWN TO QTC, WITHHELD TO MAINTAIN CONFIDENTIALITY. NO FURTHER  
INFORMATION MAY BE RELEASED. CONSTRUCTION DEPT. CONCERN  
NO FOLLOW UP REQUIRED

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								OW-85-007-004	CD090

KEYWORDS:

X: Y: Z:

VAMASCO FIRE PROOFING WAS APPLIED TO ELECTRICAL POWER CABLES  
SO THICKLY THAT IT WILL NOT ALLOW RESISTANCE HEAT TO DISSIPATE. THIS  
WILL CAUSE THE ELECTRICAL INSULATION TO BREAK DOWN AND FAIL.  
CI HAS NO FURTHER INFORMATION.  
CONSTRUCTION DEPARTMENT CONCERN.

TECHNICAL COMMENTARY:

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
			YES					DW-85-007-005	00090

KEYWORDS:

X: Y: Z:

VAMASCO WAS APPLIED TO ELECTRICAL CABLES OVER DIRT AND TRASH SUCH AS CIGARETTE BUTTS AND PIECES OF SANDWICH. THIS WORK IS BELIEVED TO HAVE BEEN DONE BY NON-ELECTRICIANS (KNOWN) AND OCCURRED ABOUT 1980 - 1981 AUX. BLDG 708' AND 737' E1.  
CI HAS NO FURTHER INFORMATION.  
CONSTRUCTION DEPARTMENT CONCERN.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
			YES					DW-85-007-012	00090

KEYWORDS:

X: Y: Z:

NON-ELECTRICAL CRAFT (KNOWN) WERE REPORTEDLY USED TO PULL ELECTRICAL CABLE AT WBNP SOMETIME BEFORE 1979.  
CI HAS NO FURTHER INFORMATION. CONSTRUCTION DEPARTMENT CONCERN.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								PH-85-050-001	00090

KEYWORDS:

X: Y: Z:

ERT & NRC WOULD BE INTERESTED IN A WIRE PULLING DETAIL OCCURRING IN THE VICINITY OF THE POWER PRODUCTION LOADING RAMP, MANHOLE #22. CI HAS NO FURTHER INFORMATION. DEPT UNKNOWN.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								WI-85-011-002	00090

KEYWORDS:

X: Y: Z:

500 KV LINE IN TURBINE (UNIT 1 729') BUILDING WAS SPLICED THEN THE SPLICE WAS SHOVED BACK INTO CONDUIT.

TECHNICAL COMMENTARY:



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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								WI-85-028-001	CD090

KEYWORDS:

X: Y: Z:

ELECTRICIANS WERE HIRED TO PERFORM CABLE SPLICES ON HIGH VOLTAGE CABLES AND WERE NOT TRAINED TO CORRECTLY PERFORM THE SPLICES. TWO CABLES INSTALLED IN EAST MANHOLE (O-PMP-40-05 M#/02) FAILED THE HI-POT TEST. THE CABLES WERE REWORKED. THE POSSIBILITY EXISTS THAT ADDITIONAL CABLES WERE SPLICED INCORRECTLY, BUT HAPPENED TO PASS THE NEXT HI-POT TEST. MANHOLE IS LOCATED BETWEEN CONDENSATE STORAGE TANKS.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								WI-85-100-012	CD090

KEYWORDS:

X: Y: Z:

CABLE PULL TENSION MONITORING IS LAX. CI HAS NO FURTHER INFORMATION. ANONYMOUS CONCERN VIA LETTER.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								WI-85-100-013	CD090

KEYWORDS:

X: Y: Z:

CABLE BENDING RADII PROBLEMS. CI HAS NO FURTHER INFORMATION. ANONYMOUS CONCERN VIA LETTER.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								WI-85-100-020	CD090

KEYWORDS:

X: Y: Z:

EXTREMELY BAD CABLE PRACTICES EXIST. CABLING IS ROUTED OUTSIDE TRAYS, COILED ON TRAY SUPPORTS OR FLOORS, TIED ON SIDES OF TRAYS AND SUPPORTS, TIED ON THE BOTTOM OF TRAYS, WIRES ARE SENT 90 DEGREES INTO CONDUIT, PLASTIC CONDUIT BRIDGES BETWEEN CABLE TRAYS, ETC. CI HAS NO FURTHER INFORMATION. ANONYMOUS CONCERN VIA LETTER.

TECHNICAL COMMENTARY:

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								XX-85-008-001	CD090

KEYWORDS:

X: BLN Y: Z:

AT BELLEFONTE, NO MECHANICAL DEVICE WAS USED TO PULL CABLES. HOWEVER, USED AS MANY MEN AS THEY WANTED TO. THEREFORE, MAX TENSION WAS EXCEEDED. THIS OCCURRED DURING 1981 IN THE TURBINE BUILDING OF UNIT 1 & 2.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								XX-85-094-004	CD090

KEYWORDS:

X: Y: Z:

BELLEFONTE: THE MAJORITY OF CABLE HAS BEEN PULLED BEFORE THE USE OF FISH TAPE FUSE LINK OR MONITORING DEVICES WERE REQUIRED; THEREFORE THE MAX. FULL TENSION WAS NOT MONITORED. CONSTRUCTION DEPT. CONCERN. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								XX-85-094-005	CD090

KEYWORDS:

X: BLN Y: Z:

BELLEFONTE: AN "ILLEGAL" FISH HOOK TYPE TOOL WAS FREQUENTLY USED TO REMOVE THE FOAM ON TERMINATIONS SO MORE CABLE COULD BE PULLED. THIS ILLEGAL TOOL CAUSED AN INDETERMINATE AMOUNT OF DAMAGE. AN NCR (# UNKNOWN) WAS GENERATED IN MID-1984 TO ADDRESS THIS CONDITION BUT MAY HAVE BEEN INADEQUATE TO VERIFY ALL DAMAGED CABLE HAS BEEN IDENTIFIED AND CORRECTED. CONSTRUCTION DEPT. CONCERN. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

Subcategory C0091

Subcategory Title: Equipment Electrical

<u>Employee Concern Number</u>	<u>NSRS or QTC Report Number (If Issued)</u>	<u>Line Response (Organization-If Issued)</u>
IN-85-186-004	ERT IN-85-186-004	CO
IN-85-913-001	I-85-524-WBN-01	CO
WBP-5-016-003		

INITIAL EVALUATION PLAN

Category: Construction

Subcategory: Equipment (Electrical)

Prepared by:

R. M. Brown 13/31/86  
Rob Brown Date

Recommended by:

H. J. J. J. 13/31/86  
Group Leader Date

Approved by:

M. J. Rudolph 1-9-86  
Group Head Date

INITIAL EVALUATION PLAN FOR  
SUBCATEGORY

Description of Perceived Problems:

Specific and nonspecific hardware concerns involving activities affecting electrical panels, junction boxes, etc.:

1. Installation of Fireproofing Boards
2. Material Substitutions

Lead Evaluator:

RMBrown 3/31/86

Evaluators:

---

Initial Evaluation Plan

---

- I. List of Concerns by Concern Number
  - II. Elements and Attributes of Concerns
  - III. List of Criteria (Including Document Numbers and Revisions)
  - IV. Interviews
  - V. Action Plan (Including Staffing and Scheduling)
  - VI. Instructions/Criteria for Additional Data Evaluations
  - VII. Progress Reporting Requirements and Milestones
  - VIII. Determination as to Whether or Not Surveillance, Test/Reinspections are Necessary
  - IX. Root Cause Determination
  - X. Generic Applicability Determination
  - XI. Proposed Immediate and Long-Term Corrective Actions
  - XII. Prepare Report
-







III. List of Criteria

1. Information Source - (Applicable Procedures, OE Documents, Previous Reports, NSRS/QTC/ERT Investigation Reports Including revision or date)	:	:	:	2. Comments
	:	:	:	
E. R. Ennis Memo to K. W. Whitt	:	3/24/86	:	Section with
dated September 16, 1985 -	:	:	:	To evaluate condition reported on
	:	:	:	heading
Additional response to EC number:	:	IN-85-186-004	:	Electrical Panels
IN-85-221-001 and IN-85-186-004	:	:	:	
	:	:	:	
ERT Investigation Report	:	3/24/86	:	All
Concern Number IN-85-168-004	:	:	:	To evaluate the reported
	:	:	:	condition of Electrical Panels
	:	:	:	and findings
	:	:	:	
NCR 6295	:	3/24/86	:	All
	:	:	:	Check to see if NCR involve
	:	:	:	concern number IN-85-168-004
	:	:	:	
NSRS Report Number IN-85-186-004:	:	3/24/86	:	All
	:	:	:	Use to evaluate the condition
	:	:	:	NSRS found fireproofing material
	:	:	:	and insulation on Electrical
	:	:	:	Panels
	:	:	:	
NSRS Report Number	:	3/24/86	:	All
1-85-524-WBN-001	:	:	:	Evaluate NSRS findings on
	:	:	:	materials used for Electrical
	:	:	:	Junction Boxes
	:	:	:	
WBNP-QCP-3.03	:	:	:	Check site requirements for
	:	:	:	materials used in Electrical
	:	:	:	Junction Boxes
	:	:	:	
	:	:	:	

1. Additional sources will be added by the evaluator.
2. State attribute and how it relates with requirement.



V. Action Plan - Initial

## Evaluation Plan

- 1.0 Determine from QTC and other employee concern task groups if there is additional information on concern number WBP-5-016-003.
- 2.0 Review the following investigation reports to ensure each report fully addresses its concern and evaluate the need or completion of corrective action:

## Report Number

IN-85-186-004 (ERT)

IN-85-186-004 (NSRS)

I-85-524-WBN-001 (NSRS)

- 3.0 Review site procedures (applicable QCIs and QCPs) to determine the construction program requirements for installation of junction boxes and electrical panels. Also, determine if the acceptance criteria is in accordance with upper tier documents. Obtain EEU assistance as required.
- 4.0 Review Construction Specification G-40 and electrical standard drawings for determining material and construction requirements for junction boxes. Obtain EEU assistance as required.
- 5.0 Interview EQC inspectors to determine program requirements for inspecting completed work on junction boxes and electrical panels.
- 6.0 Interview EEU engineers to determine construction program requirements for fireproofing electrical panels and material requirements for junction boxes.
- 6.1 Interview construction personnel in the area of material receipt, issue and control. Compare contract specifications against material receiving reports, bills of material, etc., for junction boxes.
- 7.0 Obtain EEU assistance to identify and walk-through samples of electrical boards and junction boxes to determine compliance with requirements determined in step 3.0.
- 8.0 Check NCR listings to determine if any NCRs have been written for 480 Volt shutdown boards.

Write a summary of findings of this evaluation. Include a description of the findings and any corrective action required. Also, include any additional tests/ reinspections required, the root cause determination, and a generic applicability determination.

STAFFING: This evaluation plan will require 1 or 2 evaluators. It will require approximately 90 CO-Engr Mhrs, 20 OC-EQC Mhrs, and 310 evaluator Mhrs.

V. Action Plan - Initial

## CROSS REFERENCE MATRIX

Evaluation Plan Step Number	Concern(s) Addressed By Step	Element(s) Addressed	Attribute(s) Addressed
2, 3, 5, 6	IN-85-186-004	Panels	Incorrect Installation of Fireproofing Boards
2, 3, 4, 5, 6	IN-85-913-001	Junction box	Material Substitutions
1, 3, 5, 6, 7,	WBP-5-016-003	Panel	Conformance to Design Specifications and Drawings

KEYWORDS

The keywords to be used by the ECTG will be significant words identifying the individual concerns element, attribute, and characteristic arranged in hierarchial order. The keywords identifying the element will be in column No. 1, the attribute in column No. 2, and the characteristic in column No. 3. The keyword choices should be limited to a maximum of ten words per column. The following are the keywords to be used:

Column No. 1  
ELEMENT

Column No. 2  
ATTRIBUTE

Column No. 3  
CHARACTERISTIC

Panels

Fireproofing

Inadequate

Junction Box

Material

Improper

VI. Instruction/Criteria for Additional Data Evaluations  
(This is to be used when limited additional inspections, test,  
evaluations are necessary to answer the question in section VIII.)

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

VII. Progress Reporting Requirements and Milestones

VIII. Answer the Question, are Statistical Sampling Actions Tests/Reinspections Necessary?  
(Proceed to preparation of final EP if answer is yes)

IX. Root Cause Determination

X. Generic Applicability Determination: Section \_\_\_\_\_, Paragraph \_\_\_\_\_  
of Program Manual \_\_\_\_\_ WBN \_\_\_\_\_ SQN \_\_\_\_\_ BFN \_\_\_\_\_ BLN \_\_\_\_\_

XI. Proposed Immediate and Long-Term Corrective Actions

XII. Prepare Report



Attachment A

QTC QUESTIONNAIRE

Concern No. \_\_\_\_\_

Date: \_\_\_\_\_

1. Without revealing the identity of the CI, can a timeframe for the concern be identified, if so when?
2. Without revealing the identity of the CI, can specific items be identified, if so when?
3. Without revealing the identity of the CI, can any specific locations be identified, if so what are they?
4. Without revealing the identity of the CI, can any other individuals be identified, if so who?
5. Without revealing the identity of the CI, is there any other information in the QTC file that may be of aid in this investigation (such as, QTC, NSRS, NRC, Construction, Nuclear Power investigation, etc.), if so what?
6. Is this a concern of the Office of Nuclear Power, Construction, or both?

Additional Comments:

04/23/86

(EMPLOYEE CONCERNS)

PAGE: 1

09:45:57

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-186-004	CD091

KEYWORDS: PANELS FIREPROOFING

X: Y: Z:

FIREPROOFING BOARDS IN ELECTRICAL PANELS ARE GENERALLY OVER OR UNDERSIZED AND IMPROPERLY INSTALLED. NEED TO CHECK AT RANDOM THE GAP BETWEEN THE WIRE AND BOARD. ELECTRICAL PENETRATIONS GOING THRU FLOOR AND WALLS ARE STUFFED WITH COTTON. (NO SPECIFIC LOCATION AVAILABLE)

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-913-001	CD091

KEYWORDS:

X: Y: Z:

ELECTRICAL JUNCTION BOXES ARE NOT PER G-40 AND ELECTRICAL STANDARD DRAWINGS, IN THAT THEY ARE MANUFACTURED OF GALVANIZED STEEL INSTEAD OF SHEET STEEL WITH PAINT ON BOTH SIDES. THESE JUNCTION BOXES MAY BE FOUND THROUGHOUT THE PLANT, ESPECIALLY IN THE ADGB (AUXILIARY DIESEL GENERATOR BUILDING. C/I HAD NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
			YES					WBP-5-016-003	CD091

KEYWORDS: PANELS

X: Y: Z:

480 VOLT SHUTDOWN PANELS (UNITS 1, 2 & 0) HAVE A POTENTIAL NONCONFORMANCE WHICH HAS NOT BEEN DOCUMENTED FOR RESOLUTION. DETAILS KNOWN TO QTC, WITHHELD DUE TO CONFIDENTIALITY. NO FURTHER INFORMATION MAY BE RELEASED.

NUCLEAR POWER DEPARTMENT CONCERN. CI HAS NO FURTHER INFORMATION. NO FOLLOW UP REQUIRED.

TECHNICAL COMMENTARY:

Subcategory C0092

Subcategory Title: Conduit/Cable Tray

<u>Employee Concern Number</u>	<u>NSRS or QTC Report Number (If Issued)</u>	<u>Line Response (Organization-If Issued)</u>
EX-85-052-002		
EX-85-066-002		
EX-85-092-001		
EX-85-162-001	ERT IN-85-008-004	
IN-85-008-004		
IN-85-138-001		
IN-85-181-002		
IN-85-201-001		
IN-85-201-003		
IN-85-341-001		
IN-85-374-002		
IN-85-512-003		
IN-85-663-008		
IN-85-856-004		
IN-86-119-001	I-85-465-WBN	CO
IN-85-262-004		
IN-85-276-001		
OW-85-007-008		
WI-85-068-002		
WI-85-100-022		
XX-85-094-003		

Subcategory C0092

Page 1 of 15

INITIAL EVALUATION PLAN

Category: Construction

Subcategory: Conduit and Cable Tray

Prepared by:

Rob Brown 1 3/31/86  
Rob Brown Date

Recommended by:

Handwritten Signature 1 3/31/86  
Group Leader Date

Approved by:

Handwritten Signature 14-9-86  
Group Head Date

INITIAL EVALUATION PLAN FOR  
SUBCATEGORY C0092

Description of Perceived Problems:

Specific and nonspecific hardware concerns involving activities related to conduit and cable tray installation, such as:

1. Accumulated conduit bends in excess of 360°.
2. Not enough conduits.
3. Poor workmanship (general).
4. Material Problems.
5. Incorrect Installation.
6. Inadequate Protection.

Lead Evaluator:

*RMBrown 3/31/86*

Evaluators:

Initial Evaluation Plan

- 
- I. List of Concerns by Concern Number
  - II. Elements and Attributes of Concerns
  - III. List of Criteria (Including Document Numbers and Revisions)
  - IV. Interviews
  - V. Action Plan (Including Staffing and Scheduling)
  - VI. Instructions/Criteria for Additional Data Evaluations
  - VII. Progress Reporting Requirements and Milestones
  - VIII. Determination as to Whether or Not Surveillance, Test/Reinspections are Necessary
  - IX. Root Cause Determination
  - X. Generic Applicability Determination
  - XI. Proposed Immediate and Long-Term Corrective Actions
  - XII. Prepare Report
-

I. Concerns for Subcategory:

<u>Concern No.</u>	<u>Element</u>
A02850606004-002	: Conduit
EX-85-052-002	: Conduit
EX-86-066-002	: Conduit Conduilets
EX-85-092-001	: Conduit
EX-85-162-001	: Conduit
IN-85-008-004	: Conduit
IN-85-138-001	: Conduit
IN-85-201-001	: Conduit
IN-85-201-003	: Conduit
IN-85-341-001	: Conduit
IN-85-374-002	: Conduit Conduilets
IN-85-512-003	: Conduit
IN-85-856-004	: Conduit
IN-86-119-001	: Conduit
IN-86-262-004	: Conduit
IN-86-276-001	: Conduit
OW-85-007-008	: Conduit
WI-85-100-022	: Cable Tray
XX-85-094-003	: Conduit





## III. List of Criteria

1. Information Source - (Applicable Procedures, OE Documents, Previous Reports, NSRS/QTC/ERT Investigation Reports Including revision or date)			2. Comments
	Date Added to List	Applicable Section	
Cable Pull-Point Location and Support Locations, DG-E13.1.1 Rev. 1	3/20/86	2.1	Use for Determining Conduit Cable Pull-Point Location Requirements with Respect to Maximum Accumulated Bend
Conduit Box Connection (Watertight), SD-E13.6.5	3/20/86		For Determining Watertight Requirements at Conduit Box Connections
Construction Spec. G-40, Rev. 8	3/20/86	entire document	Upper Tier Document for Evaluating all Attributes of Conduit Installation
Nonconformance Rpt. NCR 6347 Rev. 0	3/20/86	entire document	Use to identify Corrective Action, if any, Taken on Known Violations for Excessive Cable Bends
NSRS Report No. I-85-465-WBN Oct. 11, 1985	3/20/86	entire document	Report Deals with Water in Conduit and Junction Boxes (Water Damage)
DS-E13.1.4			Use to Determine Max. Cable Diameter for Various Conduits (Overfill)

Additional sources will be added by the evaluator.

2. State attribute and how it relates with requirement.

[illegible]

Additional sources will be added by the evaluator.

2. State attribute and how it relates with requirement.



V. Action Plan - Initial

Evaluation Plan

1. Determine from QTC and other Employee Concern Task Groups if there is additional information on concerns which have not previously been addressed by an investigation report.
2. Review the following investigation reports to ensure that each report fully addresses its concern(s) and evaluate the need for corrective action:

Report No.

I-85-465-WBN (NSRS)

IN-85-008-004 (ERT)

IN-85-119-001 (CEO)

3. Review site procedures (applicable QCIs and QCPs) to determine the Construction program requirements for installation and inspection of conduit. Also, determine if the acceptance criteria is in accordance with upper tier documents (obtain EEU and EQC assistance as required).
4. Interview EQC to determine the applicable sections of the program requirements for inspecting installed conduit.
5. Interview EEU engineers to determine the program requirements for inspecting installed conduit.
  - A. Discuss the removal of Erickson fittings with EEU and determine if the removal plan is adequate to ensure that all have been removed. Also, determine if an NCR has been issued.
6. Evaluate NCR 6347 and determine requirement for maximum accumulated bend between conduit cable pull points.
7. Interview OE (WBP Conduit and Grounding Section) engineers to determine design requirements and considerations for installing conduit.
8. Look at EEU conduit installation drawings and locate conduit runs identified in background search (Conduits listed on NCRs, particular concerns, Investigation reports, etc.) and locate areas for walk-through.
9. Walk-through Conduit runs identified during background search and look for examples of material problems, disorderly installation, and excessive bends between cable pull points to determine compliance with applicable sections of the requirements determined in section 3.0.

V. Action Plan - Initial - (continued)

Evaluation Plan - (continued)

10. Interview OE engineers to determine program requirements for marking cable tray penetrations. If required, sample areas to verify compliance. Use EEU assistance as required.
11. Check NCR listings to determine if any NCRs have been written which deal with the listed concerns.

Write a summary of findings of this evaluation. Include a description of the findings and any corrective action required. Also, include any additional tests/reinspection required, the root cause determination, and a generic applicability determination.

Staffing: This evaluation plan will require one (1) or 2 (two) evaluatores. It will require approximately 120 OC-EEU mhr, 20 OE mhr, 40 OC-EQC mhr and 200 evaluator mhr.

V. Action Plan - Initial

## CROSS REFERENCE MATRIX

Evaluation Plan Step Number	Concern(s) Addressed By Step	Element(s) Addressed	Attribute(s) Addressed
1 3 4 5 8	A02850606004-002	Conduit	Installation
1 3 4 5 8	EX-85-052-002	Conduit	Installation
1 3 4 5 8	EX-85-066-002	Conduilets	Number
			Installation
1 3 4 5 8	EX-85-092-001	Conduit	Workmanship
1 3 4 5 8	EX-85-162-001	Conduit	Bends
2 3 4 5 9	IN-85-008-004	Conduit	Installation
1 3 4 5 8	IN-85-138-001	Conduit	Workmanship
1 3 4 5 7 8	IN-85-201-001	Conduit	Hardware
1 3 4 5 6 9	IN-85-201-003	Conduit	Bends
1 3 4 5 8	IN-85-341-001	Conduit	Installation
1 3 4 5 5.1 7 8	IN-85-374-002	Conduilets	Material
1 3 4 5 8	IN-85-512-003	Conduit	Material
1 3 4 5 6 8	IN-85-856-004	Conduit	Bends
2 3 4 5 9	IN-86-119-001	Conduit/ Junct Box	Water Seal
1 3 4 5 9	IN-86-262-004	Conduit	Workmanship
1 3 4 5 7 8	IN-86-276-001	Conduit	Fire Plugs
1 3 4 5 8	OW-85-007-008	Conduit	Workmanship
1 10	WI-85-100-022	Cable Tray Penetration	No Markings
1 3 4 5	XX-85-094-003	Conduit	Cable Overfill

VI. Instruction/Criteria for Additional Data Evaluations  
(This is to be used when limited additional inspections, test,  
evaluations are necessary to answer the question in section VIII.)

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

## VII. Progress Reporting Requirements and Milestones

MILESTONESCONSTRUCTION CATEGORY

<u>MILESTONE</u>	<u>DATE</u>
<u>No. 1</u> PREPARE FINAL EVALUATION PLAN (FINISH)	<u>31 MAR 86</u>
<u>No. 2</u> PERFORM FINAL EVALUATION (FINISH)	<u>29 APR 86</u>
<u>No. 3</u> COORDINATE WITH LINE MANAGEMENT (FINISH)	<u>06 MAY 86</u>
<u>No. 4</u> FINAL REPORT/CA DRAFT (FINISH)	<u>12 MAY 86</u>
<u>No. 5</u> SRB REVIEW/APPROVAL (FINISH)	<u>16 MAY 86</u>
<u>No. 6</u> ISSUE FINAL REPORT (FINISH)	<u>23 MAY 86</u>



VIII. Answer the Question, are Statistical Sampling Actions/  
Tests/Reinspections Necessary?  
(Proceed to preparation of final EP if answer is yes)

IX. Root Cause Determination

X. Generic Applicability Determination: Section \_\_\_\_\_, Paragraph \_\_\_\_\_  
of Program Manual \_\_\_\_\_ WBN \_\_\_\_\_ SQN \_\_\_\_\_ BFN \_\_\_\_\_ BLN \_\_\_\_\_

XI. Proposed Immediate and Long-Term Corrective Actions

XII. Prepare Report

Attachment A

QTC QUESTIONNAIRE

Concern No. \_\_\_\_\_

Date: \_\_\_\_\_

1. Without revealing the identity of the CI, can a timeframe for the concern be identified, if so when?
2. Without revealing the identity of the CI, can specific items be identified, if so when?
3. Without revealing the identity of the CI, can any specific locations be identified, if so what are they?
4. Without revealing the identity of the CI, can any other individuals be identified, if so who?
5. Without revealing the identity of the CI, is there any other information in the QTC file that may be of aid in this investigation (such as, QTC, NSRS, NRC, Construction, Nuclear Power investigation, etc.), if so what?
6. Is this a concern of the Office of Nuclear Power, Construction, or both?

Additional Comments:

04/23/86

(EMPLOYEE CONCERNS)

PAGE: 1

09:47:00

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
---	---	---	---	---	---	---	---	A02850606004-002	CD092

KEYWORDS: CONDUIT

X: BLN Y: Z:

CONDUIT HAD A SPAN OF UNSUPPORTED LENGTH GREATER THAN MAX ALLOWED. THE CONDUIT DID NOT HAVE AN IDENTIFICATION TAG AT THE PENETRATION. (PAGE 2 PARA 5)

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
---	---	---	---	---	---	---	---	EX-85-052-002	CD092

KEYWORDS: CONDUIT

X: Y: Z:

CONDUIT PLACEMENT IS DISORDERLY THROUGHOUT THE PLANT. CONSTRUCTION DEPT. CONCERN CI HAS NO ADDITIONAL INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
---	---	---	---	---	---	---	---	EX-85-066-002	CD092

KEYWORDS: CONDUIT CONDUILETTTS

X: Y: Z:

THERE ARE NOT ENOUGH CONDUILETTTS IN CONDUIT RUNS. AUXILIARY AND REACTOR BUILDINGS. CONSTRUCTION DEPT. CONCERN. CI HAS NO ADDITIONAL INFORMATION.

TECHNICAL COMMENTARY:

NSRS INVESTIGATION REPORT

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
---	---	---	---	---	---	---	---	EX-85-092-001	CD092

KEYWORDS: CONDUIT

X: Y: Z:

CONDUIT WORK IS VERY POOR IN UNIT 2. THIS IS A GENERIC CONCERN. CI DOESN'T HAVE ANY DETAILS OR SPECIFICS TO PROVIDE. CONSTRUCTION DEPT. CONCERN. NO FOLLOWUP REQUIRED.

TECHNICAL COMMENTARY:

NSRS INVESTIGATION REPORT I-86-108-WBN

04/23/86

(EMPLOYEE CONCERNS)

PAGE: 2

09:47:00

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								EX-85-162-001	CD092

KEYWORDS: CONDUIT

X: Y: Z:

CONDUIT LINES ARE POORLY DESIGNED AND ENGINEERED. MANY ARE TOO CLUTTERED AND BEND RADIUS IS TOO TIGHT ON MANY. CONSTRUCTION DEPT. CONCERN. CI HAS NO ADDITIONAL INFORMATION. -GENERIC CONCERN-

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
			YES					IN-85-008-004	CD092

KEYWORDS: CONDUIT

X: Y: Z:

UNIT 2. REACTOR BUILDING, ELEV. 751', AZ. 300 DEGREES, JUNCTION BOX 27 MAY HAVE AN IMPROPERLY INSTALLED CONDUIT. DETAILS KNOWN TO QTC. WITHHELD DUE TO CONFIDENTIALITY. NO FURTHER INFORMATION MAY BE RELEASED. CONSTRUCTION DEPARTMENT CONCERN. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

NSRS INVESTIGATION REPORT

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-138-001	CD092

KEYWORDS: CONDUIT

X: Y: Z:

DURING CABLE PULLS, FISH TAPE, MUD, DIRT (WATER) IS LEFT IN THE CONDUIT. PULLING HOOKS GET JAMMED AND ARE LEFT IN CONDUIT. QC & CRAFT SUPERVISOR ARE INVOLVED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-181-002	CD092

KEYWORDS:

X: Y: Z:

THE FIRE BARRIER PUT ON THE CABLE TRAYS IS REQUIRED TO HAVE NO MORE THAN 1/8" GAP BETWEEN THE PIECES; HOWEVER, NUMEROUS INSTANCES HAVE BEEN DISCOVERED WHERE THE GAP WAS UP TO 1/2". CONSTRUCTION DEPT. CONCERN. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

04/23/86

(EMPLOYEE CONCERNS)

PAGE: 3

09:47:00

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								IN-85-201-001	CD092

KEYWORDS: CONDUIT

X: Y: Z:

WHEN RUNNING CONDUIT THROUGH WALL OR FLOOR SLEEVES IN UNITS 1 AND 2, CRAFT HAS REDUCED SIZE OF CONDUIT USING A REDUCING BUSHING IN LIEU OF USING A NIPPLE ON THE SLEEVE AND USING A FITTING. THIS PRACTICE HAS MADE CABLE PULLS DIFFICULT AND TIME CONSUMING. CONSTRUCTION DEPT. CONCERN. CI HAS NO ADDITIONAL DETAILS/SPECIFICS.  
NO FOLLOWUP REQUIRED.

TECHNICAL COMMENTARY:

NSRS INVESTIGATION REPORT I-85-562-WBN

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								IN-85-201-003	CD092

KEYWORDS: CONDUIT

X: Y: Z:

TOO MANY BENDS IN 1" CONDUIT RUN IN UNIT 1 REVERSE OSMOSIS ROOM ELEV. 757' AT 4-V. THERE WERE NO FITTINGS USED TO RUN THIS CONDUIT MAKING IT EXTREMELY DIFFICULT AND TIME CONSUMING TO PULL CABLE THROUGH CONDUIT. CI STATED THAT FITTINGS IN LIEU OF BENDS SHOULD HAVE BEEN USED TO FACILITATE CABLE PULLS. CONSTR. DEPT. CONCERN.  
NO FOLLOWUP REQUIRED.

TECHNICAL COMMENTARY:

NSRS INVESTIGATION REPORT I-85-700-WBN

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								IN-85-341-001	CD092

KEYWORDS: CONDUIT

X: Y: Z:

FLEXIBLE STAINLESS STEEL CONDUIT FROM VARIOUS EQUIPMENT AND PENETRATIONS INSIDE THE CONTAINMENT IS NOT TORQUED ENOUGH AT THE FLEX AND FITTING ATTACHMENT POINTS. QC ACCEPTED THE WORK. STAINLESS STEEL FLEXIBLE CONDUIT CAN BE PULLED APART AFTER BEING ACCEPTED BY QC. ALL PENETRATIONS AND ELECTRICAL EQUIPMENT INSIDE CONTAINMENT. UNIT 1 & 2 ARE AFFECTED. CONSTRUCTION CONCERN. CI HAS NO ADDITIONAL INFORMATION.

TECHNICAL COMMENTARY:

04/23/86

(EMPLOYEE CONCERNS)

PAGE: 4

09:47:00

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-374-002	CD092

KEYWORDS: CONDUIT CONDUILETTTS

X: WBN Y: Z:

APPROX. 500 ERICKSON CONNECTORS/FITTINGS FOR CONDUIT HAD BEEN INSTALLED AND DISCOVERED TO BE ALUMINUM AND NOT MAGNETIC. THESE ARE IN PROCESS OF BEING REMOVED SINCE ERICKSON CONNECTORS ARE NOT REQUISITIONED OUT TO THE CRAFT, HOW CAN THEY BE IDENTIFIED AND REMOVED WITH CONFIDENCE THAT ALL HAVE BEEN REPLACED? WBNP #2.

## TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-512-003	CD092

KEYWORDS: CONDUIT DEFECTIVE

X: Y: Z:

CONDUIT RECENTLY ISSUED TO FIELD FOR USE ON UNIT 2 EXHIBIT A NUMBER OF PIECES WITH RIDGES AND BURNS IN THE INSIDE DIAMETER. THE POTENTIAL EXISTS FOR WIRE TO BE DAMAGED, IF CRAFT PERSONNEL HAD NOT NOTED THESE DISCREPANCIES. NO SPECIFIC SIZES OR LOCATIONS ARE AVAILABLE.

## TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-663-008	CD092

KEYWORDS:

X: Y: Z:

TVA COMPROMISED ITS SPECIFICATIONS AND ACCEPTED "OFF SCALE" MATERIALS. BECAUSE OF THIS, COMPONENTS WILL NOT FIT WHERE THEY MUST BE INSTALLED. THIS MEANS THAT GOOD HARDWARE MUST BE RIPPED OUT TO MAKE ROOM.  
EXAMPLE: EXTENSIVE ELECTRICAL WORK DONE IN RB 1 IN LATE 1984 & EARLY 1985  
CI HAS NO FURTHER INFORMATION.  
CONSTRUCTION DEPARTMENT CONCERN.  
NO FOLLOW UP REQUIRED.

## TECHNICAL COMMENTARY:

04/23/86

(EMPLOYEE CONCERNS)

PAGE: 5

09:47:00

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
			YES					IN-85-856-004	CD092

KEYWORDS: CONDUIT BENDS

X: Y: Z:

CONDUIT HAS AS MANY AS FIVE 90 DEGREE BENDS IN SOME INSTANCES AND CABLE CANNOT BE PULLED. (NAMES KNOWN TO QTC AND RELEASE OF THIS INFORMATION WOULD JEOPARDIZE CI'S CONFIDENTIALITY.) NO MORE DETAILS AVAILABLE.  
NO FOLLOWUP REQUIRED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-119-001	CD092

KEYWORDS: CONDUIT DAMAGE

X: Y: Z:

IN TUNNEL BETWEEN REACTOR BLDG #2 AND COOLING TOWER, 6-8 CONDUITS (JUNCTIONS BOXES AND COUPLINGS) GUSHES WATER WHENEVER IT RAINS. CABLES HAVE ALREADY BEEN PULLED THROUGH THE CONDUITS. MANHOLE TO TUNNEL IS LOCATED BETWEEN THE 2 TANKS LOCATED IN FRONT OF REACTOR BLDG #2. CONSTRUCTION DEPT. CONCERN. CI HAS NO ADDITIONAL INFORMATION.

TECHNICAL COMMENTARY:

NSRS INVESTIGATION REPORT I-85-465-WBN

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-262-004	CD092

KEYWORDS:

X: Y: Z:

ELEV. 729' (ABOVE MACHINE SHOP) THERE ARE FOUR OR FIVE 5" TO 6" CONDUITS STILL HAVING THE FISH TAPE IN THEM. THE CONDUIT IS SO FULL THE FISH TAPE CANNOT BE REMOVED. CONSTRUCTION DEPT CONCERN. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-276-001	CD092

KEYWORDS: CONDUIT FIRE PROTECTION PLUGS

X: Y: Z:

SPARE CONDUITS REQUIRING FIRE BARRIER PLUGS MAY NOT HAVE THE PROPER PLUGS INSTALLED. DETAILS KNOWN TO QTC, WITHHELD DUE TO CONFIDENTIALITY. CONST. DEPT. CONCERN. CI HAS NO FURTHER INFORMATION.  
NO FOLLOWUP REQUIRED.

TECHNICAL COMMENTARY:

04/23/86

(EMPLOYEE CONCERNS)

PAGE: 6

09:47:00

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								OW-85-007-008	CD092

KEYWORDS:

X: Y: Z:

WATTS BAR HAS HAD TOO MANY INSTANCES OF UNCRAFTSMAN-LIKE ELECTRICAL WORK, INCLUDING POORLY BENT AND INCOMPLETELY SCREWED TOGETHER CONDUIT (AUXILIARY BLDG), AND CABLES DAMAGED DUE TO SLAC FROM WELDING OPERATIONS OVERHEAD (TURBINE BLDG, ELEV. 729'). NO SPECIFIC LOCATIONS OR UNIT NUMBERS KNOWN. CONSTRUCTION DEPT. CONCERN. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								OW-85-007-008-092	CD092

KEYWORDS: CONDUIT

X: WBN Y: Z:

WATTS BAR HAS HAD TOO MANY INSTANCES OF UNCRAFTSMAN-LIKE ELECTRICAL WORK, INCLUDING [POORLY BENT AND INCOMPLETELY SCREWED TOGETHER CONDUIT (AUXILIARY BLDG)], AND CABLES DAMAGED DUE TO SLAC FROM WELDING OPERATIONS OVERHEAD (TURBINE BLDG, ELEV. 729'). NO SPECIFIC LOCATIONS OR UNIT NUMBERS KNOWN. CONSTRUCTION DEPT. CONCERN. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

MULTIPLE CONCERN. ONLY [.....] CONSIDERED.

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								WI-85-068-002	CD092

KEYWORDS:

X: Y: Z:

CABLE TRAY MAY HAVE BEEN REMOVED WITHOUT PROPER DOCUMENTATION. DETAILS KNOWN TO QTC, WITHHELD DUE TO CONFIDENTIALITY. NO FURTHER INFORMATION MAY BE RELEASED. CONSTRUCTION DEPARTMENT CONCERN.

TECHNICAL COMMENTARY:



04/23/86

(EMPLOYEE CONCERNS)

PAGE: 7

09:47:00

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								WI-85-100-022	CD092

KEYWORDS: CABLE TRAY PENETRATION MARKING

X: WBN Y: Z:

WALL PENETRATIONS OF CABLE TRAYS ARE NOT IDENTIFIED BY NAME OR NUMBER AT WBNP. CI HAS NO FURTHER INFORMATION. ANONUMOUS CONCERN VIA LETTER.

TECHNICAL COMMENTARY:

NSRS INVESTIGATION REPORT

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								XX-85-094-003	CD092

KEYWORDS: CONDUIT PENETRATIONS

X: BLN Y: Z:

BELLEFONTE: THE ORIGINAL DESIGN REQUIRED 1-1/2" FLOOR PENETRATIONS WHICH WAS LATER REVISED TO 2" FLOOR PENETRATIONS. THE DESIGN DEPARTMENT IS ROUTING CABLE THROUGH AN ALREADY INSTALLED 1-1/2" THAT IS DESIGNED FOR A 2" FLOOR PENETRATION WHICH CREATES A POTENTIAL FOR OVERCROWDING. CONSTRUCTION DEPT. CONCERN. CI HAS NO FURTHER INFORMATION. NO FOLLOWUP REQUIRED.

TECHNICAL COMMENTARY:

Subcategory C0110

Subcategory Title: Hangers/Supports

Employee Concern Number	NSRS or QTC Report Number (If Issued)	Line Response (Organization-If Issued)
EX-85-059-002	NSRS I-85-712-WBN	
EX-85-061-005		
IN-85-016-002		
IN-85-052-003		
IN-85-069-001	QTC IN-85-069-001	CO
IN-85-109-001		
IN-85-250-001	NSRS I-85-710-WBN	
IN-85-288-001	NSRS I-85-713-WBN	CO
IN-85-293-016		
IN-85-349-001		
IN-85-398-001		
IN-85-428-002		
IN-85-445-003		
IN-85-445-X17		
IN-85-458-004		
IN-85-465-001	NSRS I-85-174-WBN	NP
IN-85-469-X04		
IN-85-490-004		
IN-85-595-005	NSRS I-85-239-WBN	
IN-85-600-003		
IN-85-625-001		
IN-85-672-004		
IN-85-821-009		CO
IN-85-865-002		
IN-85-903-002		
IN-85-967-001		
IN-86-019-005		
IN-86-043-001		
IN-86-116-001		
IN-86-118-001		CO
IN-86-168-004		
IN-86-200-005		
IN-86-300-004		
WBN-6-009-001		
WI-85-065-001	NSRS I-85-715-WBN	
WI-85-091-013		
XX-85-038-001	QTC XX-85-038-001	

INITIAL EVALUATION PLAN

Category: CONSTRUCTION

Subcategory: HANGERS/SUPPORTS (C0110)

Prepared by:

W. L. B. J. L.  
Preparer

3-28-86  
Date

Recommended by:

Jerry M. Brath  
Group Leader

3-28-86  
Date

Approved by:

M. V. Rudi  
Group Head

3/28/86  
Date

INITIAL EVALUATION PLAN FOR  
SUBCATEGORY

Description of Perceived Problems:

The concerns in this subcategory deal with various aspects of support fabrication, installation, and inspection. The principle areas of investigation will be:

1. Contact Between Dissimilar Metals
2. Adequacy of Design Information
3. Work Control During Fabrication and Installation
4. Work Control After Inspection /
5. Craft Training/Access to Specifications
6. Adequacy of Inspection

Lead Evaluator:

Mike SHIREY

Evaluators:


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Initial Evaluation Plan

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- I. List of Concerns by Concern Number
- II. Elements and Attributes of Concerns
- III. List of Criteria (Including Document Numbers and Revisions)
- IV. Interviews
- V. Action Plan (Including Staffing and Scheduling)
- VI. Instructions/Criteria for Additional Data Evaluations
- VII. Progress Reporting Requirements and Milestones
- VIII. Determination as to Whether or Not Surveillance, Test/Reinspections are Necessary
- IX. Root Cause Determination
- X. Generic Applicability Determination
- XI. Proposed Immediate and Long-Term Corrective Actions
- XII. Prepare Report

I. Concerns for Subcategory

<u>Concern No.</u>	<u>Element</u>
EX-85-059-002	: Contact Between Dissimilar Metals
IN-85-595-005	: Contact Between Dissimilar Metals
XX-85-038-001	: Contact Between Dissimilar Metals
IN-85-052-003	: Design Output
IN-85-398-001	: Design Output
WI-85-091-013	: Design Output
A02850222007-002	: Construction Installation & Inspection
EX-85-061-005	: Construction Installation & Inspection
IN-85-016-002	: Construction Installation & Inspection
IN-85-069-001	: Construction Installation & Inspection
IN-85-109-001	: Construction Installation & Inspection
IN-85-250-001	: Construction Installation & Inspection
IN-85-288-001	: Construction Installation & Inspection
IN-85-349-001	: Construction Installation & Inspection
IN-85-428-002	: Construction Installation & Inspection
IN-85-445-X17	: Construction Installation & Inspection
IN-85-458-004	: Construction Installation & Inspection
IN-85-465-001	: Construction Installation & Inspection
IN-85-469-X04	: Construction Installation & Inspection
IN-85-490-004	: Construction Installation & Inspection
IN-85-600-003	: Construction Installation & Inspection
IN-85-625-001	: Construction Installation & Inspection
IN-85-821-009	: Construction Installation & Inspection
IN-85-865-002	: Construction Installation & Inspection
IN-85-903-002	: Construction Installation & Inspection
IN-85-967-001	: Construction Installation & Inspection
IN-86-019-005	: Construction Installation & Inspection
IN-86-029-001	: Construction Installation & Inspection
IN-86-043-001	: Construction Installation & Inspection
IN-86-118-001	: Construction Installation & Inspection
IN-86-168-004	: Construction Installation & Inspection
IN-86-200-005	: Construction Installation & Inspection
IN-86-300-004	: Construction Installation & Inspection
PH-85-001-007	: Construction Installation & Inspection
SQP-5-005-001	: Construction Installation & Inspection
WI-85-065-001	: Construction Installation & Inspection
XX-85-070-007	: Construction Installation & Inspection
IN-86-116-001	: Construction Installation & Inspection
IN-85-445-003	: Construction Installation & Inspection
	:
	:
	:
	:
	:
	:

### Attributes

0163T

1. List of Criteria

1. Information Source - (Applicable Procedures, OE Documents, Previous Reports, NSRS/QTC/ERT Investigation Reports Including revision or date)	Date Added to List	Applicable Section	2. Comments
NSRS Investigation Reports	:	:	:
I-85-712-WBN	:	ALL	Carbon Steel Supports Contacting
I-85-239-WBN	:	ALL	Stainless Steel Pipe. These
XX-85-038-001	:	ALL	Reports Specifically Address
	:	:	the Aforementioned Attribute
	:	:	:
I-85-710-WBN	:	ALL	Work Control During and After
	:	:	Installation. This Report
	:	:	Describes the Process that was
	:	:	Followed During a Particular
	:	:	Instance of Rework of Supports
	:	:	:
I-85-713-WBN	:	ALL	Work Control During and After
	:	:	Installation. In this Report
	:	:	the NSRS Gave the PMO Three
	:	:	Recommendations to Respond to
	:	:	Concerning Handling, Installing,
	:	:	and Documenting Snubbers.
	:	:	:
I-85-174-WBN	:	ALL	Work Control During and After
	:	:	Installation. This Report
	:	:	Addresses the Resolution of a
	:	:	Concern Encountered During
	:	:	Installation.
	:	:	:

1. Additional sources will be added by the evaluator.
- State attribute and how it relates with requirement.



## III. List of Criteria (Continued)

1. Information Source - (Applicable Procedures, OE Documents, Previous Reports, NSRS/QTC/ERT Investigation Reports Including revision or date)	:	:	:	2. Comments
	:	:	:	
NSRS Investigation Reports	:	:	:	
I-85-715-WBN	:	:	ALL	Work Control During and After Installation. The Content of this Report Describes Acceptable Means of Temporary Support During Installation.
	:	:	:	
PMO Response to Employee	:	:	ALL	Handling of Scrap Material
IN-85-821-009	:	:	:	This Response Explains Why Material is Scrapped and How it is Handled After Being Scrapped
	:	:	:	
PMO Response to NSRS	:	:	ALL	Loose and Missing Bolts/ Torque
Recommendations Q-85-069-	:	:	:	Seal Requirements. These
001-1 and Q-85-069-001-2	:	:	:	Responses Documented Results of a Walkdown Performed by the PMO and Outlined Specific Actions Being Implemented to Better Control Work
	:	:	:	
47A050-Series, General Notes	:	:	IJ3 TP 166	Torque Values on Unistrut Clamps
	:	:	IJ3 TP 167	Fabrication of Component
	:	:	:	Standards. These Attributes are Addressed Within the Scope of these Notes
	:	:	:	

1. Additional sources will be added by the evaluator.
2. State attribute and how it relates with requirement.

## II. List of Criteria (Continued)

[illegible]

1. Additional sources will be added by the evaluator.
2. State attribute and how it relates with requirement.



V. Action Plan - Initial

## Evaluation Plan

1. Obtain specific details from QTC on concerns for which the "K" Forms did not provide sufficient information.
2. Review the following NSRS investigation reports to determine if any additional investigation is required: I-85-712-WBN, I-85-239-WBN, XX-85-038-001, I-85-710-WBN, I-85-713-WBN, I-85-174-WBN, and I-85-715-WBN.
3. Review PMO response to Employee Concern IN-85-821-009 for adequacy.
4. Review OE response to NRC-OIE letter from Roger D. Walker to H. G. Parris dated April 30, 1985 for adequacy.
5. Go to the field and look at the following concerns; IN-85-016-002, IN-85-109-001, IN-85-349-001, IN-85-428-002, IN-85-490-004, IN-85-865-002, IN-86-029-001, IN-86-168-004, IN-86-200-005, and IN-86-300-004.  
  
Contact the Document Control Unit concerning the current distribution of the 47A050-notes. Set up a meeting with Craft general foreman and HEU representatives to discuss the current availability as well as that in past years of the 050 notes to Craft and propose, if necessary, new ways of supplying this information.
7. Compare analysis isometrics with "A" size support drawings to determine how the two are tied together. Interview HEU representatives about current drawing review procedures with respect to analysis. Contact OE to discuss the procedure used where it is necessary to deviate from the analysis location.
8. Review upper tier documents to determine required torque values for unistrut clamp bolts. Interview HQC representatives to establish current practice versus past practice with respect to torque testing unistrut clamp bolts.
9. Obtain specific instances where variances were not issued for typicals from QTC. Review WBN-QCI-4.23-1 to determine the procedure that should be followed when variances are required. Talk with craft personnel about procedures followed when typical supports will not work as designed. Determine the means by which HEU revises typicals and review the content and clarity of the information provided. Contact HQC to discuss inspection procedures when inspecting typical supports.
10. Contact Ron Isham (HEU) to discuss work done on system 68 unit 1 in 1984.

V. Action Plan - Initial (Continued)

## Evaluation Plan

11. Talk with MEU representative about the procedures when it is necessary to modify a ductwork support. Review NCR files to determine if an NCR was ever written on supports 2030-DW920-10H-1085 and 1087. Obtain support drawings and details to check actual field installation.
12. Review PMO response to NSRS recommendation Q-85-069-001-01402 to determine applicability to concerns IN-85-625-001 and IN-86-043-001. Review upper tier documents for requirements of torque seal material. Walkdown areas describe on concerns to identify supports which have broken torque seal or loose or missing bolts.
13. Review analysis documents to determine support requirements. Look at the corresponding "A" sized drawings for discrepancies with analysis and responsible design agency. Check for NCR documenting nonconforming supports. Field check supports to determine installed configuration.
14. Review inspection records for conflicting dates and writing styles after additional information is received from QTC. Interview cognizant individuals to determine why clamps were removed. Check to see if any NCR's were ever written addressing the subject.
15. Review Bergen Patterson drawings that are being used for fabrication. Review upper tier documents for requirements on substituting TVA fabricated components for Bergen Patterson components. Talk with cognizant individuals about when it is necessary for TVA to fabricate components and what authorizes the fabrication.
16. Review Sequoyah Nuclear Plant concerns for inclusion in WBN investigations. Refer results of investigations to SQN for corrective action as required.
17. Review upper tier documents for requirements on adding cap plates. Walkdown areas exposed to atmospheric conditions to identify vertical tube steel that could collect water and would be suspect to freezing. Review NCR files documenting the absence of cap plates.
18. Coordinate with other ECTG category groups to determine if their findings reflect on any of our concerns.
19. Review the content of Fabrication Operation Sheet #008 as it relates to IRN# TM-71. Look at WBN-QCI-3.11-1 to obtain requirements for fabrication and installation of instrument supports. Talk with cognizant individuals about the unit application of this instruction.

Staffing: 1 evaluator

Man-hours: 140

V. Action Plan - Initial

## CROSS-REFERENCE MATRIX

Evaluation Plan Step Number	Concern(s) Addressed By Step	Element(s) Addressed	Attribute(s) Addressed
1	All	All	All
2	EX-85-059-002 IN-85-595-005 XX-85-038-001 IN-85-250-001 IN-85-288-001 IN-85-465-001 WI-85-065-001	Contact Between Dissimilar Metals  Construction Installation and Inspection	Carbon Steel Supports Contacting Stainless Steel Pipe. Work Control During and After Install- ation
3	IN-85-821-009	Construction Installation and Inspection	Handling of Scrap Material
4	A0285022207-002	Construction Installation and Inspection	Work Control During and After Install- ation
5	IN-85-016-002 IN-85-109-001 IN-85-349-001 IN-85-428-002 IN-85-490-004 IN-85-865-002 IN-86-029-001 IN-86-168-004 IN-86-200-005 IN086-300-004	Construction Installation and Inspection	Work Control During and After Install- ation
6	EX-85-061-005 IN-85-600-003 IN-86-118-001	Construction Installation and Inspection	Control and Availability of Speci- fications for Craft

V. Action Plan - Initial (Continued)

## CROSS-REFERENCE MATRIX

Evaluation Plan Step Number	Concern(s) Addressed By Step	Element(s) Addressed	Attribute(s) Addressed
7	IN-85-052-003	Design Output	Analysis Isometrics in Agreement with "A" Size Drawings
8	IN-85-398-001	Design Output	Torque Values on Unistrut Clamps
9	IN-85-445-X17 IN-85-903-002 IN-85-967-001	Construction Installation and Inspection	Issue of Variances for Typical
10	IN-85-458-004	Construction Installation and Inspection	Work Control During and After Install- ation
11	IN-85-469-X04	Construction Installation and Inspection	Work Control During and After Install- ation
12	IN-85-069-001 IN-85-625-001 IN-86-043-001	Construction Installation and Inspection	Loose and Missing Bolts/ Torque Seal Requirements
13	IN-86-019-005	Construction Installation and Inspection	Work Control During and After Install- ation
14	PH-85-001-007	Construction Installation and Inspection	Work Control During and After Install- ation

V. Action Plan - Initial (Continued)

## CROSS-REFERENCE MATRIX

Evaluation Plan Step Number	Concern(s) Addressed By Step	Element(s) Addressed	Attribute(s) Addressed
15	WI-85-091-013	Design Output	Fabrication of Component Standards
16	SQP-5-005-001 XX-85-070-007	Construction Installation and Inspection	Work Control During and After Install- ation
17	IN-86-116-001	Construction Installation and Inspection	Capping of Open Ended Tube Steel
18	ALL	ALL	ALL
19	IN-85-445-003	Construction Installation and Inspection	Work Control During and After Install- ation



VI. Instruction/Criteria for Additional Data Evaluations  
(This is to be used when limited additional inspections, test,  
evaluations are necessary to answer the question in section VIII.)

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

## VII. Progress Reporting Requirements and Milestones

MILESTONESCONSTRUCTION CATEGORYMILESTONEDATENo. 1 PREPARE FINAL EVALUATION PLAN (FINISH)31 MAR 86No. 2 PERFORM FINAL EVALUATION (FINISH)29 APR 86No. 3 COORDINATE WITH LINE MANAGEMENT (FINISH)06 MAY 86No. 4 FINAL REPORT/CA DRAFT (FINISH)12 MAY 86No. 5 SRB REVIEW/APPROVAL (FINISH)16 MAY 86No. 6 ISSUE FINAL REPORT (FINISH)23 MAY 86

VIII. Answer the Question, are Statistical Sampling Actions  
Tests/Reinspections Necessary?  
(Proceed to preparation of final EP if answer is yes)

IX. Root Cause Determination

X. Generic Applicability Determination: Section \_\_\_\_\_, Paragraph \_\_\_\_\_  
of Program Manual    \_\_\_WBN   \_\_\_SQN   \_\_\_BFN   \_\_\_BLN

XI. Proposed Immediate and Long-Term Corrective Actions

XII. Prepare Report

Attachment A

QTC QUESTIONNAIRE

Concern No. \_\_\_\_\_

Date: \_\_\_\_\_

1. Without revealing the identity of the CI, can a timeframe for the concern be identified, if so when?
2. Without revealing the identity of the CI, can specific items be identified, if so when?
3. Without revealing the identity of the CI, can any specific locations be identified, if so what are they?
4. Without revealing the identity of the CI, can any other individuals be identified, if so who?
5. Without revealing the identity of the CI, is there any other information in the QTC file that may be of aid in this investigation (such as, QTC, NSRS, NRC, Construction, Nuclear Power investigation, etc.), if so what?
6. Is this a concern of the Office of Nuclear Power, Construction, or both?

Additional Comments:

## ELEMENT REPORT

Subcategory CO110  
Hangers/Support - Work  
Control After Installation

### I. Introduction

This element contains eight concerns (AO 285 0222 007 <sup>combine</sup> IN-85-069-001, IN-85-250-001, IN-85-349-001, IN-85-458-004, IN-85-625-001, IN-86-043-001, and IN-86-200-005) on the subject of work control after a support is installed.

### II. Summary of Perceived Problems

The perceived problems of this element are loose and missing bolts/torque seal requirements, removal of supports, and inadequate inspections.

### III. Evaluation Methodology

- A. Field investigated the following items: Support 2-62A-259, broken torque seal, loose and missing bolts, and concern IN-86-200-005.
- B. Reviewed QTC Investigation Report IN-85-069-001 and the PMO response to the recommendations of the report.
- C. Reviewed NSRS Investigation Report I-85-710-WBN.
- D. Reviewed OE response to NRC Violation 390/85-02-01 (B45 850530 254).
- E. Reviewed upper tier documents to determine if the use of torque seal is a requirement.
- F. Reviewed QCI-1.02 to determine the definition of a nonconforming condition.
- G. Interviewed cognizant individuals about various aspects of this element.

### IV. Summary of Findings

Field investigations performed by QTC, NSB, and myself failed to document the existence of loose or missing bolts in supports. However, some bolts were found to have broken torque seal. NSB's walkdown revealed 19 out of 800 bolts with broken torque seal. During my field investigation I found 3 out of 432 bolts with broken torque seal. All bolts found were in unistrut clamps, the bolts were tight, and there was no indication that the supports would not serve their intended purpose.

## ELEMENT REPORT

Subcategory CO110  
Hangers/Support - Work  
Control After Installation

NCR 6194 was generated to document the 19 bolts found during NSBs walkdown. These bolts were retorqued in accordance with QCP-4.23-8.

There are no upper tier requirements for the application of torque seal. This is a site imposed requirement and the presence of torque seal does not enhance the quality of the support. According to QCI-1.02, a violation of procedure not affecting quality is not a nonconforming condition. Therefore, a nonconforming condition never existed.

Concerns IN-85-250-001 and IN-85-458-004 address unauthorized removal of supports. The first of these was investigated by NSRS (Reference Report IN-85-710-WBN) and the removal was found to be documented on NCRs 6091, 6135, and 6149. The second required interviewing the responsible engineer to determine what kind of work was being done on System 68 in late 1984. According to the responsible engineer, in late 1984, there was some confusion about some supports that had been removed by Nuclear Power in order to work on some valves. Further investigation into this work and interviews with the responsible engineer revealed that this work was performed during the time of October 20, 1984 to January 21, 1985 and all removal and reinstallation was documented on Maintenance Requests 408957, 489700, 489620, 480176, 480172, and 480171. Due to the lack of any further information it is assumed that this is the work referred to in the concern.

With regard to removal/replacement of supports, the one main cause of this is reanalysis. Reanalysis often increases or decreases the loads on supports, sometimes to the point that supports require reconfiguring or deleting. Reconfigured supports are replaced by the new configuration and deleted supports are simply removed.

The general area described in concern IN-86-200-005 was checked and failed to document a unistrut hanger pulled away from its embed. This is not to say that it does not exist but due to the vagueness of the concern and the large area involved a thorough check could not be conducted.

In the area of inadequate inspections, one isolated case was documented during an NRC inspection. TVA responded to this violation by correcting the subject support using the in place procedures, reviewing previous work done by the particular inspector and craftsman, and retraining the inspectors and craftsmen. Another concern was expressed dealing with a particular support not being installed properly. This support was checked and found to be installed and inspected per the drawing.

Based on the above findings, the problems of this element are limited to damaged or missing torque seal and an isolated case of inadequate inspection.

## ELEMENT REPORT

Subcategory C0110  
Hangers/Support - Work  
Control After Installation

### V. Root Cause

The root cause for damaged or missing torque seal can be attributed to one of the following: failure to properly apply the seal material, associated construction work in the adjacent area, and tampering with supports.

The root cause for the inadequate inspection is an isolated case of human error.

### VI. Corrective Actions

Based on the following facts there is no corrective action required addressing damaged or missing torque seal:

1. There are no upper tier requirements for torque seal and the presence of pressure of torque seal does not enhance the quality of supports.
2. All bolts found with missing or damaged torque stripe were unistrut bolts, all bolts were tight, and prior to June 1, 1985 there was no requirement for torquing unistrut bolts.
3. Unauthorized work on documented features is being addressed by SCR 6497-S.

There is no corrective action necessary for inadequate inspections because it was an isolated case and the necessary corrective action has already been taken care of.

### VII. Generic Applicability

None.

### VIII. Attachments

None.

## ELEMENT REPORT

Subcategory: C0110  
Hangers/Supports - Contact  
Between Dissimilar Metals

### I. Introduction

This element addresses three concerns on the subject of contact between dissimilar metals. Two of these concerns, (EX-85-059-002, & IN-85-595-005), are for Watts Bar and the third, (XX-85-038-001), is for Sequoyah.

### II. Summary of Perceived Problems

Throughout the plant stainless pipe is supported by carbon steel supports. The perceived problem is these supports are not separated from the pipe by means of stainless steel shims. In lieu of shims, the supports are painted. However, this paint will wear through or in some cases can be rubbed off by hand.

### III. Evaluation Methodology

- A. Reviewed existing investigation reports done by NSRS and QTC, to determine if the concerns had been adequately addressed.
- B. Contacted cognizant individual on the subject of paints and protective coatings to get his concurrence with the findings of the NSRS and QTC reports.
- C. Reviewed specifications to determine requirements for carbon steel and stainless steel separation.

### IV. Summary of Findings

NSRS Investigation Reports I-85-239-WBN and I-85-712-WBN, and QTC Investigation Report XX-85-038-001 have been written addressing the concerns of this element. The two NSRS reports are addressing WBN and the QTC report is for SQN. These investigations pointed out that General Construction Specification G-29M gives several alternatives for the separation of carbon steel and stainless steel, one of which is the application of paint to carbon steel before its contact with the stainless steel. With regard to this paint wearing through or being rubbed off by hand, these reports stated that walkdowns of the plant failed to document this condition. However, the reports and cognizant individual did state that rubbing the zinc primer tends to polish the zinc which takes on the appearance of bare metal.

Based on the consistency of these reports, my interview of cognizant individual, and review of applicable specifications, I agree that these concerns can not be substantiated.



ELEMENT REPORT (Continued)

Subcategory: C0110  
Hangers/Supports - Contact  
Between Dissimilar Metals

V. Root Cause

There is no problem and therefore no root cause.

VI. Corrective Actions

None

VII. Generic Applicability

None

VIII. Attachments

None

## ELEMENT REPORT

Subcategory: CO110  
Hangers/Supports  
Use of Specifications

### I. Introduction

This element addresses three concerns (EX-85-061-005, IN-85-600-003, and IN-86-118-001) on the subject of use of specifications.

### II. Summary of Perceived Problems

The perceived problems within this element are a combination of availability of the 47A050 series notes to the craft and the training of craft to these notes in the past.

### III. Evaluation Methodology

- A. Reviewed the current distribution list for the 47A050 notes to determine how many copies are issued to the different crafts.
- B. Interviewed cognizant individuals about availability of the 47A050 notes now and in the past. Also, discussed past and present training efforts.
- C. Reviewed line managements response to employee concern IN-86-118-001.

### IV. Summary of Findings

The responsible craft superintendent was interviewed on this matter and gave the following history. During the earlier days (1978-80) of the hanger program, the craftsmen were given no formal training on specifications and had only limited access to specification notes. As the program progressed, it became evident that this was a shortcoming.

This shortcoming was addressed by allowing foremen to request controlled copies of the 47A050 notes. Four foremen requested and received copies. The general understanding among craft is, if the need arises for additional sets of these notes, they can be obtained by request of the craft superintendent. Also, in September 1985, a training class was conducted on the 47A050 notes for foremen and their dual rates. According to the cognizant individual, in charge of training, additional training classes will be conducted as revision to the notes dictates.

ELEMENT REPORT (Continued)

Subcategory: C0110  
Hangers/Supports  
Use of Specifications

1 According to the current distribution list in the Drawing Distribution Center, there are 24 copies of the 47A050 notes issued to the craft. The steamfitter craft have 8 copies, electricians have 10 copies, and sheetmetal has 6 copies.

The review of line management's response to concern(s) IN-86-118-001 showed that they concur with the findings stated above. Remove

Based on the finding above, the concerns of this element cannot be substantiated with respect to the current availability of the specifications. The fact that this was not true during the period from 1978 to 1980 is substantiated. However, if any problems were encountered with the supports that were installed during this time they would have been caught at time of inspection. Therefore, the quality of the supports was not compromised as a result of the lack of training and availability of specifications.

V. Root Cause

Failure of management to recognize the need for craftsmen to understand the specifications and procedures governing the work they were doing.

VI. Corrective Actions

No corrective action is required due to the fact that over the years management has realized this deficiency and the necessary corrective actions have already been implemented.

VII. Generic Applicability

None

VIII. Attachments

None

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								A02850222007-002	CO110

KEYWORDS:

X: WBN Y: Z:

TWO ANGLES ATTACHED TO A HANGER WERE NOT INSTALLED IN ACCORDANCE WITH SPECIFIED DIMENSIONAL REQUIREMENTS AND WERE ACCEPTED BY INSPECTION. ENCL 1

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								EX-85-059-002	CO110

KEYWORDS:

X: Y: Z:

STAINLESS STEEL PIPE IS SUPPORTED BY CARBON STEEL HANGERS WITHOUT S/S SHIM STOCK. HANGERS ARE PAINTED, BUT PAINT WILL WEAR THROUGH AND THE S/S WILL BE CONTAMINATED. EG. ACCUMULATOR ROOM #4 (UNIT 2) APPROX. 720' EL. 4" STAINLESS STEEL LINE SUPPORTED BY UN-SHIMMED C/S BOX HANGER. C/I HAS NO MORE INFORMATION. CONSTRUCTION DEPARTMENT CONCER).

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								EX-85-061-005	CO110

KEYWORDS:

X: Y: Z:

WORKERS DO NOT HAVE ACCESS TO THE "050" NOTES TO BUILD CONFIGURATIONS IF DRAWINGS DO NOT SHOW ADEQUATE DETAILS. CONSTRUCTION CONCERN. CI HAS NO ADDITIONAL INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-016-002	CO110

KEYWORDS:

X: Y: Z:

HANGER TAG PLATES PAINTED OR INSULATED-MAKING OBTAINING DATA FROM THE TAG PLATES IMPOSSIBLE. THIS IS A SITEWIDE CONDITION. EXAMPLES: LOCATION: PIPE CHASE EL. 713 (UNIT 1). SYSTEMS: 67, 73, AND 77.

TECHNICAL COMMENTARY:

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								IN-85-052-003	CO110

KEYWORDS:

X: Y: Z:

THE INSTALLATION DRAWINGS ("A" SIZED DRAWINGS) AND CORRESPONDING ISOMETRIC DRAWINGS DO NOT AGREE FOR A GIVEN HANGER DETAIL (I.E.: ORIENTATION AND LOCATION OF HANGER). THIS HAS RESULTED IN THE GENERATION OF MANY IRN'S AND FCR'S. EXAMPLE: CRAFT INSTALLED HANGER NUMBER 62-2 CVC R 212 WHERE HANGER NUMBER 62-2 CVC R216 WAS SUPPOSED TO BE LOCATED. THIS ERROR WAS CAUSED BY CRAFT USING "A" SIZED DRAWING IN LIEU OF ISOMETRIC DRAWING. NO FURTHER INFORMATION AVAILABLE. NO FOLLOW-UP REQUIRED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								IN-85-069-001	CO110

KEYWORDS:

X: Y: Z:

PIPE CLAMPS ON SUPPORTS THAT HAD APPEARED TO HAVE BEEN INSPECTED BUT WERE MISSING NUTS OR THE BOLTS WERE NOT EVEN TURNED TO HAND TIGHTNESS. THIS SITUATION WAS NOTICED IN THE AUXILIARY BUILDING EL 737 & 757 BETWEEN COLUM LINES AL THROUGH A15 EAST WEST & R-V NORTH SOUTH

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								IN-85-109-001	CO110

KEYWORDS:

X: Y: Z:

IMPROPER LUG PLACEMENT MAY RESULT IN UNEVEN STRUCTURAL SUPPORT FOR PIPES. NO OTHER CONTACT REQUIRED

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
			YES					IN-85-250-001	CO110

KEYWORDS:

X: Y: Z:

CRAFT (KNOWN) ON SECOND SHIFT WAS REQUESTED TO HAVE PIPE SUPPORT RE-INSPECTED BY O.C. AFTER WORK ON THESE HANGERS WAS PERFORMED WITHOUT APPROPRIATE WORK RELEASES. C/I IS NOT CERTAIN WHETHER THESE PIPE SUPPORTS WERE EVER RE-INSPECTED. THIS OCCURRED DURING JAN. OR FEB. 1985 IN REACTOR BUILDING #2 ON PIPE SUPPORTS IN SYSTEM 32 NEAR THE RACEWAY AREA AND ACCUMULATOR ROOMS. CONSTRUCTION DEPARTMENT CONCERN.

TECHNICAL COMMENTARY:

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LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-288-001	CO110

KEYWORDS:

X: Y: Z:

SNUBBERS ARE NOT HANDLED PROPERLY AND ARE NOT ADJUSTED AND  
INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDED PRACTICES OF  
PROTECTING THEM IN WATERPROOF COVERINGS, STORING AND CARRYING THEM  
COMPRESSED, AND ADJUSTING THEIR PADDLES ONLY WHILE THEY ARE HELD VERTICAL.  
CONSTRUCTION DEPT CONCERN. (CI HAS NO MORE INFORMATION)  
NO FOLLOWUP REQUIRED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-293-016	CO110

KEYWORDS:

X: Y: Z:

SPECIFIC HANGERS HAVE THREE SEPERATE NUMBERS ON EACH HANGER. BOTTOM OF ANNULUS.  
CONSTRUCTION DEPARTMENT CONCERN. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-349-001	CO110

KEYWORDS:

X: Y: Z:

RB #2, EL 720, HANGER # 2-62A-259 IS WELDED ON TWO (2) SIDES.  
CONCERNED INDIVIDUAL DID NOT KNOW WHAT THE DRAWING CALLED FOR BUT DID  
NOT THINK HANGER WAS INSTALLED PROPERLY. CONSTRUCTION DEPT. CONCERN.  
UNIT 2. CI COULD NOT PROVIDE ANY ADDITIONAL INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-398-001	CO110

KEYWORDS:

X: Y: Z:

UNIT 2 RANDOM SAMPLING ON UNISTRUT CLAMP BOLTS SHOWED MANY  
WERE LOOSE (ONLY REQUIRED HAND TIGHT)- 40% IN SAMPLE FAILED 4 FT LB  
TEST (PROCEDURE ONLY ALLOWED 5% FAILURES). UNIT #1 BOLTS NEVER  
SAMPLED. NO CORRECTIVE ACTION IS KNOWN TO HAVE BEEN TAKEN ON CLAMPS IN  
UNIT 1, OR ON CLAMPS NOT INCLUDED IN UNIT 2 SAMPLE INSPECTION. RECENT  
ADDITION TO O50 NOTES ALLOWS TORQUING OR HAND/WRENCH TIGHTENING.

TECHNICAL COMMENTARY:

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-428-002	CO110

KEYWORDS:

X: Y: Z:

SAW DRAWING DATED SEPT 1977 BEING USED TO INSTALL SNUBBER IN RB 2 AT THE 729' 326 DEGREES IN ACCUMULATOR ROOM #4. SNUBBER INSTALLED ON EST 10" SS LINE-COMES OFF CLAMP ON WALL- CONNECTED AT ABOUT A 15 DEGREE ANGLE.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-445-003	CO110

KEYWORDS:

X: Y: Z:

MANY HANGERS ARE DOCUMENTED ON FABRICATION OPERATION SHEETS (FOSS), BUT DO NOT HAVE INDIVIDUAL ID NUMBERS. ABOUT 85% OF UNIT 1 AND 15% OF UNIT 2 HANGERS ARE DONE THIS WAY. THIS MAKES "FORWARD" TRACEABILITY IMPOSSIBLE. ALSO, INSTALLATION OPERATION SHEETS (IOS) EITHER NOT FILLED OUT OR NOT KEPT IN VAULT. EG, WHEN IRN #TM-71 WAS WRITTEN AGAINST FOS#008 (50 HANGERS) NOT ALL OF THE HANGERS COULD BE LOCATED (JAN. 1982). CI HAS NO FURTHER DETAILS.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
			YES					IN-85-445-X17	CO110

KEYWORDS:

X: Y: Z:

HANGER TYPICALS WERE NOT STRICTLY ADHERED TO DURING FABRICATION AND INSTALLATION, AND NO VARIANCES WERE GENERATED FOR THE DEVIATIONS. AS-BUILT CONFIGURATIONS MAY NOT HAVE BEEN ANALYZED FOR ACTUAL FORCES, MOMENTS AND SEISMIC EFFECTS. DETAILS KNOWN TO QTC, WITHHELD DUE TO CONFIDENTIALITY. UNITS 1 & 2.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-458-004	CO110

KEYWORDS:

X: Y: Z:

HANGERS WERE REMOVED FROM SYSTEM 68 IN UNIT 1 AFTER FINAL ACCEPTANCE BY QC IN LATE 1984. NO DOCUMENTATION AUTHORIZED THE REMOVAL OF THE HANGERS. HANGERS HAVE SINCE BEEN REPLACED. BUT EXTENSIVE INVESTIGATION BY VARIOUS PERSONNEL (NOT KNOWN) FAILED TO DISCLOSE WHO REMOVED HANGERS, WHY THEY WERE REMOVED, OR WHERE THEY WERE TAKEN.

TECHNICAL COMMENTARY:

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(EMPLOYEE CONCERNS)

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-465-001	CO110

KEYWORDS:

X: Y: Z:

PIPE CHASE 713'- STAINLESS STEEL LINES 3/4" HAVE NO STRAPS AND PIPE GOES CLOSE TO HANGER. (CLOSE TO TANK COVERED WITH BLUE INSULATION CLOTH)

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-469-X04	CO110

KEYWORDS:

X: Y: Z:

FABRICATION/INSTALLATION OF HVAC DUCTWORK SUPPORT IS NOT IN ACCORDANCE WITH THE DESIGN DRAWINGS. THE GENERAL CONFIGURATION IS NONCONFORMING, AND IMPROPER AND UNAUTHORIZED/UNDOCUMENTED SUBSTITUTES OF MATERIAL AND SUPPORT TYPE HAVE BEEN MADE. CI STATED AS EXAMPLED: (1) SUPPORT 2030-DW920-10H-1085 IS INSTALLED AS PER DETAIL 47A055-94; IT SHOULD BE INSTALLED AS DETAIL -97 (2) SUPPORT 2030-DW920-10H-1087 IS INSTALLED AS DETAIL -189; IT SHOULD BE DETAIL -17. SYSTEM 31, AUXILIARY BUILDING, UNITS 1 & 2. CONSTRUCTION DEPT. CONCERN. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-490-004	CO110

KEYWORDS:

X: Y: Z:

SOME PIPES RIDING ON LUGS GOING THROUGH PENETRATION SLEEVES MAY NOT HAVE BEEN CORRECTED. UNITS 1 & 2

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-595-005	CO110

KEYWORDS:

X: WBN Y: Z:

WATTS BAR: 1976 STAINLESS STEEL PIPE PERMITTED TO CONTACT CARBON STEEL STRUCTURAL STEEL WITH NO STAINLESS STEEL INSERT (SHIM). THE STRUCTURAL STEEL IS PAINTED WITH A PARTICULAR PAINT THAT PREVENTS CHEMICAL REACTION. (THIS PAINT CAN BE RUBBED OFF BY HAND), THROUGHOUT THE PLANT.

TECHNICAL COMMENTARY:



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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
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								IN-85-600-003	CO110

KEYWORDS:

X: Y: Z:

C/I WAS A HANGER FOREMAN FROM 1978 THRU 1980 IN UNIT #1. THEY HAD NO TRAINING IN PROCEDURES THEY WORK WITH, NOR COULD THEY GET ANY COPIES. THEY WERE TOLD TO INSTALL HANGERS FROM THE HANGER DETAIL DRAWINGS AND THEY ALSO REPAIRED A LARGE NUMBER OF BERGEN-PETTERSON SHOP FAB HANGERS. C/I INDIVIDUAL GAVE UP FOREMAN JOB IN LATE 1980 OR EARLY 1981. EARLY IN 1985 TRAINING IN THE PROCEDURES AND SPECS. STARTED FOR THE CRAFT.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
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								IN-85-625-001	CO110

KEYWORDS:

X: Y: Z:

SEVERAL HANGERS IN UNIT 2 HAVE QC SEAL MATERIAL ON NUTS/BOLTS WHICH HAVE BROKEN. SUPERVISION WAS NOTIFIED BUT CORRECTIVE ACTION IS UNKNOWN, LOCATE AT 692' AUX BLDG (#2 PIPE CHASE, 684') 713 AUX BLDG

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
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								IN-85-672-004	CO110

KEYWORDS:

X: Y: Z:

REPLACEMENT HANGERS OFTEN DIFFER FROM THE ORIGINAL. SOME HANGERS ARE REMOVED BUT NOT REPLACED; DEPENDING ON THE ENGINEER. CI DECLINED TO PROVIDE FURTHER INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
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								IN-85-821-009	CO110

KEYWORDS:

X: Y: Z:

EXTREMELY LARGE NUMBERS OF HANGERS THAT HAVE NEVER BEEN INSTALLED HAVE BEEN THROWN AWAY IN THE MAIN SCRAP YARD. CONSTRUCTION DEPT. CONCERN. CI HAS NO ADDITIONAL INFORMATION.

TECHNICAL COMMENTARY:

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-865-002	CO110

KEYWORDS:

X: Y: Z:

SOME CABLE TRAY SUPPORTS/HANGERS MAY HAVE BEEN INSTALLED IN VIOLATION OF PROCEDURE I.E. HOLES WERE BURNED THROUGH AN I BEAM RATHER THAN DRILLED. CI HAS NO FURTHER INFORMATION. CONSTR. DEPT. CONCERN. FOLLOWUP NOT REQUIRED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-903-002	CO110

KEYWORDS:

X: Y: Z:

HANGER CREWS ARE REQUIRED TO WORK TO UNAPPROVED FCR'S AND SVS (SUPPORT VARIANCE SHEET) - UNIT II.  
NO FURTHER INFORMATION IN FILE.  
CONSTRUCTION DEPARTMENT CONCERN.  
NO FOLLOW UP REQUIRED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
			YES					IN-85-967-001	CO110

KEYWORDS:

X: Y: Z:

SKETCHES PROVIDED BY SUPPORT GROUPS (KNOWN) ARE OF POOR QUALITY AND DO NOT PROVIDE SUFFICIENT INFORMATION REQUIRED TO PERFORM SUPPORT ANALYSIS. DETAILS KNOWN TO QTC, WITHHELD DUE TO CONFIDENTIALITY. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-019-005	CO110

KEYWORDS:

X: Y: Z:

TYPE 85 HANGERS IN REACTOR BUILDING. TWO COOLING AND ACCUMULATOR ROOMS HAVE BEEN IDENTIFIED AS NONCONFORMING, SUPPORTS WERE TO BE FLEXIBLE, BUT RIGID HANGERS WERE INSTALLED; THE SAME PROBLEM EXISTS IN UNIT ONE. CI COULD NOT PROVIDE ANY ADDITIONAL INFORMATION. CONSTRUCTION DEPT. CONCERN.

TECHNICAL COMMENTARY:

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LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
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								IN-86-043-001	CO110

KEYWORDS:

X: Y: Z:

AIR DUCT HANGERS HAVE MISSING AND/OR LOOSE BOLTS. THE HANGERS ARE LOCATED N THE CONTROL BUILDING (UNIT 2) AT ELEV. 700', C-9, C-10, QLINE AND ELEV. 713', A-12, A-13, 1 LINE. CI HAS NO ADDITIONAL INFORMATION. CONSTRUCTION CONCERN/CRAFT, TIE FRAME UNKNOWN. NO FOLLOW UP REQUIRED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								IN-86-116-001	CO110

KEYWORDS:

X: Y: Z:

NOT ALL PIPING HANGERS HAVE ENDS OF TUBE STEEL CLOSED/CAPPED, BUT ELECTRICAL HANGERS DO. WHEN CAPS HAVE BEEN INADVERTANTLY INSTALLED ON PIPING HANGERS, QC HAS MADE THE CRAFT REMOVE THEM. OPEN TUBE STEEL COLLECTS DIRT AND WATER, AND COULD CONCEAL A BOMB OR OTHER PROHIBITED ITEM. (UNIT 11 CONSTRUCTION.) NO ADDITIONAL INFORMATION AVAILABLE IN FILE. NO FOLLOW UP REQUIRED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								IN-86-118-001	CO110

KEYWORDS:

X: Y: Z:

QC SPECIFICATIONS (OSO NOTES) SHOULD BE PROVIDED FOR FIELD USE, WHICH WOULD INCREASE PRODUCTIVITY AND UNDERSTANDING OF SPECIFICATIONS. CONSTRUCTION CONCERN. CI HAS NO ADDITIONAL INFORMATION.

TECHNICAL COMMENTARY:

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-168-004	CO110

KEYWORDS:

X: Y: Z:

HANGER OFF OF THE MAIN STEAM BY-PASS LINE IS NOT SUPPORTED PROPERLY. HANGER IS LOCATED AT NORTH SIDE OF TURBINE BUILDING. I-BEAM AND ALL-THREAD ROD IS SUPPORTING THE MAIN STEAM LINES. UNIT 1 AND UNIT 2. CONSTRUCTION CONCERN.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-200-005	CO110

KEYWORDS:

X: Y: Z:

CI STATED THAT HE SAW A UNISTRUT HANGER PULLED AWAY FROM ITS EMBED PLATE AT SG3 OR 4, UNIT 2, ON 8/15/85. CONSTRUCTION DEPT. CONCERN. CI HAS NO ADDITIONAL INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
			YES					IN-86-300-004	CO110

KEYWORDS:

X: Y: Z:

HANGER ATTACHMENT MAY HAVE BEEN INSTALLED IN AN INDETERMINATE CONDITION. DETAILS KNOWN TO QTC, WITHHELD DUE TO CONFIDENTIALITY. CONSTR. DEPT. CONCERN. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								WBM-6-009-001	CO110

KEYWORDS:

X: Y: Z:

CI IS CONCERNED THAT POST APPLIED BASE PLATES FOR ANSI B31.1, INSTRUMENTS AND CABLE TRAY SUPPORTS HAVE BEEN "FIELD" MODIFIED AND/OR HAVE HAD ADDITIONAL LOADS ADDED WITHOUT GENERATION OF AS BUILT DRAWINGS AND THE SUBSEQUENT REQUIRED REVIEW BY EN DES OF THESE MODIFICATIONS AND/OR ADDITIONALLY APPLIED LOADS, AS REQUIRED BY ANSI N45.2.11. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

04/23/86

(EMPLOYEE CONCERNS)

PAGE: 10

10:33:40

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
---	-----	-----	-----	---	---	-----	---	WI-85-065-001	CO110

KEYWORDS:

X:

Y:

Z:

REACTOR BUILDING #2, RACEWAY (GO DOWN THE AIRLOCK AND TO THE RIGHT, OUTSIDE THE REACTOR) CONDUIT HAS 2" 66" HANGERS INSTALLED, AND THE REMAINDER OF THE SUPPORTS ARE WIRE HANGING FROM THE CEILING. THIS WAS DONE DUE TO THE WELDERS HAVING BEEN FURLOUGHED, AND IS STILL IN THE SAME CONDITION AS IT WAS - 4 WEEKS AGO. C/I HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
---	-----	-----	-----	---	---	-----	---	WI-85-091-013	CO110

KEYWORDS:

X:

Y:

Z:

TVA IS FABRICATING BERGEN PATTERSON PARTS TO A BERGEN PATTERSON DRAWING; ESPECIALLY PIPE CLAMPS. IT IS NOW DIFFICULT OR IMPOSSIBLE TO DETERMINE WHICH PIPE CLAMPS, AND OTHER PARTS, WERE MADE BY BERGEN PATTERSON OR FABRICATED BY TVA. CI HAS NO FURTHER INFORMATION. CONSTRUCTION DEPT. CONCERN.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
---	-----	-----	-----	---	---	-----	---	XX-85-038-001	CO110

KEYWORDS:

X: SON Y:

Z:

SEQUOYAH: 1976 STAINLESS STEEL PIPE PERMITTED TO CONTACT CARBON STEEL STRUCTURAL STEEL WITH NO STAINLESS STEEL INSERT ("SHIM"); IF THE STRUCTURAL STEEL IS PAINTED WITH A PARTICULAR PAINT THAT PREVENTS CHEMICAL REACTION. THIS PAINT CAN BE RUBBED OFF THE HAND AND IS THROUGHOUT THE PLANT.

TECHNICAL COMMENTARY:

Subcategory C012.0  
Subcategory Title: Workplan/Work  
Control

Employee Concern Number	NSRS or QTC Report Number (If Issued)	Line Response (Organization-If Issued)
IN-85-915-001		
IN-85-947-003		
IN-85-962-003		
IN-85-973-005		
IN-85-978-008		
IN-85-978-009		
IN-85-985-001		
IN-85-993-X12		
IN-85-999-001		
IN-85-019-006		
IN-86-102-001	NSRS I-85-513-WBN	
	NSRS I-85-427-WBN	
IN-86-102-002	NSRS I-85-513-WBN	
IN-86-103-001	NSRS I-85-427-WBN	
IN-86-103-002	NSRS I-85-428-WBN	
IN-86-134-001	NSRS I-85-461-WBN	
IN-86-179-002		CONST
IN-86-205-002		
IN-86-232-X03		CONST
IN-86-257-002		CONST
IN-86-261-002		
IN-86-266-004		
IN-86-270-007		
IN-86-309-001		
IN-86-309-002		
PH-85-001-007		
WBP-5-017-006		
WBP-6-013-002		
WI-85-061-001		
WI-85-091-005		
WI-85-091-006		
WI-85-091-012		
WI-85-100-032		
XX-85-070-003	NSRS I-85-637-SQN	
XX-85-086-001		
XX-85-101-002		
XX-85-120-002		
XX-85-120-006		
PH-85-035-005		
SQP-6-002-001		
IN-86-311-001		
IN-86-314-005		
SQP-6-003-003		
IN-85-986-X02		

Subcategory C012.0  
Subcategory Title: Workplan/Work  
Control

<u>Employee Concern Number</u>	<u>NSRS or QTC Report Number (If Issued)</u>	<u>Line Response (Organization-If Issued)</u>
EX-85-052-003		
EX-85-052-006	NSRS I-85-669-WBN	
EX-85-058-002		
EX-85-094-002		
IN-85-019-001		
IN-85-046-002		
IN-85-046-008		
IN-85-057-003		
IN-85-093-001		CONST
IN-85-111-001		
IN-85-215-001		
IN-85-263-001		
IN-85-277-001	NSRS I-85-674-WBN	
IN-85-286-001		
IN-85-286-007		
IN-85-293-003		
IN-85-293-014		
IN-85-348-004		
IN-85-363-002		CONST
IN-85-377-001		CONST
IN-85-382-007		
IN-85-388-009		CONST
IN-85-409-002		CONST
IN-85-410-007		
IN-85-410-011		
IN-85-418-001		CONST
IN-85-423-001		CONST
IN-85-437-002		
IN-85-442-009		
IN-85-442-014		
IN-85-447-003		
IN-85-480-006		
IN-85-480-007		
IN-85-514-003		CONST
IN-85-514-007		CONST
IN-85-520-003		
IN-85-579-002		
IN-85-595-003		
IN-85-618-002		CONST
IN-85-743-010		
IN-85-762-002		
IN-85-787-001		CONST
IN-85-816-002		CONST
IN-85-847-006	NSRS I-85-360-WBN	CONST
IN-85-898-002		CONST

INITIAL EVALUATION PLAN

Category: Construction

Subcategory: Work Plan/Work Control

Prepared by:

James R. Russell

Date

Recommended by:

James M. Brath

Date

Approved by:

MURudolph

Group Head

Date



INITIAL EVALUATION PLAN FOR  
SUBCATEGORY

Description of Perceived Problems:

The concerns in this subcategory involved:

1. Unauthorized Work Being Done
2. Questionable Engineering Decisions and Practices
3. Inadequate Walkdowns
4. Craftsmen Designing Hangers (i.e. Engineers Drawing Up a Hanger After Craftsmen had Constructed what Proved to be Workable)
5. Rework Due to Poor Planning and Coordination Between Crafts and Engineers
6. Poor Quality Work Packages to Include Incomplete Packages, Drawing and Weld Map Errors, Unworkable Designs, and Wrong Drawing Revisions

Lead Evaluator: James R. Russell

Evaluators: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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Initial Evaluation Plan

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- I. List of Concerns by Concern Number
- II. Elements and Attributes of Concerns
- III. List of Criteria (Including Document Numbers and Revisions)
- IV. Interviews
- V. Action Plan (Including Staffing and Scheduling)
- VI. Instructions/Criteria for Additional Data Evaluations
- VII. Progress Reporting Requirements and Milestones
- VIII. Determination as to Whether or Not Surveillance, Test/Reinspections are Necessary
- IX. Root Cause Determination
- X. Generic Applicability Determination
- XI. Proposed Immediate and Long-Term Corrective Actions
- XII. Prepare Report

I. Concerns for Subcategory

<u>Concern No.</u>	<u>Element</u>
WI-85-100-032	: Unauthorized Work
IN-85-947-003	: Unauthorized Work
XX-85-101-002	: Unauthorized Work
WBP-5-017-006	: Unauthorized Work
IN-86-102-002	: Unauthorized Work
IN-85-286-007	: Unauthorized Work
IN-85-962-003	: Unauthorized Work
IN-85-277-001	: Unauthorized Work
IN-85-579-002	: Unauthorized Work
WI-85-091-005	: Unauthorized Work
IN-85-019-001	: Unauthorized Work
IN-85-093-001	: Unauthorized Work
IN-86-103-002	: Unauthorized Work
IN-86-103-001	: Unauthorized Work
IN-86-102-001	: Unauthorized Work
IN-85-410-007	: Unauthorized Work
IN-85-410-011	: Unauthorized Work
IN-85-996-002	: Unauthorized Work
WI-85-061-001	: Unauthorized Work
IN-86-232-X03	: Unauthorized Work
EX-85-052-006	: Unauthorized Work
IN-85-046-002	: Unauthorized Work
IN-85-046-008	: Unauthorized Work
IN-85-915-001	: Unauthorized Work
IN-85-847-006	: Unauthorized Work
A02850517001-002	: Unauthorized Work
IN-85-286-001	: Questionable Engineering Practices
IN-86-270-007	: Questionable Engineering Practices
IN-85-388-009	: Questionable Engineering Practices
XX-85-086-001	: Questionable Engineering Practices
IN-85-388-007	: Questionable Engineering Practices
EX-85-058-002	: Questionable Engineering Practices
IN-85-973-005	: Questionable Engineering Practices
A02840928001-001	: Questionable Engineering Practices
IN-86-205-002	: Questionable Engineering Practices
	:
IN-85-215-001	: Inadequate Walkdowns & Walkdown Infor.
IN-85-442-009	: Inadequate Walkdowns & Walkdown Infor.
IN-85-442-014	: Inadequate Walkdowns & Walkdown Infor.
IN-86-309-002	: Inadequate Walkdowns & Walkdown Infor.
	:
WBP-6-013-002	: Craft Designed Hangers
IN-86-088-002	: Craft Designed Hangers
IN-85-520-003	: Craft Designed Hangers
IN-85-595-003	: Craft Designed Hangers
XX-85-120-002	: Craft Designed Hangers
IN-85-447-003	: Craft Designed Hangers
WI-85-091-006	: Craft Designed Hangers

I. Concerns for Subcategory

<u>Concern No.</u>	<u>Element</u>
IN-85-787-001	: Poor Planning & Coordination
EX-85-052-003	: Poor Planning & Coordination
IN-85-514-007	: Poor Planning & Coordination
IN-85-978-008	: Poor Planning & Coordination
IN-85-362-002	: Poor Planning & Coordination
IN-85-057-003	: Poor Planning & Coordination
IN-85-437-002	: Poor Planning & Coordination
IN-86-257-002	: Poor Planning & Coordination
IN-85-409-002	: Poor Planning & Coordination
IN-85-377-001	: Poor Planning & Coordination
IN-85-999-001	: Poor Planning & Coordination
IN-85-978-009	: Poor Planning & Coordination
IN-85-514-003	: Poor Planning & Coordination
IN-86-179-002	: Poor Planning & Coordination
WI-85-091-012	: Poor Planning & Coordination
IN-85-816-002	: Poor Planning & Coordination
	:
IN-85-480-007	: Poor Quality of Work Packages
EX-85-094-002	: Poor Quality of Work Packages
IN-85-480-006	: Poor Quality of Work Packages
IN-85-618-002	: Poor Quality of Work Packages
IN-85-348-004	: Poor Quality of Work Packages
IN-86-309-001	: Poor Quality of Work Packages
IN-85-898-002	: Poor Quality of Work Packages
IN-85-743-010	: Poor Quality of Work Packages
IN-85-418-001	: Poor Quality of Work Packages
IN-85-423-001	: Poor Quality of Work Packages
IN-85-263-001	: Poor Quality of Work Packages
IN-85-762-002	: Poor Quality of Work Packages
IN-86-134-001	: Poor Quality of Work Packages
A02851028008-003	: Poor Quality of Work Packages
XX-85-070-003	: Poor Quality of Work Packages

## II. Elements and Attributes

Elements	Attributes
I. Unauthorized Work	A. Removal/Alteration of Feature Without Work Release or Proper Documentation
	B. Working With Unapproved Drawings
	C. Superior Instructs Craftsman to do Unauthorized Work
	D. Working Changes Without Approved FCR
II. Questionable Engineering Practices	A. Desings Not Feasible to Construct
	B. Engineers Not Verifying or Field Checking Craft Work
	C. Engineers Not Qualified/Competent
	D. Engineers Avoid Supporting Craft or Processing Changes
	E. No Documentation of How Engineering Evaluations are Made
III. Inadequate Walkdown & Walkdown Information	A. Information Not Complete/Accurate
	B. Drawings Not Marked Up After Walkdown
	C. Walkdown Accurred Concurrently With Craft Work on System
IV. Craft Designed Hangers	A. Craft Field - <sup>Designs</sup> Desings Feature With Engineer's Permission
	B. Craft Field - Designs Feature on Supervisor's Orders
V. Poor Planning & Coordination	A. Obviously Avoidable Rework
	B. Work Out of Sequence
	C. Lack of Communication Craft/Engr.
	D. Inadequate Details
	E. Sporadic Work Flow

## II. Elements and Attributes

[illegible]

III. List of Criteria

1. Information Source - (Applicable Procedures, OE Documents, Previous Reports, NSRS/QTIC/ERT Investigation Reports Including revision or date)	Date Added to List	Applicable Section	2. Comments
QCI 1.60 R0	:	:	: "Work Control" New Procedure
QCI 1.30 R10	:	:	: "Control of Work --- Unit 1"
QCI 1.56 R9	:	:	: "Work Packages"
QCI 1.22 R8	:	:	: "Transfer --- to Nuc Power"
QCI 1.07 R11	:	:	: "Work Release"
SCR WBN-6497-55	:	:	: "Inadequate Constr. Work Control"
NCR WBN 6497	:	:	: Work Control NCRs
NCR WBN 6382	:	:	: Work Control NCRs
NCR WBN 6530	:	:	: Work Control NCRs
NCR WBN 6525	:	:	: Work Control NCRs
NCR WBN 6476	:	:	: Work Control NCRs
NCR WBN 6526	:	:	: Work Control NCRs
NCR WBN 6600	:	:	: Work Control NCRs
NCR WBN 6616	:	:	: Work Control NCRs
NCR WBN 6613	:	:	: Work Control NCRs
NCR WBN 6558	:	:	: Work Control NCRs
NCR WBN 6595	:	:	: Work Control NCRs
NCR WBN 6604	:	:	: Work Control NCRs
NCR WBN 6589	:	:	: Work Control NCRs
NCR WBN 6626	:	:	: Work Control NCRs
NCR WBN 6440	:	:	: Work Control NCRs
NCR WBN 6636	:	:	: Work Control NCRs
NCR WBN 6625	:	:	: Work Control NCRs
NCR WBN 6664	:	:	: Work Control NCRs

Additional sources will be added by the evaluator.

2. State attribute and how it relates with requirement.

III. List of Criteria

1. Information Source - (Applicable Procedures, OE Documents, Previous Reports, NSRS/QTC/ERT Investigation Reports Including revision or date)	Date Added to List	Applicable Section	2. Comments
QCI 1.13 R14	:	:	: "Prep. & Docu. --- FCRs"
SCR WBN 6297-S	:	:	: "As-Constr. Dwg Program Def."
NCR WBN 293-PS	:	:	: As-Constr. & Work Control NCRs
NCR WBN 294-PS	:	:	: As-Constr. & Work Control NCRs
NCR WBN 300-PS	:	:	: As-Constr. & Work Control NCRs
NCR WBN 301-PS	:	:	: As-Constr. & Work Control NCRs
NCR WBN 302-PS	:	:	: As-Constr. & Work Control NCRs
NCR WBN 303-PS	:	:	: As-Constr. & Work Control NCRs
NCR WBN 304-PS	:	:	: As-Constr. & Work Control NCRs
NCR WBN 306-PS	:	:	: As-Constr. & Work Control NCRs
NCR WBN 307-PS	:	:	: As-Constr. & Work Control NCRs
NCR WBN 313-PS	:	:	: As-Constr. & Work Control NCRs
NCR WBN 323-PS	:	:	: As-Constr. & Work Control NCRs
NCR WBN 326-PS	:	:	: As-Constr. & Work Control NCRs
NCR WBN 328-PS	:	:	: As-Constr. & Work Control NCRs
NCR WBN 335-PS	:	:	: As-Constr. & Work Control NCRs
NCR WBN 339-PS	:	:	: As-Constr. & Work Control NCRs
NCR WBN 340-PS	:	:	: As-Constr. & Work Control NCRs
NCR WBN 6297	:	:	: As-Constr. & Work Control NCRs
NCR WBN 5446	:	:	: As-Constr. & Work Control NCRs
NCR WBN 6467	:	:	: As-Constr. & Work Control NCRs
NCR WBN 6488	:	:	: As-Constr. & Work Control NCRs

1. Additional sources will be added by the evaluator.
2. State attribute and how it relates with requirement.



III. List of Criteria

1. Information Source - (Applicable Procedures, OE Documents, Previous Reports, NSRS/QTC/ERT Investigation Reports Including revision or date)	Date Added to List	Applicable Section	2. Comments
---	--------------------------	-----------------------	-------------

Responsibility & Accountability :	:	:	New Position in WBN QA
Profile for Quality Improvement:	:	:	Organize
Group Supervisor :	:	:	
NSRS Report No. I-85-360-WBN :	:	:	
on Concern IN-85-847-006 :	:	:	
NSRS Reports/Concerns :	:	:	
I-85-669-WBN/EX-85-052-006 :	:	:	
I-85-382-WBN/IN-85-410-006 :	:	:	
I-85-839-001/IN-85-839-001 :	:	:	
I-85-851-WBN/IN-85-852-001 :	:	:	
Package of Several Reports :	:	:	
by ERT, NSRS, Plus PMO :	:	:	
Responses Covering Concern :	:	:	
IN-85-088-002 :	:	:	
NSRS Reports/Concerns :	:	:	
IN-85-032-001 :	:	:	
I-85-710-WBN/IN-85-250-001 :	:	:	
I-85-674-WBN/IN-85-277-001 :	:	:	
I-85-705-WBN/IN-85-289-006 :	:	:	
I-85-852-WBN/IN-85-527-001 :	:	:	
I-85-501-WBN/IN-86-155-002 :	:	:	
I-85-706-WBN/IN-86-314-004 :	:	:	

Additional sources will be added by the evaluator.

2. State attribute and how it relates with requirement.

III. List of Criteria

1. Information Source - (Applicable Procedures, OE Documents, Previous Reports, NSRS/QTC/ERT Investigation Reports Including revision or date)	Date Added to List	Applicable Section	2. Comments
NSRS Report/Concern	:	:	
I-85-513-WBN/IN-86-102-002	:	:	
Package of Responses, Response	:	:	
Evaluations and NSRS Reports	:	:	
(I-85-427) on Concerns	:	:	
IN-86-102-001	:	:	
NSRS Report I-85-637-SQN	:	:	
Covering XX-85-070-003	:	:	
NSRS Report I-85-513-WBN	:	:	
Covering IN-86-102-002	:	:	
Package Containing PMO	:	:	
Responses and NSRS Reports	:	:	
(I-85-623-WBN) Covering	:	:	
IN-85-279-002, IN-85-279-003	:	:	
and IN-86-232-X03	:	:	
NSRS Reports/Concerns	:	:	
I-85-239-WBN/IN-85-595-005	:	:	
I-85-461-WBN/IN-86-134-001	:	:	
I-85-428-WBN/IN-86-103-002	:	:	
I-85-427-WBN/IN-86-102-001	:	:	
and IN-86-103-001	:	:	

Additional sources will be added by the evaluator.

2. State attribute and how it relates with requirement.



V. Action Plan - Initial

## CROSS-REFERENCE MATRIX

Evaluation Plan Step Number	Concern(s) Addressed By Step	Element(s) Addressed	Attribute(s) Addressed
<del>I.</del> All	IN-85-286-007 IN-85-962-003 IN-85-019-001 IN-85-093-001 IN-86-103-002 IN-86-103-001 IN-86-102-001 IN-85-410-007 IN-85-410-011 IN-85-996-002 WI-85-061-001 EX-85-052-006 A02850517001-002 IN-86-102-002 WBP-5-017-006	Unauthorized Work	Removal/Alteration of Feature Without Work Release or Proper Documentation
<del>I.</del> All	IN-85-847-006 IN-85-915-001 IN-85-046-008	Unauthorized Work	Working With Unapproved Drawings
<del>I.</del> All	IN-85-046-002 IN-85-277-001 IN-85-579-002	Unauthorized Work	Superior Instructs Craftsman to do Unauthorized Work
<del>I.</del> All	IN-86-232-X03 WI-85-091-005 XX-85-101-002 IN-85-947-003 WI-85-100-032	Unauthorized Work	Working Changes Without Approval FCR
<del>II.</del> All	IN-85-286-001	Questionable Engineering Practices	Designs Not Feasible to Construct

V. Action Plan - Initial

## CROSS-REFERENCE MATRIX

Evaluation Plan Step Number	Concern(s) Addressed By Step	Element(s) Addressed	Attribute(s) Addressed
<del>II.</del> All	IN-86-270-007 IN-85-388-009	Questionable OC Engineering Practices	OC Engineers Not Verifying or Checking Craft Craft Work
<del>II.</del> All	XX-85-086-001 IN-85-388-007 IN-86-205-002	Questionable OC Engineering Practices	OC Engineers Not Qualified/ Competent
<del>II.</del> All	EX-85-058-002	Questionable OC Engineering Practices	OC Engineers Avoid Supporting Craft or Processing Changes
<del>IX.</del> All	IN-85-973-005 A02840928001-001	Questionable OC Engineering Practices	No Documentation of How OC Engineering Evaluations are Made
<del>III.</del> All	IN-85-215-001 IN-85-442-009	Inadequate Walk- Down, & Walkdown Information	Information Not Complete, Accurate
<del>III.</del> All	IN-85-442-014	Inadequate Walk- Down, & Walkdown Information	Drawing Not Marked Up After Walkdown

V. Action Plan - Initial

## CROSS-REFERENCE MATRIX

Evaluation Plan Step Number	Concern(s) Addressed By Step	Element(s) Addressed	Attribute(s) Addressed
<del>III.</del> All	IN-86-309-002	Inadequate Walk- down, & Walkdown Information	Walkdown Occurred Concurrently With Craft Work on System
<del>IV.</del> All	WBP-6-013-002 IN-85-520-003 IN-85-595-003 XX-85-120-002 IN-85-447-003 WI-85-091-006	Craft Designed Hangers	Craft Field- Designs Feature With OC Engineer's Permission
<del>IV.</del> All	IN-85-088-002	Craft Design Hangers	Craft Field- Designs Feature on Supervisor's Orders
<del>V.</del> All	IN-85-514-003 IN-85-999-001 IN-85-409-002 IN-85-057-003 IN-85-437-002 IN-85-978-008 IN-85-816-002	Poor Planning & Coordination	Obviously Avoidable Rework

V. Action Plan - Initial

## CROSS-REFERENCE MATRIX

Evaluation Plan Step Number	Concern(s) Addressed By Step	Element(s) Addressed	Attribute(s) Addressed
<del>X.</del> All	IN-85-978-009 IN-85-377-001 IN-86-257-002 IN-85-362-002 IN-85-514-007	Poor Planning & Coordination	Workout of Sequence
<del>X.</del> All	IN-85-787-001 WI-85-091-012	Poor Planning & Coordination	Lack of Commun- ication, Craft/ OC Engineer
<del>X.</del> All	EX-85-052-003	Poor Planning & Coordination	Inadequate Details
<del>X.</del> All	IN-86-179-002	Poor Planning & Coordination	Sporadic Work Flow
<del>VI.</del> All	IN-85-480-007 IN-85-480-006 IN-86-309-001 IN-85-898-002 IN-85-743-010 IN-85-423-001 IN-85-762-002 A02851028008-003 XX-85-070-003	Poor Quality of Work Packages & Work Package Control	Packages Incom- plete, Inaccurate

V. Action Plan - Initial

## CROSS-REFERENCE MATRIX

Evaluation Plan Step Number	Concern(s) Addressed By Step	Element(s) Addressed	Attribute(s) Addressed
<del>VI.</del> All	IN-85-418-001 IN-85-348-004 IN-85-618-002	Poor Quality of Work Packages & Work Package Control	Working With Split Packages
<del>VI.</del> All	IN-86-134-001	Poor Quality of Work Packages & Work Package Control	Procedures and 47A050 Notes Not Available to Crafts
<del>VI.</del> All	IN-85-263-001 EX-85-094-002	Poor Quality of Work Packages & Work Package Control	Inadequate Dis- tribution and Con- trol of Packages



V. Action Plan - Initial

## Summary and Explanation of Action Plan

We will not individually address each concern in this subcategory. Instead, we will address them in groups containing as many as 14 concerns. Our reasons for this approach are:

-We feel that most of the concerns are symptoms of larger, generic problems.

-Few of the concerns can be specifically investigated.

-Very few (and possibly none) of the concerns lend themselves to a physical fix or inspection.

A key point in our evaluation is that Watts Bar management has already recognized that significant work planning/work control problems do exist, and they have addressed them by a major rework of their work control system.

Watts Bar management's primary answer to their work planning/control problems is the new QCI (Quality Control Instruction) 1.60. We will review the new procedure against each problem area (as defined by attributes) and evaluate the degree to which it will address each problem area. This will be the centerpiece of our evaluation.

We intend to confine our recommendations to the technical aspects or mechanics of work planning and control, and insure that they are adequate. However, we expect that some of our problems will have root causes that go beyond this and into the "soft" areas of management technique. By this we mean management's ability to adequately train, motivate, and influence the work force attitude toward quality assurance. We expect these problems to be addressed by the evaluation groups covering the management and personnel, and QA/QC categories. We will interface with them and refer to their recommendations for such problems. We also intend to interface with the new Quality Assurance organization at Watts Bar and refer to their future plans as they relate to management problems.

The evaluation activities mentioned above address Watts Bar's ability to manage work control in the future. We must also address the impact of past work control problems. Watts Bar is developing a plan to measure the past extent of work control problems, and identify and correct any major deficiencies. We will evaluate their plan.

V. Action Plan - Initial~~Summary and Explanation of Action Plan~~

## Action Plan Steps

1. Contact QTC to determine if there is additional information available on the concerns in this subcategory. Review reports.
2. Search Employee Concerns Task Group files and obtain copies of any NSRS reports, SCRs, or PMO responses applicable to the concerns in this subcategory. Review and categorize these findings as to whether they support or deny this subcategories' problem attributes.
3. Obtain copies of recent NCRs, NRC audit findings, or SCRs related to work control. Request this information from Nuclear Licensing Unit and Quality managers staff. Review and categorize these findings as to whether they support or deny this sub-categories's problem attributes.
4. Look for relevant trending data to determine if it supports this category's concerns. Obtain from Trending Unit.
5. Obtain sections of higher tiered documents that address work control. Review current work control procedures against these. Get assistance on what sections are applicable from Procedures Unit and QMO staff.
6. Review new work plan/work control procedure QCI 1.60 rev 0 to determine if it adequately addresses problem attributes.
  - a. Compare it to the procedures it replaces. These are:
    - WBN-QCI-1.30 "Control of Work on Transferred Systems and Untransferred Systems Behind Unit 1 Security"
    - WBN-QCI-1.56 "Work Packages"
    - WBN-QCI-1.07 R11 "Work Release"Determine if the differences between the old and new procedures are significant.
  - b. Gain a more detailed understanding of the specific mechanics of the new work control procedure. (For example: What does it mean when the procedure says that the engineer will "closely monitor ongoing work . . ." ? How is he expected to do this?) Gain this information by:

V. Action Plan - Initial~~Summary and Explanation of Action Plan~~

## Action Plan Steps

- Going through the standard site training on QCI 1.60
  - Interview a representative cross section of plant management and group leaders to determine their perception of how the procedure is to be implemented. Include as a minimum:
    - the Construction engineer
    - all assistant Construction engineers
    - the Quality manager
    - five craftsmen
    - the Construction superintendent
    - two Engineering supervisors
    - two Engineering group leaders
    - two Assistant Craft superintendents
    - one Assistant Quality manager
    - one Quality control supervisor
- c. Analyze the new procedure and management's interpretation of it, and determine the degree to which it addresses each problem attribute in this asubcategory. Also, during the above-mentioned interview, ask each management scale person to do the same and provide explanations. Ask him to elaborate on how he personally intends to encourage or enforce procedure compliance.
7. In response to various NCRs and audit findings, Watts Bar management has agreed that certain work control problems do exist. Determine which types of problems (as defined by attributes) their concurrence covers. Do this by interviewing the Construction engineer, Quality manager, and Construction superintendent.
8. After reviewing management's concurrence on existing problems, and after reviewing available reports, SCRs, NCRs, NRC audit findings, and trending data, determine which problem types (as defined by attributes) have not been verified to exist. Investigate these and attempt to verify if they are valid or not.
9. Attempt to determine root causes for each attribute category.

V. Action Plan - Initial~~Summary and Explanation of Action Plan~~

## Action Plan Steps

10. Some attribute categories may have root causes that fall into the "soft" areas of management's ability to adequately train, motivate, and control the work force attitude toward quality control (specifically the "failure to follow procedure" items). In these cases we will:
  - a. Show these concerns to the management and personnel and QA/QC concerns task groups and determine if they are addressing similar root causes. If so, we will evaluate the adequacy of their recommendations and reference them in our report. If we feel their answers to be inadequate, we will then develop our own recommendations.
  - b. Interview cognizant individuals in WBN's new QA organization. Evaluate their planned program changes. Determine the degree to which these changes will address the previously mentioned management problems. Specifically we will be looking for:
    - The plans to form quality improvement groups that are similar to quality circles.
    - The plans to develop new statistical measures of quality problems that will allow us to gauge how widespread a specific quality problem is.
11. Evaluate Watts Bar's plan to measure the extent of past work control violations, and their plans to identify and correct specific, problems in their major problem areas. Do this by interviewing the Construction engineer, Quality manager, and the cognizant individuals assigned to this task.

VI. Instruction/Criteria for Additional Data Evaluations

(This is to be used when limited additional inspections, test, evaluations are necessary to answer the question in section VIII.)

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

## VII. Progress Reporting Requirements and Milestones

	<u>MILESTONE</u>	<u>DATE</u>
No. 1	PREPARE FINAL EVALUATION PLAN (FINISH)	31 Mar 86
No. 2	PERFORM FINAL EVALUATION (FINISH)	29 Apr 86
No. 3	COORDINATE WITH LINE MANAGEMENT (FINISH)	06 May 86
No. 4	FINAL REPORT/CA DRAFT (FINISH)	12 May 86
No. 5	SRB REVIEW/APPROVAL (FINISH)	16 May 86
No. 6	ISSUE FINAL REPORT (FINISH)	23 May 86

- .III. Answer the Question, are Statistical Sampling Actions Tests/Reinspections Necessary?  
(Proceed to preparation of final EP if answer is yes)

IX. Root Cause Determination

- X. Generic Applicability Determination: Section \_\_\_\_\_, Paragraph \_\_\_\_\_  
of Program Manual    \_\_\_WBN   \_\_\_SQN   \_\_\_BFN   \_\_\_BLN

XI. Proposed Immediate and Long-Term Corrective Actions

XII. Prepare Report

Attachment A

QTC QUESTIONNAIRE

Concern No. \_\_\_\_\_

Date: \_\_\_\_\_

1. Without revealing the identity of the CI, can a timeframe for the concern be identified, if so when?
2. Without revealing the identity of the CI, can specific items be identified, if so when?
3. Without revealing the identity of the CI, can any specific locations be identified, if so what are they?
4. Without revealing the identity of the CI, can any other individuals be identified, if so who?
5. Without revealing the identity of the CI, is there any other information in the QTC file that may be of aid in this investigation (such as, QTC, NSRS, NRCC, Construction, Nuclear Power investigation, etc.), if so what?
6. Is this a concern of the Office of Nuclear Power, Construction, or both?

Additional Comments:



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10:57:49

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								A02840928001-001	CD120

KEYWORDS:

X: WBN Y: Z:

CONCERN THAT WORK PERFORMED ON TEMPORARY BASIS BE ACCEPTED FOR PERMANENT USE  
THOUGH ADEQUATE QA CONTROLS HAD NOT BEEN APPLIED. (ENCL)

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								A02850517001-002	CD120

KEYWORDS:

X: WBN Y: Z:

ELECTRICAL HANGERS HAVE BEEN MODIFIED AFTER INITIAL INSPECTION AND NOT  
REINSPECTED. (ENCL 1 - ITEM 2)

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								A02850723002-001	CD120

KEYWORDS:

X: Y: Z:

EXAMPLES OF PROCEDURAL COMPLIANCE VIOLATIONS WITH CONCERN TO SAFETY--  
RELATED CABLE INSTALLATION ENCLOSURE 1 PG 1

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								A02851028008-003	CD120

KEYWORDS:

X: WBN Y: Z:

ENC 1 PG 1 WORK PERFORMED ON DG WITHOUT ADEQUATE WORK PLAN TO ESTABLISH CONTROL  
RESULTING IN IMPROPER INSTALLATION.

TECHNICAL COMMENTARY:

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
---	---	---	---	---	---	---	---	EX-85-052-003	CC120

KEYWORDS:

X: Y: Z:

ENGINEERING SHOWS VERY POOR PLANNING IN MUCH OF THEIR WORK  
PACKAGE PREPARATION. ENGINEERING IS THE BIGGEST PROBLEM, NOT THE  
CRAFTS. THE LAYOUTS ARE INADEQUATE WHEN GIVEN TO THE CRAFTS. THEY  
OFTEN OMIT IMPORTANT DETAILS. CONSTRUCTION DEPT. CONCERN. CI HAS NO  
ADDITIONAL INFORMATION.  
NO FOLLOW UP REQUIRED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
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KEYWORDS:

X: Y: Z:

CONDUIT IS FREQUENTLY TORN OUT WHEN IT SHOWS ON THE DRAWINGS AS  
BEING IN PLACE AND IT IS DOCUMENTED AS BEING THERE. CONSTRUCTION DEPT  
CONCERN. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
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KEYWORDS:

X: Y: Z:

ENGINEERING WOULD QUITE OFTEN TRY TO AVOID WRITING FCRS WHEN  
IT WAS NECESSARY TO MAKE FIELD CHANGES AT UNIT 2 - WBNF. CONSTRUCTION  
CONCERN. CI HAS NO ADDITIONAL INFORMATION OR NAMES.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
---	---	---	---	---	---	---	---	EX-85-094-002	CC120

KEYWORDS:

X: Y: Z:

PEOPLE CONTROLLING WORK PACKAGES NEED TO BE BETTER ORGANIZED.  
CONSTRUCTION DEPT. CONCERN. CI HAS NO ADDITIONAL INFORMATION. -GENERIC  
CONCERN-

TECHNICAL COMMENTARY:

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
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								IN-85-019-001	CD120

KEYWORDS:

X: Y: Z:

OTHER UNITS (DEBTS) HAVE ATTACHED OR CUT-OUT MEMBERS OF OUR FEATURES WHICH RESULTED IN NCR'S. ALL AFFECTED FEATURES WERE NOT IDENTIFIED, RESULTING IN OVERLOADED ATRUCTURES. ERT ATTEMPTED TO CONTACT CI. CI WOULD NOT RESPOND/PROVIDE ANY ADDITIONAL INFORMATION. CONSTRUCTION DEPT CONCERN.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
			YES					IN-85-046-002	CD120

KEYWORDS:

X: Y: Z:

DURING FEBRUARY 1985, GENERAL FROEMAN (NAME KNOWN) DIRECTED ELECTRICIANS TO INSTALL 3" CONDUIT WITHOUT AUTHORIZATION OR WORK ORDER PACKAGE. THIS OCCURRED IN UNIT 2, ELEV. 757', COLUMN 13 BETWEEN R & S LINE. IT TOOK 1 WEEK TO INSTALL THIS CONDUIT WHICH WAS SUBSEQUENTLY REMOVED 2 WEEKS LATER. C/I DOES NOT RECALL CONDUIT NUMBER OR ANY ADDITIONAL INFORMATION. NO FOLLOW-UP REQUIRED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
			YES					IN-85-046-008	CD120

KEYWORDS:

X: Y: Z:

WHILE FORTHCOMING INSTALLATION DESIGNS ARE STILL ON THE "DRAWING BOARD", SPECIFIC SUPERVISORS (KNOWN) WILL "BOOTLEG" INFORMATION AND INSTRUCT CREWS TO COMMENCE UNAUTHORIZED WORK IN AN EFFORT TO CONVINCE MANAGEMENT THEY CAN COMPLETE THE JOB IN LESS TIME THAN ESTIMATED WHEN ACTUALLY TAKING MORE TIME IN SOME CASES. THESE UNAUTHORIZED INSTALALTIONS FREQUENTLY REQUIRE REMOVAL AS THE "BOOTLEGGED" INFORMATION WAS NOT THE SAME AS THE FINAL DESIGN. THIS REMOVAL IS DONE WITHOUT AUTHORIZATION OR EVEN TO MAANGEMENT'S KNOWLEDGE. CONT. DEPT. CONCERN. CI HAS NO FURTHER INFO.

TECHNICAL COMMENTARY:

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
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								IN-85-057-003	CO120

KEYWORDS:

X: Y: Z:

INTEGRITY IS DEGREDED BY REWORK EVEN WITH QUALITY CONTROL INSPECTORS. ERT ATTEMPTED TO CONTACT CI. CI WOULD NOT RESPOND/PROVIDE ANY ADDITIONAL INFORMATION. CONSTRUCTION DEPT CONCERN.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
			YES					IN-85-093-001	CO120

KEYWORDS:

X: Y: Z:

GENERAL FOREMAN (NAME GIVEN) DIRECTED C/I TO RE-INSTALL A SECTION OF CABLE TRAY WHICH WAS REMOVED TO ALLOW INSULATORS TO WORK. GENERAL FOREMAN WANTED C/I TO DO THE WORK WITHOUT ANY PAPERWORK (WORK AUTHORIZATION). C/I REFUSED TO PERFORM WORK WITHOUT NECESSARY PAPERWORK. CABLE TRAY SECTION IS LOCATED IN UNIT #1, ELEV. 757', NORTH END OF AUX. CONTROL ROOM. INCIDENT OCCURRED BETWEEN MAY - JUNE 1982. C/I DOES NOT REMEMBER CABLE TRAY NUMBER, QA LEVEL OR OR ANY OTHER DETAILS.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								IN-85-111-001	CO120

KEYWORDS: DRAWING AS-BUILT ACCURACY

X: Y: Z:

WORK PERFORMED BY FIELD WORK FORCE, WHICH IS NOT COVERED BY DESIGN DRAWINGS, ARE NOT REFLECTED ON AS-BUILTS. REFERENCE SAMPLE AND FIELD RUN LINES (NON-SAFETY RELATED). NO ADDITIONAL CONTACT REQUIRED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
			YES					IN-85-215-001	CO120

KEYWORDS:

X: Y: Z:

OUTSTANDING WORK ITEMS LIST (OWIL) NOT COMPLETE/ACCURATE FOR UNIT 1; ITEMS ARE ARBITRARILY DELETED OR NOT ADDED BY SUPERINTENDENT (NAME KNOWN)

TECHNICAL COMMENTARY:

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LCC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-263-001	CO120

KEYWORDS:

X: Y: Z:

CI STATED THAT THE STEEL FAB SHOP IS NOT GETTING FGRS ON WORK PACKAGES TO FABRICATE THE MATERIAL BY. AREA FOREMEN CALL AND GIVE A NUMBER AND STATE WHAT THEY NEED. WORK PACAKGES ARE SENT TO THE FIELD. FAB SHOP CANNOT VERIFY CORRECT MATERIAL IS BEING SUPPLIED IF AN "FCR" IS IN EFFECT CHANGING MATERIAL DESIGNATION.

TECHNICAL COMMENTARY:

LCC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
			YES					IN-85-277-001	CO120

KEYWORDS:

X: Y: Z:

CRAFT (KNOWN) WAS INSTRUCTED BY FOREMAN (NAME KNOWN) TO INSTALL 3" PIPE RUN IN TURBINE BUILDING WITHOUT ANY DESIGN DRAWINGS FROM ENGINEERING IN THE WORK PACKAGE. THIS OCCURRED BETWEEN SEPT. 1983 TO SEPT. 1984. CONSTRUCTION DEPARTMENT CONCERN. C/I COULD NOT PROVIDE ANY ADDITIONAL DETAILS/SPECIFICS. NO FOLLOW-UP REQUIRED.

TECHNICAL COMMENTARY:

LCC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-286-001	CO120

KEYWORDS:

X: Y: Z:

ELECTRICAL ENGINEERING MUST RELY ON THE CRAFT TO "FIELD RUN" CONDUIT BECAUSE ENGINEERING DOES NOT KNOWN WHERE EQUIPEMTN AND PENETRATIONS ARE ALREADY INSTALLED: EG., DURING SUMMER OF 1984, ELECTRICIANS WERE GIVEN DRAWING THAT SHOWED LOCATION OF LARGE (2-STORY) VESSEL IN WATER TREATMENT PLANT, BUT SHOWED LIGHTING CIRCUIT CONDUIT TO BE RUN THROUGH IT'S CENTER ABOUT HALFWAY UP VESSEL'S TOTAL HEIGHT (IE. HEAR CIRLING OF LOWER LEVEL OF W.T. BUILDING) CONDUIT HAD TO BE FIELD RUN. (CONSTRUCTION DEPT CONCERN) CI HAS NO FURTHER INFORMATION. NO FOLLOWUP REQUIRED.

TECHNICAL COMMENTARY:

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM
-----	-----	-----	-----	---	---	-----	---		ID
								IN-85-286-007	CD120

KEYWORDS:

X: Y: Z:

APPROXIMATELY DECEMBER, 1984 SUPPORTS WERE RELEASED FROM CONDUIT, WHICH WAS THEN BENT ~ 1/2" DOWN, BELIEVED TO HAVE BEEN DONE WITH NO WORK RELEASE AUTHORIZATION. CI WANTS TO KNOW IF THERE WAS A WORK RELEASE. LOCATION: REACTOR BUILDING #2 713' ELEVATION.

GO THROUGH DOUBLE DOORS FROM AUX #2, GO RIGHT, LOOK BACK TO WEST. CONDUIT IS ~ 10' FROM FLOOR ON WALL BETWEEN DOORS AN "CAGE" OF LOW CABLE TRAYS (YOU HAVE TO DUCK TO GET UNDER THEM - 5' HIGH). CONSTRUCTION DEPT CONCERN. CI HAS NO MORE INFORMATION.  
NO FOLLOWUP REQUIRED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM
-----	-----	-----	-----	---	---	-----	---		ID
								IN-85-293-005	CD120

KEYWORDS:

X: Y: Z:

THE VAULT AND REMS SHOWED A SPECIFIC WORK RELEASE (# KNOWN) TO BE CLOSED (SIGNED OFF) YET WORK WAS BEING DONE ON IT IN THE FIELD. CONSTRUCTION DEPARTMENT CONCERN. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM
-----	-----	-----	-----	---	---	-----	---		ID
								IN-85-293-014	CD120

KEYWORDS:

X: Y: Z:

SPECIFIC PERSONNEL (NAMES KNOWN) WRONGLY CHANGED THE NUMBERS ON SOME HARDWARE (KNOWN) AND NOW IT IS UNKNOWN WHAT DOCUMENTATION GOES TO WHAT HARDWARE. CONSTRUCTION DEPARTMENT CONCERN. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM
-----	-----	-----	-----	---	---	-----	---		ID
								IN-85-348-004	CD120

KEYWORDS:

X: Y: Z:

WORK PACKAGES ARE ISSUED SINGULARLY FOR A SPECIFIC WORK ACTIVITY. HOWEVER, DUE TO THE NUMBERS OF CREW/SHIFTS WHICH MAY WORK ON A PACKAGE, SOME WORK HAS BEEN DONE TO A COPY (UNCONTROLLED) OF A DRAWING AS THE ONLY REFERENCE. BEING UNCONTROLLED, THE DRAWING COPY MAY NOT REFLECT ALL FIELD CHANGE REQUEST NUMBERS APPLICABLE TO THE CONSTRUCTION ACTIVITY

TECHNICAL COMMENTARY:

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								IN-85-362-002	CO120

KEYWORDS:

X: Y: Z:

WELDS ARE OFTEN INSPECTED AFTER INSULATION HAS BEEN APPLIED WHICH IS COSTLY AS INSULATION MUST BE REMOVED AND RE-APPLIED AFTER INSPECTION. UNIT #1 CONTROL ROOM 1984

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
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								IN-85-377-001	CO120

KEYWORDS:

X: Y: Z:

THE COST OF PREPPING WELDS FOR ISI NOW COULD HAVE BEEN PREVENTED, IF PREOPS HAD BEEN DONE WHERE THE PIPE WAS BEING FABRICATED. WAITING UNTIL NOW CAUSES HANGERS TO BE REMOVED/INSTALLED TO PERFORM THE WELD PREPS.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								IN-85-388-007	CO120

KEYWORDS:

X: Y: Z:

CIVIL ENGINEERING RESPONSIBLE FOR "PIPE LABELING" DUE TO NOTE ON ARCHITECTURAL DWG. 46W WHICH INCLUDES ASCERTAINING WHICH MECHANICAL DWG. IS APPLICABLE TO EACH WORK PACKAGE. CIVIL ENGINEERING IS NOT KNOWLEDGEABLE ENOUGH TO COMPETENTLY PERFORM THIS ASSIGNMENT AND RELIES ON CRAFT TO ADVISE THEM OF THE FUNCTION OF EACH PIPE. THE PIPES COULD VERY POSSIBLY BE MIS-LABELED WHICH COULD BE A SERIOUS PROBLEM IF A LINE NEEDED TO BE SHUT DOWN QUICKLY DURING AN OPERATIONAL EMERGENCY.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								IN-85-388-009	CO120

KEYWORDS:

X: Y: Z:

CIVIL ENGINEERING DOES NOT HAVE A SECURITY CLEARANCE FOR UNIT 3 1 AND THEREFORE CAN NOT DO OR OVERSEE ANY PIPE LABELING WHICH IS THEIR RESPONSIBILITY.

TECHNICAL COMMENTARY:

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LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-409-002	CO120

KEYWORDS:

X: Y: Z:

THE SAME MISTAKES MADE IN UNIT 1 WERE DUPLICATED IN UNIT 2 CONCERNING FIELD ROUTED CONDUIT. THIS CAUSED CONDUIT TO BE REROUTED AN EXCESSIVE NUMBER OF TIMES. C/I DECLINED TO PROVIDE FURTHER DETAILS. CONSTRUCTION DEPT. CONCERN.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
			YES					IN-85-410-007	CO120

KEYWORDS:

X: Y: Z:

CRAFT (KNOWN) IN DEPARTMENTS (KNOWN) DO PATCHING AND CHIPPING OF CONCRETE WITHOUT INSPECTION AND DRILL HOLES IN THE FLOOR WITHOUT PROPER PAPERWORK. CONSTRUCTION DEPARTMENT CONCERN. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
			YES					IN-85-410-011	CO120

KEYWORDS:

X: Y: Z:

CRAFT (KNOWN) IN DEPARTMENTS (KNOWN) DO PATCHING AND CHIPPING OF CONCRETE WITHOUT INSPECTION. AND DRILL HOLES IN THE FLOOR WITHOUT PROPER PAPERWORK. CONSTRUCTION DEPARTMENT CONCERN. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-418-001	CO120

KEYWORDS:

X: Y: Z:

IMPROPER CONTROL OF INSTRUMENTATION WORK PACKAGE DOCUMENTS WHICH ARE BEING SPLIT UP AMONG SEVERAL FOREMEN

TECHNICAL COMMENTARY:



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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-423-001	CO120

KEYWORDS:

X: Y: Z:

WORK PACKAGES ARE SENT TO THE CRAFTS INCOMPLETE FORS-EDNS ARE MISSING FROM THE PACKAGES. THIS CONCERN OCCURS AT UNIT 2. UPPER LEVEL MAANGEMENT IS AWARE OF THE PROBLEM, BUT IT PROLONGS THE JOB, SO NOTHING IS DONE.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-437-002	CO120

KEYWORDS:

X: Y: Z:

HGRS (REACTOR BLDG., UNIT 1) INTENTIONALLY INSTALLED TO WRONG REV OF DWG JUST TO KEEP HGR COUNT UP. HGRS ARE SUBSEQUENTLY CUT OUT AND INSTALLED TO CORRECT REV. HOWEVER, INDIVIDUAL STATED HE IS CONVINCED THAT THERE STILL EXISTS HGRS INSTALLED TO THE WRONG REV OF THE ASSOCIATED DWG.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-442-009	CO120

KEYWORDS:

X: Y: Z:

ON UNIT #1 SYSTEM TURNOVER WALKDOWNS, THE COGINZANT DISCIPLINE SYSTEM ENGINEER WAS NOT INVOLVED IN THE WALKDOWN PROCESS TO VERIFY INCOMPLETE ITEMS PRIOR TO SYSTEM WALKDOWNS; WERE EXPRESSED AS HAVING CONSISTED OF A CASUAL WALKDOWN FOR OBVIOUS SYSTEM DAMAGE ONLY. (EXAMPLE: CRANE & CAVITY AREA, 702=757' SLAB, BOTTOM OF STEAM GENERATOR)

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-442-014	CO120

KEYWORDS:

X: Y: Z:

THE UNIT 1 SYSTEM TURNOVER WALKDOWN ARE NOT ADEQUATE BECAUSE DRAWINGS USED WERE NOT CORRECTED AND THERE IS NO WALKDOWN GROUP (QCP 2.04 ATTACH J)

TECHNICAL COMMENTARY:

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								IN-85-447-003	CO120

KEYWORDS:

X: Y: Z:

THE INSTRUMENTATION IS AS-BUILT IN THE FIELD THEN A  
SKETCH IS MADE SHOWING THE AS-BUILT CONSTRUCTION

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
			YES					IN-85-480-006	CO120

KEYWORDS:

X: Y: Z:

WORK PACKAGES RECEIVED BY THE CRAFT ARE IMCOMPLETE AND  
INACCURATE. THE CRAFT ARE REQUIRED TO PERFORM AN ENGINEERING REVIEW OF  
THE WORK PACKAGE FOR ERRORS AND ARE GIVEN DISCIPLINARY ACTION IF THEY  
DO NOT IDENTIFY THE ERRORS BEFORE INSTALLATION BEGINS. (DETAILS TO THE  
SPECIFIC CASE ARE KNOWN TO QTC AND WITHHELD TO MAINTAIN  
CONFIDENTIALITY). CONSTRUCTION DEPT. CONCERN.  
NO FOLLOW-UP REQUIRED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
			YES					IN-85-480-007	CO120

KEYWORDS:

X: Y: Z:

UPON RECEIPT OF A WORK PACKAGE THE CRAFT MUST REVIEW THE CODE  
WELDING SHEET FOR ERRORS. IF THE CRAFT FAILS TO IDENTIFY THE ERROR  
PRIOR TO FIT-UP THEY WILL RECEIVE TIME OFF WITHOUT PAY. (DETAILS TO  
THE SPECIFIC CASE ARE KNOWN TO QTC AND WITHHELD TO MAINTAIN  
CONFIDENTIALITY). CONSTRUCTION DEPT. CONCERN. CI HAS NO MORE  
INFORMATION.  
NO FOLLOW-UP REQUIRED.

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LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
---	-----	-----	-----	---	---	-----	---	IN-85-514-003	CO120

KEYWORDS:

X: Y: Z:

TVA WASTING TIME & MATERIAL WHEN INSTALLING TEMPORARY HANGERS. WHEN ENGINEERING WAS ASKED WHY PERMANENT HANGERS COULD NOT BE INSTALLED, INDIVIDUAL WAS TOLD THAT ENGINEERING WAS WAITING FOR THERMAL MOVEMENT DATA.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
---	-----	-----	-----	---	---	-----	---	IN-85-514-007	CO120

KEYWORDS:

X: Y: Z:

PROCESS PIPING (SYS UNKNOWN) WAS CONNECTED TO LOCAL PANELS SYSTEM 276 BEFORE PANELS ARE ACCEPTED BY TENSION TESTS OF PANELS'S BASE BOLT. IT IS IMPOSSIBLE TO PERFORM FULL TESTS AFTER PIPING IS CONNECTED TO PANELS. WORK RELEASES HAD TO BE WRITTEN TO REMOVE PIPE TO HANGER ATTACHMENTS TO ALLOW LIFTING PANEL AND PERFORMING TENSION TEST OF PANEL'S BASE ANCHOR BOLTS, THIS OCCURRED DURING DECEMBER 1984 TO JANUARY 1985. CI CITES THIS AS AN EXAMPLE OF POOR PLANNING BY INSTRUMENTATION ENGINEERING A&B GROUPS RESULTING IN EXCESSIVE COST AND WASTE AT WATTS BAR UNITS

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
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KEYWORDS:

X: Y: Z:

1983-1984 AUX BLDG. SPRINKLER SYSTEM, 785' ELEV. (NOW UNDER SECURITY). ENGINEERING DIRECTING CRAFT TO FIND A WAY TO INSTALL THE HANGER AND AFTER INSTALALTION, ENGINEERING WOULD SKETCH THE "AS CONSTRUCTED" DWG. CRAFT WAS PUT IN THE POSITION OF DESIGNING RATHER THAN CONSTRUCTING.

TECHNICAL COMMENTARY:

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
			YES					IN-85-579-002	CO120

KEYWORDS:

X:

Y:

Z:

FOREMAN (KNOWN) AND GENERAL FOREMAN (KNOWN) HAD 2" DIAMETER CARBON STEEL PIPE BENDING PERFORMED WITHOUT AN APPROVED PROCEDURE. ADDITIONAL EQUIPMENT BUILDING, 748' ELEV., 1977 AND 1978. CI HAD NO FURTHER INFORMATION. CONSTRUCTION DEPARTMENT CONCERN.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-595-003	CO120

KEYWORDS:

X:

Y:

Z:

CRAFT ARE EXPECTED TO AND REQUESTED TO FIND A WAY TO INSTALL HANGERS AND THENCALL ENGINEERING TO STETCH THE AS-CONSTRUCTED DRAWING. THIS IS AN ON-GOING PROCESS THAT HAS CONTINUED FOR YEARS.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-618-002	CO120

KEYWORDS:

X:

Y:

Z:

WORK PACKAGES, WHERE MULTIPLE PACKAGES ARE REQUIRED TO COMPLETE A PARTICULAR INSTALLATION, ARE NOT ISSUED NOR AVAILABLE TO THE FOREMAN PERFORMING ONE OF THE PACKAGES. THIS IMPEDES EFFECTIVE UTILIZATION OF AVAILABLE CRAFT PERSONNEL. NO FURTHER SPECIFICS AVAILABLE.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-743-010	CO120

KEYWORDS:

X:

Y:

Z:

DOCUMENTATION PROVIDED TO CRAFT IS OFTEN LACKING SUFFICIENT IDENTIFICATION RELATIVE TO LOCATION, ELEVATION, AZIMUTH, DRAWING NUMBERS, ETC. THIS NECESSITATES EXPENDITURE OF NUMEROUS MANHOURS TO RESEARCH REQUIRED INFORMATION, AND MAY POTENTIALLY IMPACT QUALITY, IF AN INADVERTENT MISTAKE WAS MADE. NO FURTHER DETAILS AVAIABLE.

TECHNICAL COMMENTARY:

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-762-002	CO120

KEYWORDS:

X: Y: Z:

DRAWINGS MARKED "SEQUOYAH-INTERIM" WERE USED IN THE CONSTRUCTION OF WBNP (C/I DECLINED TO PROVIDE SPECIFICS).

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
			YES					IN-85-787-001	CO120

KEYWORDS:

X: Y: Z:

LACK OF COMMUNICATION BETWEEN CRAFTS AND ENGINEERING CAUSES LONG DELAYS IN COMPLETING WORK. ONE WELD HAD TO BE DONE THREE TIMES. THE LAST TIME TOOK 2 1/2 DAYS. NAMES AND LOCATIONS ARE KNOWN. PIPE CHASE E1. 713' 11'E OF "U" LINE UNDER GRATING. NO FURTHER DETAILS AVAILABLE.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-816-002	CO120

KEYWORDS:

X: Y: Z:

ENDES SHOULD BE MORE EFFICIENT WHEN DEVELOPING WORK PACKAGE. THE SYSTEM SHOULD BE WALKED DOWN PRIOR TO FINAL DRAWING IN ORDER TO PREVENT COSTLY REWORK. NO FOLLOW-UP REQUIRED. NO ADDITIONAL INFORMATION AVAILABLE.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
			YES					IN-85-847-006	CO120

KEYWORDS:

X: Y: Z:

STANDARD PRACTICE FOR CRAFT SUPERVISION TO ALLOW WORK TO BE PERFORMED IN THE FIELD USING UNAPPROVED "BOOTLEG" COPIES OF WORK PLANS. CI GAVE NUMEROUS WORK PLAN NUMBERS TO ERT AS EXAMPLES OF WORK PERFORMED IN THE FIELD PRIOR ENGINEERING APPROVAL. ADDITIONAL DETAILS (NAMES OF CRAFT SUPERVISION AND WORK PLAN NUMBER) IN FILE. NO FOLLOW UP REQUIRED.

TECHNICAL COMMENTARY:

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LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-898-002	CO120

KEYWORDS:

X: Y: Z:

WORK PACKAGES SENT TO THE FIELD ARE SOMETIMES INCOMPLETE OR HAVE THE WRONG REVISION OF DRAWINGS. THE CRAFTS ARE HELD RESPONSIBLE FOR THESE PACKAGES AND CAN BE PUNISHED FOR WORKING TO A WRONG REVISION OF A DRAWING. WHY ISN'T THE PUNISHMENT AIMED WHERE IT BELONGS, WHICH IS THE PERSON WHO ASSEMBLES THE WORK PACKAGE?

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-915-001	CO120

KEYWORDS:

X: Y: Z:

WHY ARE CRAFTS ALLOWED TO HAVE "FOR INFORMATION ONLY" DRAWINGS WHEN THEY HAVE NO NEED FOR THEM? C/I HAS NO FURTHER INFORMATION. NO FOLLOW UP REQUIRED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-947-003	CO120

KEYWORDS:

X: Y: Z:

CI KNOWS OF A CONSTRUCTION PRACTICE THAT RENDERED HARDWARE QUALITY QUESTIONABLE. DETAILS KNOWN TO QTC, WITHHELD TO MAINTAIN CONFIDENTIALITY. CONSTRUCTION DEPT CONCERN. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-962-003	CO120

KEYWORDS:

X: Y: Z:

INSTRUMENTS, AS WELL AS OTHER EQUIPMENT, ARE FREQUENTLY CANNIBALIZED FOR OTHER SYSTEMS, UNITS, OR EVEN NUCLEAR SITES. IT IS UNKNOWN IF THE DRAWINGS, WORK PACKAGES, ETC. HAVE BEEN REVISED TO SHOW THE REMOVAL OF AN ITEM THAT WAS INSTALLED PER DRAWING, ETC. CI DECLINED TO PROVIDE FURTHER INFORMATION. CONSTRUCTION DEPARTMENT CONCERN.

TECHNICAL COMMENTARY:

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-973-005	CO120

KEYWORDS:

X: Y: Z:

REJECTABLE ITEMS ARE "ENGINEER EVALUATED" TO DETERMINE ADEQUANCY OF ITEM FOR SYSTEM TURNOVER TO POWER. THIS PRACTICE CONSISTS OF PLACING A "%" SYMBOL ON A COMPUTER RUN INDICATING ACCEPTANCE BY EVALUATION BUT THERE IS NO DOCUMENTATION OF THE EVALUATION METHOD. THEN THE ITEM IS TURNED OVER TO POWER. CONSTRUCTION DEPT. CONCERN. BOTH UNITS. CI HAS NO MORE INFORMATION. NO FOLLOW UP REQUIRED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-978-008	CO120

KEYWORDS:

X: Y: Z:

TVA POURED LARGE CONCRETE STRUCTURES SUCH AS WALLS WHEN THEY KNEW THAT THEY WOULD BE UNACCEPTABLE. THEY WOULD THEN RIP OUT THE WORK WITH HEAVY MACHINERY AND MOVE IT TO WHERE IT SHOULD HAVE BEEN. ONE WALL IN THE INTAKE PUMPING STATION WAS KNOWINGLY POURED AROUND THE WRONG SIZE OF PIPE. THEN WAS TORN OUT AND RE-DONE WITH THE CORRECT SIZE PIPE. 1976. CI HAS NO FURTHER INFORMATION. CONSTRUCTION DEPT. CONCERN.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-978-009	CO120

KEYWORDS:

X: Y: Z:

TVA MADE A PRACTICE OF INSTALLING EQUIPMENT OUT OF SEQUENCE, AND AS A RESULT, IT WAS DAMAGED AND REQUIRED NEEDLESS REPAIRS DUE TO REMOVAL AND REINSTALLATION. CI HAS NO SPECIFIC OR ADDITIONAL INFORMATION. CONSTRUCTION DEPT. CONCERN.

TECHNICAL COMMENTARY:

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-985-001	CO120

KEYWORDS:

X: Y: Z:

INSTRUMENTATION ENGINEERING IS NOT HELD RESPONSIBLE FOR  
ISTAKES THEY CAUSE. EXAMPLE: (1) "INSTRUMENTATION LINES WITH INCORRECT  
LOPE. (APPROVED BY ENG.). THESE ARE NOW BEING ADDRESSED BY NCR'S.  
2) THE ENGINEERING DELETION OF STAINLESS STEEL CLEANLINESS REUIREMENTS  
UNIT #1) WHICH IS A QC REQUIREMENT. CI HAS NO ADDITIONAL INFORMATION.  
NO FOLLOW UP REQUIRED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-993-X12	CO120

KEYWORDS:

X: Y: Z:

CRAFT PERSONNEL HAVE NOT ALWAYS "KNOWN WHAT THEY ARE DOING", AND BY NOT  
FOLLOWING PROCEDURES, HAVE CAUSED MUCH UNNECESSARY REWORK. DETAILS KNOWN TO QTC,  
WITHHELD DUE TO CONFIDENTIALITY. NO FURTHER INFORMATION MAY BE RELEASED.  
CONSTRUCTION DEPARTMENT CONCERN.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-996-002	CO120

KEYWORDS:

X: Y: Z:

ABOUT TWO YEARS AGO, SOME 4" DIAMETER PIPE WAS ERRONEOUSLY CUT  
OUT, AND WHEN THE ERROR WAS DISCOVERED, THE PIPE SPOOLS WERE "CLEANED  
UP" AND REWELDED WITHOUT DOCUMENTATION OR AUTHORIZATION. THE 4 PIPES  
ARE CONNECTED TO 4 COMPRESSORS (CONTROL/SERVICE AIR) ON 70' ELE IN U  
NIT 2 AUX. BLDG. ABOUT 5' AWAY FROM "K" LINE AT ITS INTERSECTION WITH  
"T-8" LINE. CI HAS NO MORE INFORMATION. CONSTRUCTION DEPT. CONCERN.  
UNIT 2.

NO FOLLOW UP REQUIRED.

TECHNICAL COMMENTARY:



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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
			YES					IN-85-999-001	CD120

KEYWORDS:

X: Y: Z:

DEPARTMENT (KNOWN) NEEDS MORE COORDINATION. ALMOST EVERY PLATFORM AND LADDER IN THE PLANT HAS BEEN MODIFIED/REPLACED DUE TO LACK OF FORETHOUGHT. IT IS DIFFICULT TO THINK OF "CRAFTSMANSHIP" WHEN REPLACING A LADDER FOR THE THIRD TIME. CI HAS NO ADDITIONAL INFORMATION. NO FOLLOW UP REQUIRED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-019-006	CD120

KEYWORDS: DRAWINGS TRANSFER BOUND ACCURACY

X: Y: Z:

TRANSFER DRAWINGS USED TO SHOW SYSTEM STATUS (CONSTRUCTION/OPERATIONS) CONFLICT WITH EACH OTHER. ELECTRICAL, SCHEMATICS SHOW THE SAME CABLE ON DIFFERENT DRAWINGS UNDER THE CONTROL OF DIFFERENT ORGANIZATIONS. THE INACCURATE TRANSFER DRAWINGS COULD IMPACT PRE-OP TESTING. CI COULD NOT PROVIDE ANY SPECIFIC DRAWING NUMBERS. CONSTRUCTION DEPT. CONCERN. UNIT 1 AND 2.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-102-001	CD120

KEYWORDS:

X: Y: Z:

THE REQUIREMENT FOR CONDUIT INSULATION DELETED AND INSULATION REMOVED FROM MC 847B. AT THE HANGER ATTACHMENT CONDUIT A IS ON THE SAME HANGER. REQUIREMENTS FOR HANGER FIREPROOFING FOR CONDUIT A INCLUDES 12". THIS CONSTITUTES A BREACH IN A. A VHY-S1-2 ATTACHMENT D IS REQUIRED FOR EACH BREACH AND ATTACHMENT D IS NOT FILLED OUT. CI HAS NO MORE INFO. UNIT 1, 737' ELEV, ON Q WALL FORM A-14 TO A-12 ELEV 752', NUCLEAR POER CONCERN, TIME FRAME- CURRENT.

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LOC	STATUS	RESP	-GTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-102-002	CO120

KEYWORDS:

X: Y: Z:

CONDUIT MC 846 A IS RUN INTO OPEN J.B. 1220 AND HAS NO VHY-S1-2 ATTACHMENT D FORM FILLED OUT. LOCATION ELEV 737 BETWEEN A14 & R AND A9 & Q. CI HAS NO ADDITIONAL INFORMATION. UNIT 1, NUCLEAR POWER CONCERN, TIME FRAME-CURRENT.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-GTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-103-001	CO120

KEYWORDS:

X: Y: Z:

NO ATTACHMENT D FROM VHY S1-2 ISSUED FOR BREACH TO INSULATION ON CABLE CONDUIT. CONDUIT 847 B ON Q WALL ELEVATION 737 ABOUT 15' ABOVE THE FLOOR A 10 TO A 8. ALSO 945 B (SAME LOCATION) OVER COOLING TANK #2. CI HAS NO ADDITIONAL INFORMATION. NUCLEAR POWER CONCERN. UNIT 1. ONGOING

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-GTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-103-002	CO120

KEYWORDS:

X: Y: Z:

INSULATION IS BEING REMOVED (DEPARTMENT KNOWN) FROM MORE THAN ONE BASE PLATE OF CONDUIT HANGERS UNDER THE SAME VHY S1-2, ATTACHMENT D. CI EXPRESSED THAT SEPERATE ATTACHMENT D MUST BE FILLED OUT FOR EACH HANGER BREACH. UNIT 1, ELEVATION 713', NUCLEAR POWER CONCERN, TIME FRAME - CURRENTLY OCCURRING. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-GTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-134-001	CO120

KEYWORDS:

X: Y: Z:

CI EXPRESSED THE CONCERN THAT THE CURRENT CONTROLLED WORK PROCEDURES, O50 NOTES, AND QUALITY CONTROL INSTRUCTIONS ARE NOT READILY AVAILABLE IN THE FIELD TO THE CRAFT. THIS LACK OF INSTALLATION REQUIREMENTS FORCED THE CRAFT TO SEEK INSTALLATION ADVISE FROM QC INSP. IN THE PAST (WHICH HAS RECENTLY BEEN STOPPED) OR TO RELY ON THEIR MEMORY AS TO TOLERANCE RANGE, ETC. IN ADDITION, THE DRAWING PROVIDED IN THE WEEK PACKAGE IS DIVIDED AMONG  
N. FOLLOW UP REQUIRED.

TECHNICAL COMMENTARY:

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-179-002	CO120

KEYWORDS:

X: Y: Z:

CRAFT CANNOT STAY BUSY BECAUSE SO MANY REACTOR BLDG., #2 HANGERS MUST BE REDESIGNED, AND BECAUSE THE PROPER MATERIAL IS NOT ON SITE. AN EXAMPLE GIVEN WAS HANGER #28 (J003 P60 - C (??) LOCATED IN OVERHEAD OF 729' ELEV., - A2 105. -20' ROD SUSPENDED FROM CEILING EMBED TO SUPPORT 4' DIAMETER STAINLESS STEEL FEEDWATER LINE. HANGER HAS BEEN DELAYED FOR SEVERAL WEEKS, DUE TO THE PROPER SIZE SPRING CAN NOT BEING AVAILABLE ON SITE. CONST. DEPT. CONCERN. CI HAS NO FURTHER INFORMATION.  
NO FOLLOW UP REQUIRED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-205-002	CO120

KEYWORDS:

X: Y: Z:

BAD MANAGEMENT HAS CAUSED THE PROBLEMS AT WBNP. EXAMPLES INCLUDE: INEPT ENGINEERING PERSONNEL WERE ALLOWED TO GIVE BAD TECHNICAL DIRECTION TO THE CRAFT ON UNIT #2 FEEDWATER HEATERS (#1 & #2, ON 692' E1.). BOTH WORK AND FINAL HARDWARE ADEQUACY WERE AFFECTED BY TECHNICAL MISDIRECTION, INCLUDING INACCURATE "SHOOTING IN" OF HEATER CENTERLINES BY ENGINEERS (KNOWN).  
CRAFT WAS NOT PERMITTED TO "FIELD RUN".

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-232-X03	CO120

KEYWORDS:

X: Y: Z:

FCRS ARE NOT APPROVED BY DESIGN ENGINEERING PRIOR TO INSTALLATION AND INSPECTION, CAUSING ALOT OF CONFUSION AND REWORK. CONSTRUCTION DEPT CONCERN. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

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LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-257-002	CO120

KEYWORDS:

X: Y: Z:

UNIT #1 AND 2: 3" CONDUIT WAS INSTALLED BEFORE THE STEAM GENERATOR WAS INSULATED, CAUSING COSTLY REWORK. TVA SHOULD HAVE LEARNED FROM THEIR MISTAKE ON UNIT #1 BUT THEY ARE DOING THE SAME THING ON UNIT #2. CONST. DEPT. CONCERN. CI HAS NO FURTHER INFORMATION. NO FOLLOW UP REQUIRED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-261-002	CO120

KEYWORDS:

X: Y: Z:

DUE TO WORK REQUIRED BY FCR'S/ECN'S NOT BEING PERFORMED PROMPTLY, THE CRAFT MANY TIMES ARE WORKING TO AN OBSOLETE DRAWING. AFTER REQUESTING INSPECTION FOR COMPLETED WORK, QC MAY INFORM CRAFT THAT COMPLETED WORK IS NOT ACCEPTABLE AS A PREVIOUS FCR/ECN REQUIREMENT WAS INCORPORATED IN THE DRAWING, BUT THE WORK HAS NOT BEEN PERFORMED.

EXAMPLE: PANELS IN THE UNIT 2 RELAY ROOM.

CONSTRUCTION DEPARTMENT CONCERN.

CI HAS NO ADDITIONAL INFORMATION.

NO FOLLOW UP REQUIRED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-266-004	CO120

KEYWORDS:

X: Y: Z:

IN 1979-80, AN ELECTRICAL FOREMAN INSTRUCTED ELECTRICIANS TO SPLICE CABLES AND THEN CLOSE CONDUITS SO NO ONE COULD SEE THEM. DETAILS KNOWN TO QTC, WITHHELD DUE TO CONFIDENTIALITY. NO FURTHER INFORMATION MAY BE RELEASED. CONSTRUCTION DEPARTMENT CONCERN.

TECHNICAL COMMENTARY:

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LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								IN-86-270-007	CD120

KEYWORDS:

X: Y: Z:

ENGINEERS DO NOT CONTROL FIELD INSTALLATIONS OR FIELD ENGINEERING-TYPE WORK THEY ARE RESPONSIBLE FOR. THEY DO NOT FOLLOW UP AND VERIFY CONSTRUCTION ACTIVITIES. THEY ALLOW CONSTRUCTION MANAGEMENT TO DETERMINE THE METHOD AND MANNER OF COMPONENT/MATERIAL INSTALLATION WITHOUT ENGINEERING DIRECTION. THIS CONDITION EXISTS IN ALL CRAFTS: UNITS 1 AND 2.

CI HAS NO ADDITIONAL INFORMATION.  
CONSTRUCTION DEPARTMENT CONCERN.  
NO FOLLOW UP REQUIRED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								IN-86-309-001	CD120

KEYWORDS:

X: Y: Z:

APPROXIMATELY 20 PERCENT OF THE TIME THAT ELECTRICAL WORK PLANS ARE ISSUED. THEY ARE MISSING DRAWINGS. AND NO. 575 MATERIAL ORDER FORMS. THIS SITUATION RESULTS IN UNWARRANTED WORK DELAYS. CI HAS NO ADDITIONAL INFORMATION. CONST. DEPT. CONCERN.  
NO FOLLOW-UP REQUIRED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								IN-86-309-002	CD120

KEYWORDS:

X: Y: Z:

VARIFICATION OT WORK PLAN COMPLETION IS NOT BEING DONE ORIOR TO ISSUING BUNCH LISTS. PUNCH LIST ARE BEING ISSUED TO CREWS TO VERIFY COMPLETED WORK AT THE SAME TIME THE WORK PLAN IS BEING ISSUED TO ANOTHER CREW TO INITIALLY PERFORM THE WORK ON THE BUNCH LISTS. THIS RESULTS IN A LOT OF REWORK. CI HAS NO ADDITIONAL INFORMATION. CONSTR. DEPT. CONCERN.  
NO FOLLOW-UP REQUIRED.

TECHNICAL COMMENTARY:

04/23/86

(EMPLOYEE CONCERNS)

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10:59:49

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
			YES					PH-85-001-007	CO120

KEYWORDS:

X: Y: Z:

HANGER CLAMPS WERE REWORKED AFTER INSPECTION WITHOUT AUTHORIZATION. SUPERVISOR (NAME KNOWN) WROTE NEW INSPECTION RECORD FOR REINSPECTION. THE NONCONFORMANCE WAS NEVER DOCUMENTED BY THE SUPERVISOR. DETAILS KNOWN TO QTC, WITHHELD DUE TO CONFIDENTIALITY. CONST. DEPT CONCERN. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								WBP-5-017-006	CO120

KEYWORDS:

X: Y: Z:

EQUIPMENT IS NOT INSTALLED PER THE DRAWING. (DETAILS KNOWN TO QTC AND WITHHELD TO MAINTAIN CONFIDENTIALITY). NO FURTHER INFORMATION MAY BE RELEASED. NUCLEAR POWER CONCERN. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
			YES					WBP-6-013-002	CO120

KEYWORDS:

X: Y: Z:

CRAFT (KNOWN) OFTEN DETERMINES THE CONFIGURATION OR DESIGN THAT CAN BE INSTALLED AND THEN ENGINEERING PERFORMS THE SKETCH AND CLAIMS CREDIT FOR THE DESIGN. CONSTRUCTION DEPARTMENT CONCERN. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
			YES					WI-85-061-001	CO120

KEYWORDS:

X: Y: Z:

EQUIPMENT WAS REMOVED, POSSIBLY TO AVOID AN INSPECTION OF EQUIPMENT BY NRC, AND SUBSEQUENTLY REPLACED. DETAILS KNOWN TO QTC, WITHHELD DUE TO CONFIDENTIALITY. CONSTRUCTION DEPT CONCERN. CI HAS NO FURTHER INFORMATION. NO FOLLOW-UP REQUIRED.

TECHNICAL COMMENTARY:

04/23/86

(EMPLOYEE CONCERNS)

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								WI-85-091-005	CD120

KEYWORDS:

X: Y: Z:

EMPLOYEES HAVE BEEN DIRECTED TO PERFORM AN INSTALLATION WITHOUT THE APPLICABLE FCR OR FF. CI HAS NO FURTHER INFORMATION. CONSTRUCTION DEPT. CONCERN.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								WI-85-091-006	CD120

KEYWORDS:

X: Y: Z:

HANGERS ARE FREQUENTLY INSTALLED AND THEN ENGINEERING DOES THE AS-CONSTRUCTED DRAWING. CI HAS NO FURTHER INFORMATION. CONSTRUCTION DEPT. CONCERN.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								WI-85-091-012	CD120

KEYWORDS:

X: Y: Z:

THE HANGER GROUP CLAIMS CREDIT FOR A COMPLETED HANGER WHEN THEY SUBMIT THE HANGER FOR INSPECTION. IF THE HANGER GETS REJECTED IT WILL BE SUBMITTED AGAIN AS A COMPLETED HANGER AFTER THE REWORK, ETC., HAS BEEN DONE. THIS IS A PROCEDURAL VIOLATION. EXAMPLE: DURING A ONE MONTH PERIOD THE HANGER GROUP CLAIMED CREDIT FOR 63 HANGERS WHILE ENGINEERING REPORTED 3 HANGERS. CI HAS NO FURTHER INFORMATION. CONSTRUCTION DEPT. CONCERN.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								WI-85-100-032	CD120

KEYWORDS:

X: Y: Z:

CONSTRUCTION PROCESS DOES NOT ALWAYS FOLLOW ENDES REQUIREMENTS DOCUMENTS, OR VENDOR REQUIREMENTS. INSTRUCTIONS. THESE DEVIATIONS DO NOT ALWAYS GET INCLUDED ON AS-BUILT DOCUMENTS, AND THERE IS TOO MUCH "AFTER THE FACT" APPROVAL. CI HAS NO FURTHER INFORMATION. ANONYMOUS CONCERN VIA LETTER.

TECHNICAL COMMENTARY:

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(EMPLOYEE CONCERNS)

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10:59:49

LCC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								XX-85-070-003	CO120

KEYWORDS:

X: Y: Z:

SEQUOYAH: WORK PLANS CONTAIN INACCURATE DATA. MAJORITY OF THE DCR'S TAKEN CARE BUT NOT DOCUMENTED RIGHT AND DRAWINGS DO NOT REFLECT THE AS-BUILT CONDITIONS. DETAILS WITHHELD TO MAINTAIN CONFIDENTIALITY. NUC POWER CONCERN. C/I HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

LCC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								XX-85-086-001	CO120

KEYWORDS:

X: BLN Y: Z:

BELLEFONTE: THE "SINGING" OF THE INSTRUMENTATION LINES AT BELLEFONTE IS THE RESPONSIBILITY OF THE ELECTRICAL DEPT. AND THEY DO NOT HAVE SUFFICIENT EXPERTISE TO AACCURATELY DETERMINE THE PROPER SIZE OF THESE LINES. THIS CAUSES PROBLEMS AND A LOT OF REWORK DUE TO THE FREQUENT INSTALLATION OF THE WRONG SIZE LINE. CONST. DEPT. CONCERN. CI HAS NO FURTHER INFORMATION.  
NO FOLLOWUP REQUIRED.

TECHNICAL COMMENTARY:

LCC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								XX-85-101-002	CO120

KEYWORDS:

X: Y: Z:

SEQUOYAH- IMPROPER INSTALLATION OF NON-NUCLEAR SYSTEM COULD ADVERSELY AFFECT PUBLIC HEALTH AND SAFETY. DETAILS KNOWN TO GTC, WITHHELD DUE TO CONFIDENTIALITY. CONSTRUCTION DEPT CONCERN. CI HAS NO FURTHER INFORMATION.  
NO FOLLOWUP REQUIRED.

TECHNICAL COMMENTARY:



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(EMPLOYEE CONCERNS)

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10:59:49

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								XX-85-120-002	CO120

KEYWORDS:

X: SON Y: Z:

SEQUOYAH: HANGERS WERE FREQUENTLY INSTALLED AND THEN ENGINEERING WOULD DO THE AS-CONSTRUCTED DRAWING. CI HAS NO FURTHER INFORMATION. CONSTRUCTION DEPT. CONCERN.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								XX-85-120-006	CO120

KEYWORDS:

X: Y: Z:

SEQUOYAH - HANGER CREWS WERE INSTRUCTED (SUPERVISOR KNOWN) TO GO AHEAD AND BUILD HANGERS WITHOUT DRAWINGS, AND ENGINEERING WOULD DRAW THE HANGER UP LATER. MANY OF THE THESE HANGERS WERE SUBSEQUENTLY REJECTED AND REWORKED. CONSTRUCTION DEPARTMENT CONCERN. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

04/23/86

(EMPLOYEE CONCERNS)

PAGE: 1

11:20:06

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								PH-85-035-005	C0120

KEYWORDS:

X: Y: Z:

CI STATED A LOT OF TIMES (MANAGMENT) WILL BYPASS THE G-PROCEDURES TO GET THE JOB DONE. CI HAS NO FURTHER INFORMATION. NO FURTHER INFORMATION IN FILE.  
CONSTRUCTION DEPARTMENT CONCERN.  
NO FOLLOW UP REQUIRED.

TECHNICAL COMMENTARY:

Subcategory C0130  
Subcategory Title: Anchorages

Employee Concern Number	NSRS or QTC Report Number (If Issued)	Line Response (Organization-If Issued)
IN-85-020-001	IN-85-020-001	DNE
IN-85-033-001		DNE
IN-85-037-001	IN-85-037-001	DNE, DNC
IN-85-103-001		
IN-85-109-X04		
IN-85-232-001		
IN-85-246-003		
IN-85-285-001		
IN-85-285-002	I-85-657-WBN	DNC
IN-85-285-003		
IN-85-339-001		
IN-85-339-003		
IN-85-439-001		
IN-85-469-002	QTC IN-85-469-002	
IN-85-520-004		
IN-85-595-002		
IN-85-625-002		
IN-85-664-001		
IN-85-672-005		
IN-85-680-001		
IN-85-845-001	I-85-437-WBN	DNC
IN-85-947-002		
IN-85-947-004		
IN-85-982-001		
IN-86-115-001	I-85-659-WBN	DNE
IN-86-140-002		
IN-86-177-001		
IN-86-190-003	I-85-439-WBN	
IN-86-200-003	I-85-440-WBN	
IN-86-219-001		
IN-86-221-001		
IN-86-294-002		
PH-85-002-009		
PH-85-002-026		
PH-85-003-021	I-85-384-WBN	
PH-85-035-007		
SQP-5-005-003		
SQP-5-005-004		
SQP-5-005-005		
SQP-5-005-006		
WI-85-011-001		
XX-85-010-001		
XX-85-023-001	XX-85-023-001	DNE
IN-85-031-001		
WBM-6-009-001		
SQP-5-005-002		
IN-85-110-001		

INITIAL EVALUATION PLAN

Category: Construction

Subcategory: Anchorages (CO-130)

Prepared by: Martin Bailey / 4/3/86  
Preparer Date

Recommended by: Jerry M. Brath / 4-10-86  
Group Leader Date

Approved by: M. V. Rudolph / 4-10-86  
Group Head Date

INITIAL EVALUATION PLAN FOR  
SUBCATEGORY

Description of Perceived Problems: The concerns in this subcategory deal with embedded and surface mounted plates and their anchorages that were:

1. Not designed per requirements of NRC Bulletin 79-02.
2. Designed improperly by visual methods of attachment acceptance.
3. Installed in violation of attachment spacing requirements and "bought off" by engineering.
4. Not reworked or reevaluated to latest standards and criteria.
5. Not safe due to unsuitability at other non-TVA sites or due to concrete honeycombing.
6. Cut off, ground down, repaired or not repaired, or altered to appear properly installed.
7. Not tested or improperly tested per direction of foreman.
8. Overtorqued, installed at an excessive angle, or wrong size anchor used.
9. Rusted, deteriorated, pulled out of wall, or loose.
10. Not evaluated for cut rebar due to failure to obtain work releases or notify engineering.

Lead Evaluator: \_\_\_\_\_

Evaluators: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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Initial Evaluation Plan

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- I. List of Concerns by Concern Number
  - II. Elements and Attributes of Concerns
  - III. List of Criteria (Including Document Numbers and Revisions)
  - IV. Interviews
  - V. Action Plan (Including Staffing and Scheduling)
  - VI. Instructions/Criteria for Additional Data Evaluations
  - VII. Progress Reporting Requirements and Milestones
  - VIII. Determination as to Whether or Not Surveillance, Test/Reinspections are Necessary
  - IX. Root Cause Determination
  - X. Generic Applicability Determination
  - XI. Proposed Immediate and Long-Term Corrective Actions
  - XII. Prepare Report
-

I. Concerns for Subcategory

<u>Concern No.</u>	<u>Element</u>
IN-85-020-001	:Anchors cut off/Visual failure of anchor
IN-85-033-001	:Design of plates
IN-85-037-001	:Anchors cut off
IN-85-103-001	:Design of plates
IN-85-109-X04	:Design of anchors
IN-85-232-001	:Damage to concrete/rebar
IN-85-246-003	:Anchors cut off
IN-85-285-001	:Anchors cut off
IN-85-285-002	:Testing of anchor
IN-85-285-003	:Anchors cut off
IN-85-339-001	:Anchors cut off
IN-85-339-003	:Testing of anchors
IN-85-439-001	:Anchors cut off
IN-85-469-002	:Damage to concrete/rebar
IN-85-520-004	:Damage to concrete/rebar
IN-85-595-002	:Design of plates
IN-85-625-002	:Damage to concrete/rebar
IN-85-664-001	:Damage to concrete/rebar
IN-85-672-005	:Design of plates
IN-85-680-001	:Damage to concrete/rebar
IN-85-845-001	:Unistrut
IN-85-947-002	:Installation of anchors
IN-85-947-004	:Testing of anchors
IN-85-982-001	:Anchors cut off
IN-86-115-001	:Installation of anchors
IN-86-140-002	:Anchors cut off
IN-86-177-001	:Anchors cut off
IN-86-190-003	:Testing of anchors
IN-86-200-003	:Design of anchors
IN-86-219-001	:Anchors cut off
IN-86-221-001	:Damage to concrete/rebar
IN-86-294-002	:Anchors cut off
PH-85-002-009	:Design of anchors
PH-85-002-026	:Anchors cut off
PH-85-003-021	:Damage to concrete/rebar
PH-85-035-007	:Installation of anchors
SQP-5-005-003	:Anchors cut off
SQP-5-005-004	:Installation of anchors
SQP-5-005-005	:Installation of anchors
SQP-5-005-006	:Damage to concrete/rebar
WI-85-011-001	:Design of plates
XX-85-010-001	:Anchors cut off
XX-85-023-007	:Testing of anchors
	:
	:

II. Elements and Attributes

<u>Elements</u>	<u>Attributes</u>
1. Design of plates	:a) Procedure allows visual acceptance of :attachments to embeds with no criteria :for what is acceptable or not : :b) Baseplate flexibility not a design :consideration violating NRC Bulletin :79-02 requirements : :c) Procedural requirements for spacing :became more stringent in 1982 without :requiring rework or reevaluation of :existing spcgs. : :d) Overloading of embedded plates is OK :if documented and "bought off" by :engineering :
2. Design of anchors	:a) Wedge bolt allowables greater for :unit 1 than unit 2 : :b) Redheads not safe since concrete :could honeycomb around anchor : :c) Redheads not safe since they are :unsuitable at other non-TVA nuclear :sites. :
3. Unistrut	:a) Concrete anchors for unistrut cut off :and tack welded to appear installed :
4. Damage to concrete/rebar	:Each crew, inspector, engineer has :different way of controlling rebar :drilling : :b) Rebar cut without being reported : :c) Only civils seem to file NRCs on :rebar damage - other groups could be :cutting rebar : :d) Abandoned reheads repaired with :redhoods installed - rebar damage not :detectable : :e) Wrong size anchors used :
5. Anchors cut off	:a) Redheads cut-off if embed to short :due to rebar interference, or modified : :b) Redhead cut off, nut welded to back :of baseplate to appear as if anchor :installed



II. Elements and Attributes (Continued)

<u>Elements</u>	<u>Attributes</u>
5. Anchors cut off (continued):	c) Wrong size anchors used
	:
6. Testing of Anchors	a) Safety related redheads tested per
	:sampling, not individually
	:
	b) Pull tests bypassed or incorrectly
	:documented
	:
	c) 3200 lb pull test performed against
	:3000 lb gauge
	:
	d) Torque verification requirements not
	:clear
	:
	e) Hold points for inspection bypassed
	:per order of foreman.
	:
	f) Loose anchors could pass by bearing
	:against plate
	:
7. Installation of Anchors	a) Redheads overtorqued to close
	:excessive gap between baseplate and wall
	:
	b) Craft not trained to G-32, para 3.2
	:
	c) Anchors installed at so great an
	:angle that hole in baseplate must be
	:bevelled
	:
8. Visual Failure of Anchors	a) Redheads observed pulled out of wall
	:
	b) Redheads rusted or deteriorated
	:

III. List of Criteria

1. Information Source -	:	:	:	2. Comments
(Applicable Procedures,	:	:	:	
OE Documents, Previous	:	Date	Applicable	
Reports, NSRS/QTC/ERT	:	Added	Section	
Investigation Reports	:	to List	:	
Including revision or date)	:	:	:	
	:	:	:	

A. NSRS Reports	:	:	:
I-85-440-WBN	:	:	:
I-85-437-WBN	:	:	:
I-85-384-WBN	:	:	:
I-85-657-WBN	:	:	:
I-85-684-WBN	:	:	:
I-85-446-WBN	:	:	:
I-85-528-WBN	:	:	:
I-85-656-WBN	:	:	:
I-85-438-WBN	:	:	:
I-85-529-WBN	:	:	:
I-85-661-WBN	:	:	:
I-85-658-WBN	:	:	:
XX-85-023-001	:	:	:
I-85-659-WBN	:	:	:
I-85-708-WBN	:	:	:
IN-85-020-001	:	:	:
IN-85-037-001	:	:	:
I-85-143-WBN	:	:	:
I-85-439-WBN	:	:	:
I-85-441-WBN	:	:	:
I-85-323-WBN	:	:	:
I-85-528-WBN	:	:	:
I-85-684-WBN	:	:	:
	:	:	:
	:	:	:

1. Additional sources will be added by the evaluator.
2. State attribute and how it relates with requirement.

III. List of Criteria (Continued)

1. Information Source - (Applicable Procedures, OE Documents, Previous Reports, NSRS/QTC/ERT Investigation Reports Including revision or date)	:	:	:	2. Comments
	:	:	:	
B. ERT Reports	:	:	:	
IN-85-469-002	:	:	:	
	:	:	:	
C. QCPs	:	:	:	
1.14	:	:	:	
1.4	:	:	:	
1.42, 1.42-2	:	:	:	
1.47	:	:	:	
2.02	:	:	:	
3.11	:	:	:	
3.11-1	:	:	:	
4.23	:	:	:	
4.8	:	:	:	
	:	:	:	
D. QCIs	:	:	:	
1.02	:	:	:	
1.07	:	:	:	
1.08	:	:	:	
1.40	:	:	:	
3.11	:	:	:	
3.11-1	:	:	:	
	:	:	:	
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	:	:	:	
	:	:	:	
	:	:	:	
	:	:	:	

1. Additional sources will be added by the evaluator.
2. State attribute and how it relates with requirement.



- 



V. Action Plan - Initial

Evaluation Plan

1. Design of Plates

- A. Review visual acceptance methods for embeds
  - 1. Review EN DES EP 4.03, App 4 to determine requirements for visual acceptance.
  - 2. Thru interviewing OE personnel performing visual acceptance of plates, determine if procedures were followed.
  - 3. Review FCR EP-3784 to assess problem with visual inspection.
  - 4. Review OE report on sample of visually accepted plates to determine if plates met design criteria.
    - a. Review sample size adequacy
    - b. Review whether there are "limits as what can be accepted"

IN-85-033-001 (revision)
- B. Review NRC OIE Bulletin 79-02 for requirements for considering baseplate flexibility and reduce anchor bolt allowables.
  - 1. Ensure that design tier documents (DS C1.7.1) reflect revised requirements per Bulletin 79-02.
  - 2. Confirm that flexible plate theory and reduced anchor allowables have been used where/when required.
  - 3. Request OE for report justifying utilization of different analysis methods and design allowables at same plant.
 

(IN-85-109-X04)

(IN-85-103-001)
- C. From reviewing construction specification G-32, confirm that spacing requirements for redheads/embeds became more stringent in 1982.
  - a. Verify that revision to G-32 did not require rework/reevaluation on exist. anch.
  - b. Obtain report from OE justifying no rework/reevaluation required on exist. anch.
 

(IN-85-595-002)
- D.
  - 1. Review construction procedures to determine that there is a requirement to document violation of allowable spacings and notify engineering.
  - 2. Interview CONST personnel to determine that procedure was followed and FCRs written
  - 3. Review a sample of OE calculations to see if FCRs were adequately substantiated by calculations.
  - 4. Prepare report stating that requirements for spacing represent conservative guidelines for CONST to assure safe design but deviations, if approved by OE on case-by-case basis, can be acceptable.
 

(IN-85-672-005)

V. Action Plan - Initial (Continued)

2. a. Review NSRS report I-85-440-WBN to determine if this report adequately addresses concrete "honeycombing around redhead"
- b) Prepare statement with concurrence from OC-CEB that concern PH-85-002-009 concerning redheads in general being unsafe as unfounded and without merit.
  
3. Unistrut - Review NSRS report I-85-437-WBN to determine if this report adequately addresses the question of unistrut installed with altered fasteners.
  
- 4a. Interview CONST engr. and craft supervision to obtain specific information on what and how rebar was cut. For example
  - 1) Were SSDs used to cut rebar? Often?
  - 2) Were masonry bits used to cut WB holes? Often?
  - 3) Did craft go back and get diamond-tip drill to cut hole for WB or SSD? Often?
  - 4) How common a practice was rebar cutting of any sort without getting release?  
- Timeframe-
  - 5) WB requires work release with hold point for hole inspection?
  - 6) What groups engaged in drilling - civil only??
  
- 4b. Interview OE-CEB Staff and WB Civil Group
  - 1) Determine procedures to allow rebar cutting relative to SSD/WB installation
  - 2) Review possibility of sampling installations with rebar finder to determine if rebar hit.
  - 3) Discuss recommendations of OE-CEB to resolve question of undocumented rebar cuts.
  
- 4c. Review NSRS report I-85-384-WBN to determine if it can be used to address the concern that "there is no firm criteria" of how to control rebar cutting.
  
- 4d. Review NSRS reports
 

I-85-657-WBN  
 I-85-684-WBN  
 I-85-384-WBN to

 determine if it adequately addresses the concern that cutting of rebar took place w/o engineering approval.
  
- 4e. Perform RIMS search of NCRs related to rebar drilling - determine if groups other than civil filed NCRs.
  
- 4f. Review ERT investigation Report IN-85-469-002 to determine if it resolves concern on core drilling rebar in control rod drive room.
  
- 4g. 1) Review NSRS report I-85-446-WBN to see if it adequately addresses this concern. If not:

V. Action Plan - Initial (Continued)

- 2) Request OE to report on effect of repaired embedded redheads on active anchors/concrete. Determine if practice is technical problem.
  - 3) If a problem, review CONST specs and interview personnel, to determine if practice is widespread.
- 4h. 1) Walkdown keyway area under reactor to check abandoned anchors.
- 2) Recommend anchors be pulled and patched if located.
  - 3) If no anchors located, review NSRS Report I-85-446-WBN for applicability.
- 5a Schedule meeting with OE-CEB Staff and discuss current status of their work on IN-85-037-001. This concern is umbrella concern for this element of "Anchors Cut-Off."
- 1) Review work done to date
  - 2) Review status of problem.
  - 3) Determine recommendations of OE-CEB to resolve concern.
  - 4) Review following NSRS reports:
    - IN-85-037-001
    - I-85-528-WBN
    - I-85-656-WBN
    - I-85-684-WBN
    - I-85-438-WBN
    - I-85-529-WBN
    - I-85-661-WBN
- 5b Perform field walkdowns of areas listed in the following specific concerns:
- IN-85-020-001
  - IN-85-285-001
  - IN-86-140-002
  - PH-85-035-007
- 6a. Confirm pull testing requirements per G-32 and per NSRS report IN-85-037-001.  
(IN-86-190-003)
- 6b. Review NSRS report I-85-657-WBN to see it adequately addresses concern of improper inspection/pull testing.  
(IN-85-285-002)
- 6c. Review NSRS report XX-85-023-001 for applicability/information on improper anchor pulling test.  
(XX-85-023-001)  
(IN-85-339-003)  
(IN-85-947-004)



V. Action Plan - Initial (Continued)

- 6d. Review NSRS report I-85-658-WBN for applicability/info on incorrect gauge size.  
(IN-85-947-004)
- 7a. Review G-32 paragraph 3.2. Determine if craft personnel are trained to G-32 paragraph 3.2. Determine if proof load testing is adequate to detect if over-torqued SSD bolts exist.  
(IN-86-115-001)
- b. Review NSRS report I-85-659-WBN to see if it adequately addresses over torquing of SSDs.  
(IN-86-115-001)
- c. Review NSRS report I-85-708-WBN to see if it adequately addresses torque verification.  
(IN-85-947-002)
- 8a. Review NSRS report IN-85-020-001 for addressing deteriorated/rusted anchors.  
(IN-85-020-001)  
(IN-86-140-002)
- b. Review NSRS Report I-85-430-WBN to see if it adequately addresses anchors pulled out of wall  
(IN-86-140-002)
- 9a. Ensure that the following concerns are evaluated under Mangement category for managers directing employee to violate procedures.  
In-85-285-003  
IN-85-339-001  
IN-85-339-003  
IN-85-439-001  
IN-85-469-002  
IN-86-219-001  
PH-85-003-021

V. Action Plan - Initial

## CROSS-REFERENCE MATRIX

Evaluation Plan Step Number	Concern(s) Addressed By Step	Element(s) Addressed	Attribute(s) Addressed
1a.	IN-85-033-001	Design of Plates	Procedures allows visual acceptance of attachments to embeds with no criteria for what is acceptable or not.
1b.	IN-85-109-X04 IN-85-103-001	Design of Plates	Baseplate flexibility not a design consideration violating NRC Bulletin 79-02 requirement.
		Design of Anchors	Greater wedge bolt allowables for unit 1 than for unit 2.
1c.	IN-85-595-002	Design of Plates	Procedural requirements for spacing became more stringent in 1982 w/o requiring rework or reevaluation of existing spcgs.
1d.	IN-85-672-005	Design of Plates	Overloading of embedded plates is OK if documented and "bought off" by engineering
2a.	IN-86-200-003	Design of Plates	Redheads not safe since concrete could honeycomb around anchor.

V. Action Plan - Initial

## CROSS-REFERENCE MATRIX

Evaluation Plan Step Number	Concern(s) Addressed By Step	Element(s) Addressed	Attribute(s) Addressed
2b.	PH-85-002-009	Design of Anchors	Redheads not safe since they are unsuitable at other non-TVA nuclear sites.
3.	IN-85-845-001	Unistrut	Concrete anchors for unistrut cut off and tack welded to appear installed.
4a., 4b.	PH-85-003-021 IN-85-232-001 IN-85-285-002 IN-85-285-003 IN-85-469-002 IN-85-625-002 IN-85-680-001	Damage to concrete/ rebar	Rebar cut without being reported.
4c.	IN-85-520-004	Damage to concrete/ rebar	Each crew, inspector, engineer has different way of controlling rebar drilling.
4d., 4e.	PH-85-003-021 IN-85-232-001 IN-85-285-002 IN-85-285-003 IN-85-469-002 IN-85-625-002 IN-85-680-001	Design of concrete/ rebar	Rebar cut without being reported
4e.	IN-85-232-001	Damage to concrete/ rebar	Only civils seem to file NCRs on rebar damage - other groups could be cutting rebar

V. Action Plan - Initial

## CROSS-REFERENCE MATRIX

Evaluation Plan Step Number	Concern(s) Addressed By Step	Element(s) Addressed	Attribute(s) Addressed
4f.	IN-85-469-002	Design of concrete/ rebar.	Rebar cut without being reported
4g.	IN-86-221-001 IN-85-625-002	Design of concrete/ rebar	Abandoned redheads repaired with redheads installed - rebar damage not detectable.
4h.	IN-85-664-001	Design of concrete/ rebar	Abandoned anchors not pulled and patched.
5a, 5b.	IN-85-037-001 IN-85-246-003 IN-85-285-001 IN-85-285-003 IN-85-339-001 IN-85-439-001 IN-85-982-001 IN-86-140-002 IN-86-177-001 IN-86-219-001 IN-86-294-002 PH-85-002-026 PH-85-035-007 WI-85-011-007 XX-85-010-001 SQP-5-005-003 SQP-5-005-004 SQP-5-005-005 SQP-5-005-006	Anchors cut off	Redheads cut off if embed too short due to rebar interference or modified. Redhead cut off, not welded to back of baseplate to appear as if anchor installed. Wrong size anchors used.
6a.	IN-86-190-003	Testing of anchors	Safety - related redheads tested per sampling, not individually

V. Action Plan - Initial

## CROSS-REFERENCE MATRIX

Evaluation Plan Step Number	Concern(s) Addressed By Step	Element(s) Addressed	Attribute(s) Addressed
6b.	IN-85-285-002	Testing of anchors	Pull tests bypassed or incorrectly documented
6c.	XX-85-023-001 IN-85-339-003 IN-85-947-004	Testing of Anchors	Pull tests bypassed or incorrectly documented 3200 lb test w/3000 lb gauge. Hold points for inspection bypassed per order of foreman.
6d.	IN-85-947-004	Testing of Anchors	3200 lb test w/3000 lb gauge
7a., 7b.	IN-86-115-001	Installation of Anchors	Redheads over- torqued to close excessive gap between baseplate and wall.
7c.	IN-85-947-002	Testing of Anchors	Torque verification requirements not clear
8a.	IN-85-020-001 IN-86-140-002	Visual failure of Anchors	Redheads rusted or deteriorated
8b.	IN-86-140-002	Visual failure of Anchors	Redheads observed pulled out of wall

V. Action Plan - Initial

CROSS-REFERENCE MATRIX

Evaluation Plan Step Number	Concern(s) Addressed By Step	Element(s) Addressed	Attribute(s) Addressed
9.	IN-85-285-003 IN-85-339-001 IN-85-339-003 IN-85-459-001 IN-85-469-002 IN-86-219-001 PH-85-003-021	Management	

VI. Instruction/Criteria for Additional Data Evaluations

(This is to be used when limited additional inspections, test, evaluations are necessary to answer the question in section VIII.)

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

VII. Progress Reporting Requirements and Milestones



VIII. Answer the Question, are Statistical Sampling Actions Tests/Reinspections Necessary?  
(Proceed to preparation of final EP if answer is yes)

IX. Root Cause Determination

X. Generic Applicability Determination: Section \_\_\_\_\_, Paragraph \_\_\_\_\_  
of Program Manual    \_\_\_WBN   \_\_\_SQN   \_\_\_BFN   \_\_\_BLN

XI. Proposed Immediate and Long-Term Corrective Actions

XII. Prepare Report

## Attachment A

## QTC QUESTIONNAIRE

Concern No. \_\_\_\_\_

Date: \_\_\_\_\_

1. Without revealing the identity of the CI, can a timeframe for the concern be identified, if so when?
2. Without revealing the identity of the CI, can specific items be identified, if so when?
3. Without revealing the identity of the CI, can any specific locations be identified, if so what are they?
4. Without revealing the identity of the CI, can any other individuals be identified, if so who?
5. Without revealing the identity of the CI, is there any other information in the QTC file that may be of aid in this investigation (such as, QTC, NSRS, NRC, Construction, Nuclear Power investigation, etc.), if so what?
6. Is this a concern of the Office of Nuclear Power, Construction, or both?

Additional Comments:

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
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								IN-85-020-001	CO130

KEYWORDS:

X: Y: Z:

UNIT 2, REACTOR BLDG. ELEV. 713 ANNULUS AREA, 5/8"  
PHILLIPS "RED HEAD" WEDGE ANCHORS IN DUCT SUPPORTS # 1582-1583  
WERE IMPROPERLY INSTALLED. THIS WAS CAUSED BY DRILLING THE HOLES  
TOO DEEP OR NOT DEEP ENOUGH. THE "RED HEADS" THAT DID NOT MEET  
MINIMUM EMBEDMENT LENGTHS WERE CUT OFF FLUSH WITH THE WALL. ALSO,  
SOME "RED HEADS" WERE DETERIORATED AND RUSTED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
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								IN-85-031-001	CO130

KEYWORDS:

X: Y: Z:

IN REVEIING PREVIOUSLY APPROVED DESIGN CALCULATIONS FOR STRUCTURAL STEEL ACCESS  
PLATFORMS LOCATED IN THE REACTOR BUILDINGS UNITS 1 & 2 . CI HAS AT TIMES FOUND  
ERRORS, OMISSIONS OR INCORRECT ASSUMPTIONS WHICH COULD HAVE AN AFFECT ON QUALITY  
/SAFETY. WHEN CI MADE REQUEST TO SUPERVISOR (NAME KNOWN) TO CORRECT ERRORS, CI  
WAS TOLD THAT THERE WAS NO TIME OR MAN-HOURS AVAILABLE TO MAKE CORRECTIONS.CI  
STATED THAT SOME CALCULATIONS WENT UNCORRECTED. THIS OCCURED DURING ALL OF 1984.  
CI COULD NOT PROVIDE ANY SPECIFICS/DETAILS.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
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								IN-85-033-001	CO130

KEYWORDS:

X: Y: Z:

EN DES PROCEDURE EP 4.03 APP.4 IS INADEQUATE. EP 4.03 APP.4  
ALLOWS ACCEPTANCE OF MINOR LOADS TO EMBEDDED PLATES BY PERFORMING  
VISUAL INSPECTIONS OF ATTACHMENTS TO EMBEDDED PLATES. SINCE  
PROCEDURE EP 4.03 APP.4 DOES NOT DEFINE WHAT A MINOR LOAD IS,  
THERE IS NO LIMIT TO WHAT CAN BE ACCEPTED BY VISUAL INSPECTION.  
EXAMPLE: FOR EP-3784 ILLUSTRATED PROBLEM WITH PROGRAM OF VISUAL  
INSPECTION. NO FOLLOW-UP REQUIRED.

TECHNICAL COMMENTARY:

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
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								IN-85-037-001	CD130

KEYWORDS:

X: Y: Z:

IN SOME CASES WHERE CONCRETE ANCHORS HIT REBAR, THE ANCHORS WERE CUT OFF AND A BOLT-HEAD WAS WELDED TO BASE PLATE

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
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								IN-85-103-001	CD130

KEYWORDS:

X: Y: Z:

TVA IS NOT IN COMPLIANCE WITH NRC BULLETIN 79-02 (SUPPORT OF RIGID PLATE ASSUMPTIONS IN ANALYSIS) IN THAT BASE PLATE FLEX IS NOT A DESIGN CONSIDERATION. NO ADDITIONAL CONTACT REQUIRED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
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								IN-85-109-X04	CD130

KEYWORDS:

X: Y: Z:

CONCRETE ANCHOR BOLT (WEDGE BOLTS) IN UNIT 1 & 2. THE ALLOWABLE BOLT LOADS FOR UNIT 1 ARE GREATER THAN UNIT 2. THE DESIGN PHILOSOPHY TO DETERMINE THE ACTUAL ALLOWABLES ON ANCHOR BOLTS HAS CHANGED. FOR UNIT 1, THE DESIGN GROUP DID NOT CONSIDER FLEXIBLE PLATE THEORY, INSTEAD THEY CONSIDERED THE BASE PLATE AS RIGID. CI QUESTIONS THESE TWO DIFFERENT ALLOWABLES.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
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								IN-85-232-001	CD130

KEYWORDS:

X: Y: Z:

PROCEDURE GCI-114(?) (INSTALLATION OF RED HEADS) REQUIRES AN NCR BE WRITTEN WHERE REBAR HAS BEEN DAMAGED DURING ANY DRILLING PROCESS, I. E. INSTALLING RED HEADS. ALMOST ALL NCR'S HAVE BEEN WRITTEN (LAST 3 YRS) BY CIVIL, YET P/M AND OTHER DISCIPLINES DRILL & COULD HAVE DAMAGED REBAR AT LEAST A FEW TIMES DURING THE LAST 3 YRS. QUESTIONS WHY MORE NCR'S AREN'T WRITTEN BY DISCIPLINES OTHER THAN CIVIL. PROCEDURE IS NOW IN FOR REVISION TO ALLOW UP TO 10 PERCENT OF THE DIAMETER TO BE DAMAGED BEFORE AN NCR IS WRITTEN

TECHNICAL COMMENTARY:

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-246-003	CD130

KEYWORDS:

X: Y: Z:

SEVERAL INSTANCES WERE IDENTIFIED THAT WHILE REMOVING VOIDED HANGERWS OF RED HEAD ANCHORS, ANCHORS WERE OBSERVED TO BE GROUND ON, CUT-OFF OR OTHERWISE MODIFIED. CI CONCERNED THAT THIS CONDITION COULD EXIST FOR HANGERS STILL INSTALLED. CI COULD NOT PROVIDE SPECIFIC NUMBERS OF VOIDED HANGERS. CI STATED THIS OCCURRED IN UNIT 2 SIDE AUXILLIARY BUILDING, ELEV. 692' ON CEILING COLUMN A13 -T LINE. CONSTRUCTION DEPT. CONCERN. NO FOLLOW UP REQUIRED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-285-001	CD130

KEYWORDS:

X: Y: Z:

HANGER BASE PLATES INSTALLED IMPROPERLY. REBARS DRILLED THROUGH AND REDHEADS CUT OFF SHORT. BOLT AND HEADS CUT OFF AND WELDED TO BASE PALTE. ALL CRAFTS DID THIS. EXAMPLES ARE DUCT SUPPORTS - CEILING OF CONTROL ROOM (SPREAD ROOMS) 708' ELE - 5/8" REDHEADS. VARIOUS SIZE PLATES. 5-6 BOLTS CUT CLOSE TO COLUMNS A EAST WALL. CI HAS NO FURTHER INFORMATION. CONST. DEPT. CONCERN. NO FOLLOW UP REQUIRED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-285-002	CD130

KEYWORDS:

X: Y: Z:

TVA INSPECTED AND FULL TESTED REDHEADS IMPROPERLY; FULL TESTING WAS NOT 100%. BASE PLATE OR HANGER WAS BOLTED IN PLACE. EVEN READHEADS THAT WERE LOOSE COULD HAVE PASSED BY BEARING AGAINST THE BACK OF THE PLATE. BECAUSE THE HOLES WERE NOT INSPECTED BEFORE REDHEADS WERE SET, QC COULD NOT TELL IF REBAR HAD BEEN CUT. CI HAD NO MORE INFORMATION. CONST. DEPT. CONCERN. NO FOLLOW UP REQUIRED.

TECHNICAL COMMENTARY:

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM
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			YES					IN-85-285-003	CO130

KEYWORDS:

X: Y: Z:

TVA MANAGERS (KNOWN) TOLD PERSONNEL TO CUT THROUGH REBAR WITH REDHEADS, CUT OFF REDHEAD SHIELDS AND TO CUT OFF BOLTS AND WELD THEM TO BASE PLATES WHERE REDHEADS COULD NOT BE PUT IN. MANAGEMENT WAS ONLY INTERESTED IN PRODUCTION, AND DID NOT LET WORKERS MOVE BASE PLATES IF REBAR WAS HIT.  
NO FOLLOW UP REQUIRED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM
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			YES					IN-85-339-001	CO130

KEYWORDS:

X: Y: Z:

INDIVIDUAL ORDERED BY FOREMAN (NAME KNOWN) TO VIOLATE PROCEDURE CONCERNING RED HEAD ANCHOR INSTALLATION WITH RESPECT TO REBAR INTERFERENCE. RED HEAD WAS CUT AND PLATE INSTALLED. LOCATION GIVEN WAS -708' IN THE ANNULUS AREA UNIT #2, FROM 713', SO DOWNSTAIRS TO 708, AT CONTAINMENT ENTRANCE TURN LEFT, GO -20', HANGER IS ON LEFT ON THE WALL. APPROXIMATE DATE OF OCCURRENCE IS MARCH-SEPTEMBER 1978.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM
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			YES					IN-85-339-003	CO130

KEYWORDS:

X: Y: Z:

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 FULL TESTS. FOREMAN ALSO HAD A HABIT OF ROUTINELY UTILIZING SCRAP METAL IN SAFETY RELATED WORK (UNITS 1&2) AND OF EXTREME HARASSMENT OF CRAFT WHO QUESTIONED HIS ORDERS TO VIOLATE/BYPASS PROCEDURE REQUIREMENTS. TIME FRAME WAS 1978-1982.

TECHNICAL COMMENTARY:

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
			YES					IN-85-439-001	CO130

KEYWORDS:

X: Y: Z:

REDHEADS HAVE BEEN IMPROPERLY ALTERED. BUT MANAGEMENT REFUSED TO TAKE CORRECTIVE ACTION. DETAILS KNOWN TO QTC. WITHHELD TO MAINTAIN CONFIDENTIALITY. CONSTRUCTION DEPT CONCERN.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
			YES					IN-85-469-002	CO130

KEYWORDS:

X: Y: Z:

CORE DRILLING THROUGH REBAR IN THE CEILING OF THE ROD CONTROL DRIVE ROOM (UNIT #1) WITHOUT A CUTTING RELEASE. INDIVIDUAL WAS INSTRUCTED TO DO SO BY FORMAN. (NAME KNOWN)

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-520-004	CO130

KEYWORDS:

X: Y: Z:

DAMAGE TO REBAR IS INDETERMINATE AS THERE HAS BEEN NO FIRM CRITERIA ESTABLISHED AS TO WHAT TO DO, WHOM TO CALL, HOW TO DOCUMENT WHEN REBAR HAS BEEN HIT DURING DRILLING. EACH CREW, EACH INSPECTOR, AND EACH ENGINEER DOES IT A DIFFERENT WAY. UNIT # 1, AUX BLDG., 785' ELEV., SPRINKLER SYSTEM AS AN EXAMPLE ONLY.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-595-002	CO130

KEYWORDS:

X: Y: Z:

PROCEDURAL REQUIREMENTS FOR INSTALATION OF EMBEDS AND REDHEADS BECAME MORE STRINGENT IN 1982 FROM NOT LESS THAN 18" TO 24"; AND 8 TIMES O OF REDHEAD TO 10 TIMES O OF REDHEAD. WORK PRIOR TO 1982 (AND THE PROCEDURE REVISION) DID NOT REQUIRE A REWORK OR RE-EVALUATION.

TECHNICAL COMMENTARY:

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
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								IN-85-625-002	CD130

KEYWORDS:

X: Y: Z:

ABANDONED REDHEAD HOLES ARE REPAIRED WITH THE REDHEADS STILL EMBEDDED IN CONCRETE. IT IS IMPOSSIBLE TO DETERMINE IF REBAR DAMAGE HAS OCCURED. THE ABANDONED/REPAIRED REDHEADS ARE LOCATED SITE WIDE.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
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								IN-85-664-001	CD130

KEYWORDS:

X: Y: Z:

POSSIBLE ANCHOR VIOLATIONS IN KEYWAY AREA UNDER REACTOR UNIT 1. SOME ANCHORS WHICH ARE NOT USED SHOULD BE PULLED AND PATCHED. THE CI OBSERVED THESE IN 1983.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
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								IN-85-672-005	CD130

KEYWORDS:

X: Y: Z:

OVERLOADING OF EMBED PLATES IS SUPPOSEDLY UNSAFE AT CERTAIN DISTANCES, BUT IF THE CONDITION IS DOCUMENTED "ON PAPER" (ENGINEERING DISPOSITION?) IT IS ACCEPTABLE. IF CERTAIN DISTANCES SHOULD BE MAINTAINED, THE REQUIREMENTS SHOULD BE ENFORCED NOT SUBJECT TO ENGINEERING MODIFICATION. NO FURTHER INFORMATION IN FILE. CI DECLINED TO PROVIDE FURTHER INFORMATION. NO FOLLOW UP REQUIRED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
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			YES					IN-85-680-001	CD130

KEYWORDS:

X: Y: Z:

WHILE INSTALLING (DRILLING) RED HEAD EXPANSION ANCHORS FOR ANCHORING COMPRESSORS IN BATTERY ROOMS IN REACTOR BUILDIN #1, SOME OF THE REBARS WERE CUT. LOCATION EL. 698'-0". CI WITNESSED THIS INCIDENT WHICH OCCURRED IN JAN/FEB. '85. RELEASE OF ANY FURTHER INFORMATION WOULD COMPROMISE CONFIDENTIALITY. CONSTRUCTION DEPT. CONCERN.

TECHNICAL COMMENTARY:



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LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-845-001	CD130

KEYWORDS:

X: Y: Z:

ON SAMPLING SYSTEM 43, UNISTRUT IS INSTALLED WITH CONCRETE FASTENERS THAT ARE CUT-OFF, TACK WELDED TO THE BACK OF UNISTRUT TO APPEAR AS ANCHORED INTO CONCRETE. THIS SYSTEM WAS REROUTED AND THE PROBLEM WAS CORRECTED. CI EXPRESSED CONCERN ABOUT THE BALANCE OF PLANT UNIT 1 & 2. CI GAVE NO SPECIFICS ABOUT OTHER SYSTEMS OR LOCATIONS.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-947-002	CD130

KEYWORDS:

X: Y: Z:

TORQUE VERIFICATION METHODS FOR REDHEADS ARE NOT CLEARLY DEFINED; THE O-50 NOTES SAY, "...THE TORQUE SHALL BE READ WHILE THE NUT IS IN A TIGHTENING MOTION." BUT CRAFT HAVE BEEN TOLD THEY WILL GET AN IRN IF THE BOLT TURNS WHEN THE INSPECTOR CHECKS THE TORQUE WITH THE CALIBRATED WRENCH. CONSTRUCTION DEPT CONCERN. STEAMFITTERS - 1985. CI HAS NO MORE INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-85-947-004	CD130

KEYWORDS:

X: Y: Z:

A TEST OF CONCRETE ANCHOR PULL STRENGTH WAS TO BE CONDUCTED AT 3200 LBS. THE PORTAPOWER UNIT WHICH WAS USED HAS ON A 3000 LB. GAUGE. ENTER THE CONTAINMENT VIA SHOP'S LADDER TO 720' EL. TURN LEFT, AND GO AROUND CONTAINMENT TO CONCRETE WALL. HANGER IS ON LEFT (OUTER) AT 730' EL. IN OR BELOW THE LAST "WINDOW" (ICE CHUTE OPENING) (OCCURRED ABOUT JUNE 1985 IN UNIT 2) CONSTRUCTION DEPT CONCERN. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
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								IN-85-982-001	CD130

KEYWORDS:

X:

Y:

Z:

REBAR LOCATORS NOT USED. REBAR OFTEN HIT DURING RED HEAD DRILLING. MANY RED HEAD INSERTS HAVE BEEN CUT OFF AND ARE SHORTER THAN SPECIFIED LENGTH, AND OFTEN PULL OUT WHEN TESTED. THREAD ENGAGEMENT IS ALSO TOO SHORT. ONLY EXAMPLE KNOWN HAD BEEN REQUIRED (UNIT 2 GO UP LADDER INTO ACCUMULATOR ROOM, GO FORWARD, 305 PANELS AT LEFT.) CI HAS NO MORE INFORMATION. NO FOLLOW UP REQUIRED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
-----	-----	-----	-----	---	---	-----	---		
								IN-86-115-001	CD130

KEYWORDS:

X:

Y:

Z:

SELF DRILLING EXPANSION SHELL ANCHORS ARE BEING OVERTORQUED. THIS IS DONE TO CORRECT EXCESSIVE GAP BETWEEN BASEPLATE AND WALL. CRAFT PERSONNEL ARE NOT TRAINED TO THE REQUIREMENTS OF SPEC. G-32 PARAGRAPH 3.2. CONSTRUCTION DEPT CONCERN- CI HAS NO FURTHER INFORMATION. UNITS 1 & 2.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
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								IN-86-140-002	CD130

KEYWORDS:

X:

Y:

Z:

ANCHORS BOLTS HAVE BEEN CUT AND WELDED TO BASE PLATES. ANCHORS HAVE NOT BEEN PUT IN DEEP ENOUGH, AND CAN PULL OUT. EG: TURBINE BLDG UNIT #2, GROUND LEVEL, ROOM NEAR RAILWAY ENTRANCE (ACROSS PASSAGE FROM NORTH VALVE ROOM). CONDUIT HANGER DIRECTLY OVER ENTRY WAY HAS PULLED OUT OF WALL, AND IS BEING HELD UP BY CONDUIT. ALSO HAS WELD LEAD DRAPED OVER HANGER. CONSTRUCTION DEPT CONCERN. UNIT 2. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

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LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-177-001	CD130

KEYWORDS:

X:

Y:

Z:

DURING REWORK, CI IDENTIFIED NON QA HANGER THAT 4 RED HEAD ANCHORS HAD BEEN CUT OFF. THIS OCCURRED IN THE TURBINE BLDG, ELEV. 685. CI HAS NO FURTHER INFORMATION. CONSTR. DEPT. CONCERN. NO FOLLOW UP REQUIRED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-190-003	CD130

KEYWORDS:

X:

Y:

Z:

AN EMPLOYEE TOLD THE CI THAT THE SAFETY RELATED CONCRETE ANCHORS (REHEADS), WERE TESTED BY A SAMPLING PLAN RATHER THAN INDIVIDUALLY. CI QUESTIONED THE ACCEPTABILITY OF THIS PRACTICE. NUC POWER CONCERN. UNIT #1. CI HAS NO ADDITIONAL INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-200-003	CD130

KEYWORDS:

X:

Y:

Z:

THE USE OF "RED HEADS" FOR SUPPORT IS NOT SAFE IN THAT THE CONCRETE COULD BE HONEYCOMBED AROUND THE "RED HEAD". CONST. DEPT. CONCERN. CI HAS NO ADDITIONAL INFORMATION. NO FOLLOW UP REQUIRED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPF	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
			YES					IN-86-219-001	CD130

KEYWORDS:

X:

Y:

Z:

A CRAFTSMAN WAS DIRECTED TO GRIND DOWN REDHEAD ANCHORS AND WELD NUTS TO THE BACK SIDE OF SUPPORT PLATES. NAMES AND LOCATIONS ARE KNOWN TO QTC WITHHELD DUE TO CONFIDENTIALITY. CI HAS NO ADDITIONAL INFORMATION. UNIT #1/1978-1979/NUC. POWER DEPT CONCERN.

TECHNICAL COMMENTARY:

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-221-001	CD130

KEYWORDS:

X: Y: Z:

AUX BLDG. (UNIT 1 SIDE), ANNULUS, EL. 755' TO CEILING-"RED HEADS" WERE LEFT IN WALL (AFTER REMOVAL OF CONDUIT) AND GROUTED OVER WITHOUT REMOVING "RED HEADS". NUCPWR DEPT. CONCERN. CI HAS NO ADDITIONAL INFORMATION.  
NO FOLLOW UP REQUIRED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								IN-86-294-002	CD130

KEYWORDS:

X: Y: Z:

IN 1981 THE FIRE PROTECTION SYSTEM IN THE VAULT IN UNIT 2 HAD A BASE PLATED WITH AN ANCHOR BOLT CUT OFF AND TACK WELDED TO THE BACK OF THE BASE PLATE. THE BASE PLATE IS LOCATED INSIDE THE ACCESS DOOR TO THE VAULT AND ON THE CEILING. CI HAS NO ADDITIONAL INFORMATION. CI'S CONCERN IS IN OTHER APPLICATIONS IN THE PLANT. CONSTR. DEPT. CONCERN. NO FOLLOW REQUIRED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								PH-85-002-009	CD130

KEYWORDS:

X: Y: Z:

C/I IS CONCERNED ABOUT THE USAGE OF PHILLIPS REDHEAD ANCHOR BOLTS FOR ATTACHING ITEMS TO CONCRETE, DUE TO REDHEADS HAVING BEEN DECLARED UNSUITABLE FOR USE AND REPLACED AT A NUMBER OF OTHER NON-TVA NUCLEAR SITES. CONST. DEPT. CONCERN. C/I HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								PH-85-002-026	CD130

KEYWORDS:

X: Y: Z:

REDHEAD CONCRETE ANCHORS HAVE BEEN IMPROPERLY INSTALLED THROUGH WBNP. CONSTRUCTION DEPT CONCERN. CI HAS NO FURTHER INFORMATION.  
NO FOLLOWUP REQUIRED.

TECHNICAL COMMENTARY:

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								PH-85-003-021	CD130

KEYWORDS:

X: Y: Z:

MANAGEMENT REQUIRED PERSONNEL TO DRILL HOLES IN CONCRETE AND CUT REBAR WITHOUT AN ENGINEERING EVALUATION BEING CONDUCTED. CI HAS NO MORE INFORMATION AVAILABLE  
NO FOLLOW UP REQUIRED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								PH-85-035-007	CD130

KEYWORDS:

X: Y: Z:

CI IS CONCERNED ABOUT USING 3/8" RED HEADS INSTEAD OF 3/4" IN SSSYTEM 68 DRAIN, REACTOR 1 AT ELEVATION 720 OR 721, NEAR RC PUMP 2. CONSTRUCTION DEPT CONCERN. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								SGP-5-005-002	CD130

KEYWORDS:

X: Y: Z:

CONCERN: SEQUOAH: IN 1976-77, AUX BLDG, ELEVATION 749, OF UNIT 1, IN THE MOV BOARD ROOM 1A, BETWEEN COLUMN LINES A-2 TO A-8 AND "R" LINE HOLES WERE LEFT IN THE CEILING UNDER THE CONDUIT CABLE TRAY SUPPORTS. REBAR WAS HIT WHILE DRILLING THE HOLES, SO THE HOLE LOCATION WAS MOVED, AND THE OLD HOLES WERE LEFT WITH THE SHELLS INSTALLED AND THE HOLES NOT FILLED WITH GROUT. DETAILS KNOWN TO QTC WITHHELD TO MAINTAIN CONFIDENTIALITY. NO FURTHER INFORMATION MAY BE RELEASED. CI HAS NO ADDITIONAL INFORMATION. CONST. DEPT. CONCERN. NO FURTHER INFORMATION MAY BE RELEASED.  
NO FOLLOW-UP REQUIRED.

TECHNICAL COMMENTARY:

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM
-----	-----	-----	-----	---	---	-----	---		ID
			YES					SQP-5-005-003	CO130

KEYWORDS:

X: SQN Y: Z:

SEQUOYAH: IN 1976-77, AUX BLDG, ELEVATION 749, OF UNIT I, IN THE MOV BOARD ROOM 1A, BETWEEN COLUMN LINES A-2 TO A-8 AND "R" LINE THE ANCHOR SHELLS WERE CUT OFF AND INSTALLED WHEN THEY HIT REBAR DURING INSTALLATION. THE SHELLS WERE CUT OFF TO FACILITATE INSTALLATION OF CONDUIT AND CABLE TRAY SUPPORTS TO THE CEILING. DETAILS KNOWN TO QTC AND WITHHELD TO MAINTAIN CONFIDENTIALITY. NUCLEAR POWER CONCERN. NO FURTHER INFORMATION MAY BE RELEASED. CI HAS NO FURTHER INFORMATION. NO FOLLOW UP REQUIRED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM
-----	-----	-----	-----	---	---	-----	---		ID
			YES					SQP-5-005-004	CO130

KEYWORDS:

X: SQN Y: Z:

SEQUOYAH: IN 1976-77, AUX BLDG, ELEVATION 749, OF UNIT I, IN THE MOV BOARD ROOM 1A, BETWEEN COLUMN LINES A-2 TO A-8 AND "R" LINE THE CONCRATE ANCHORS WERE INSTALLED AT AN ANGLE SO GREAT THAT THE HOLES IN THE SUPPORT PLATES HAD TO BE BEVELED ON THE BACK EDGE TO ENABLE THE ANCHOR BOLT TO FIT THROUGH THE PLATE. THESE ANCHORS WERE INSTALLED FOR CONDUIT AND CABLE TRAY SUPPORTS IN THE CEILING. DETAILS KNOWN TO QTC WITHHELD TO MAINTAIN CONFIDENTIALITY. NO FURTHER INFORMATION MAY BE RELEASED. CI HAS NO ADDITIONAL INFORMATION. CONST. DEPT. CONCERN. NO FURTHER INFORMATION MAY BE RELEASED.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM
-----	-----	-----	-----	---	---	-----	---		ID
			YES					SQP-5-005-005	CO130

KEYWORDS:

X: SQN Y: Z:

SEQUOYAN: IN 1976-77, AUX BUILDING, ELEVATION 749 OF UNIT I, IN THE MOV BOARD ROOM 1A BETWEEN COLUMN LINES A-2 TO A-8 AND "R" LINE NONCONFORMING CONDITIONS WITH THE INSTALLATION OF CONDUIT AND CABLE TRAY SUPPORTS SUCH AS. CUT OFF ANCHOR SHELLS, INCORRECTLY INSTALLED. ANCHOR SHELLS, WRONG SIZE ANCHORS, CUT REBAR, MODIFIED SUPPORT PLATES, AND ANCHOR HOLES NOT FILLED WERE IDENTIFIED; HOWEVER THESE NONCONFORMING CONDITIONS WERE NOT DOCUMENTED AND APPROPRIATE ACTION IMPLEMENTED. DETAILS KNOWN TO QTC, WITHHELD TO MAINTAIN CONFIDENTIALITY. NO FURTHER INFORMATION MAY BE RELEASED. CI HAS NO ADDITIONAL INFORMATION. CONST. DEPT.

TECHNICAL COMMENTARY:

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
			YES					SQP-5-005-006	CO130

KEYWORDS:

X: SON Y: Z:

SEGUOYAH: IN 1976-77, AUX BUILDING, ELEVATION 749 OF UNIT I, IN THE MOV BOARD ROOM A, BETWEEN COLUMN LINES A2 TO A8 AND "R" LINE, CONCRETE ANCHORS WERE DRILLED INTO THE CEILING, MANY OF WHICH HIT REBAR. THIS MAY NOT HAVE BEEN REPORTED TO ENGINEERING SO THAT ENGINEERING COULD EVALUATE ANY DAMAGE. THE HOLES WERE RELOCATED AND REDRILLED, AND THE CONDUIT AND CABLE SUPPORTS WERE INSTALLED IN THE CEILING. DETAILS KNOWN TO QTC, WITHHELD TO MAINTAIN CONFIDENTIALITY. NO FURTHER INFORMATION MAY BE RELEASED. CI HAS NO ADDITIONAL INFORMATION. CONST. DEPT. CONCERN.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								WBM-6-009-001-130	CO130

KEYWORDS:

X: Y: Z:

CI IS CONCERNED THAT POST APPLIED BASE PLATES FOR ANSI B31.1, INSTRUMENTS AND CABLE TRAY SUPPORTS HAVE BEEN "FIELD" MODIFIED AND/OR HAVE HAD ADDITIONAL LOADS ADDED WITHOUT GENERATION OF AS BUILT DRAWINGS AND THE SUBSEQUENT REQUIRED REVIEW BEEN DES OF THESE MODIFICATIONS AND/OR ADDITIONALLY APPLIED LOADS, AS REQUIRED BY ANSI N45.2.11. CI HAS NO FURTHER INFORMATION.

TECHNICAL COMMENTARY:

ALSO IN CO110

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								WI-85-011-001	CO130

KEYWORDS:

X: Y: Z:

SOME ELECTRICAL HANGERS IN THE TURBINE AND CONTROL BUILDINGS HAD ANCHOR BOLTS WELDED TO THE EMBED WHERE REBAR INTERFERED WITH THE INSTALLATION. (SPECIFIC LOCATIONS NOT KNOWN).

TECHNICAL COMMENTARY:

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LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								XX-85-010-001	CO130

KEYWORDS:

X: SQN Y: Z:

SEQUOYAH- WHEN REMOVING VOIDED HANGERS, CI DISCOVERED SEVERAL INSTANCES OF NUTS WELDED TO BACK OF BASE PLATES WITH THE CONCRETE CHIPPED AWAY TO ACCEPT NUT. ANCHOR BOLTS WOULD ACCEPT TORQUE BUT WOULD NOT SUPPORT BASE PLATES. PER CI, THIS SITUATION COULD EXIST FOR THE INSTALLED HANGERS. EXAMPLE: CVC SYSTEM REACTOR BUILDING, ACCUMULATOR ROOM 4. THIS WAS ABOUT 4 YEARS AGO AT SEQUOYAH IN UNITS 1 & 2.

TECHNICAL COMMENTARY:

LOC	STATUS	RESP	-QTC-	PPP	CFR	INSP	TC	-----CONCERN-----	PROBLEM ID
								XX-85-023-001	CO130

KEYWORDS:

X: SQN Y: Z:

SEQUOYAH. UNIT #2. PULL TESTS WERE ROUTINELY BY-PASSED AND/OR INCORRECTLY DOCUMENTED ON HANGERS/ANCHORS INSTALLED IN THE ANNULUS AREA. MID-1977. NO NAMES OR SPECIFIC LOCATIONS WERE PROVIDED. CONSTRUCTION DEPT. CONCERN. CI HAS NO MORE INFORMATION.  
NO FOLLOW-UP REQUIRED.

TECHNICAL COMMENTARY:



ENCLOSURE 1

WATTS BAR NUCLEAR PLANT  
UNIT 1  
CHANGES TO THE  
INSERVICE TESTING PROGRAM FOR  
PUMPS AND VALVES

Changes, other than grammatical, punctuation, spelling, and typographical corrections, are as follows:

1. Paragraphs 1.0, 2.0, 3.0, and 3.1.2 have been revised to reference the 1983 edition through the summer 1983 addenda of the ASME code. This update has been necessitated by the delays in licensing of Watts Bar.
2. Paragraph 3.0 has been revised to provide further information regarding the review of Watts Bar valves for inclusion in the program.
3. Paragraphs 3.4 and 3.5 have been revised to provide further information regarding the relief requests contained in them.
4. Paragraph 3.6 has been revised to clarify testing of the spare diesel generator.
5. Paragraph 3.8 has been revised to clarify frequency of remote indicator verification.
6. Paragraph 3.10 has been revised to clarify the cold shutdown testing control plan.

## WATTS BAR NUCLEAR PLANT - INSERVICE TESTING PROGRAM FOR PUMPS AND VALVES

7. The following changes have been made to Appendix B, Valve Inservice Testing Program Summary:
- a. Valves 1PCV01.005T, 1PCV01.012T, 1PCV01.023T, and 1PCV01.030T have been dropped from relief request RR.21.
  - b. Valves 1FSV30.134, 1FSV30.135, and 1FSV43.250 through 1FSV43.342 have been added to relief request RR.21. The difficulty in performing remote position indication verification for these valves had not previously been identified.
  - c. Valves 1CKV63.524A and 1CKV63.526B have been added to relief request RR.34. These valves had previously been included in relief request RR.18 which specified a part stroke frequency of once per nine months during cold shutdown due to interface requirements with primary pressure boundary isolation valves (PPBIV). A method has been identified to allow part stroke testing during cold shutdown once per quarter without unnecessarily challenging the PPBIV. RR.34 has been prepared to reflect this ability.
  - d. Valves 1CKV63.560S through 1CKV63.563S have been added to relief request RR.20. These valves had not previously been identified as being incapable of full flow testing and had been part of cold shutdown justification CS.18. Further review of the function of these valves has identified them as valves incapable of achieving full flow. Therefore they have been incorporated in RR.20.
  - e. Valves 1CKV63.640S and 1CKV63.643S had previously been identified as being tested during cold shutdown once per quarter. Further review of these valves function has revealed that they are not routinely used during cold shutdown and that testing them during cold shutdown unnecessarily challenged both these two valves and other PPBIV. RR.35 has been prepared to reflect that these valves will be full stroke tested at the same frequency as the other PPBIV.

## WATTS BAR NUCLEAR PLANT - INSERVICE TESTING PROGRAM FOR PUMPS AND VALVES

- f. Valves 1CKV63.641S and 1CKV63.644S had previously been listed in both relief request RR.18 and cold shutdown justification CS.18 which specify different test frequencies. RR.18 is the correct reference and the valves have therefore been dropped from CS.18.
- g. Valve 1CKV68.559 has been added to the program with relief request RR.32 also being added to reflect the inability to test the valve.
- h. Valves 1FSV68.394 through 1PCV68.340A.A have been identified as valves requiring testing during cold shutdown. Cold shutdown justification CS.36 has been added to reflect this.
- i. Valves 1FSV68.396 and 1FSV68.397 had previously been included in relief request RR.26. This request has been withdrawn.
- j. Check valves in the diesel generator air start system (a subsystem of system 82) have been added to the program.
- k. Air start valves for the spare diesel generator have been added to the program.
- l. Valves 1FCV82.160A.A through 1FCV82.201B.B, 2FCV82.220A.A through 2FCV82.261B.B, and 0FCV82.300 through 0FCV82.311 have been identified as valves which cannot be stroke timed due to the lack of any position indication. Relief request RR.31 has been added to reflect this.
- m. Valves 1FCV74.033A and 1FCV74.035B have been identified as requiring cold shutdown testing. Justification CS.35 has been added accordingly.
- n. Valves 1SFV62.518, OSFV67.671, and OSFV67.672 have been added to the program.

## WATTS BAR NUCLEAR PLANT - INSERVICE TESTING PROGRAM FOR PUMPS AND VALVES

## 8. The following changes have been made in Appendix C, Relief Request Summary:

- a. Additional information has been added in support of relief request RR.10.
- b. The list of affected components for relief request RR.18 has been revised. See items 7.c and 7.f above.
- c. The list of affected components for relief request RR.20 has been revised. See item 7.d above.
- d. Reference to full flow testing has been removed from relief request RR.20. These words had been erroneously added in a previous revision. Valves listed in this relief request cannot be full stroke tested.
- e. Relief request RR.21 has been rewritten to include additional components and to provide a more reasonable and effective alternative. See item 7.b above.
- f. Relief request RR.26 has been withdrawn.
- g. Relief request RR.30 has had additional information added to the basis.
- h. Relief request RR.31 has been added due to the difficulty encountered trying to time valves which have no position indicators. See item 7.1 above.
- i. Relief request RR.32 has been added due to the addition of LCKV68.559 to the program. See item 7.g above.

## WATTS BAR NUCLEAR PLANT - INSERVICE TESTING PROGRAM FOR PUMPS AND VALVES

- j. Relief request RR.33 has been added because further review of our ability to part stroke some check valves may not meet the strictest interpretation of the code.
  - k. Relief request RR.34 has been added following review of our ability to test certain valves on a more frequent basis. See item 7.c above.
  - l. Relief request RR.35 has been added following review of the impact of testing certain check valves. See item 7.e above.
9. The following changes have been made to Appendix D, Cold Shutdown Justification Summary:
- a. The listing of affected components in justification CS.18 has been revised. See items 7.d and 7.f above.
  - b. Justification CS.35 has been added because additional review of the impact of testing valves 1FCV74.033A and 1FCV74.035B revealed a potential common mode failure concern. See item 7.m above.
  - d. Justification CS.36 has been added due to operational problems with Target Rock solenoid operated valves. See item 7.h above.