

EVALUATION RESEARCH CORPORATION

COMANCHE PEAK RESPONSE TEAM

PROCEDURE NO: CPP-014

REVISION: 3

EFFECTIVE DATE: 10-03-86

FOR

COLLECTIVE EVALUATION OF THE CONSTRUCTION QA/QC PROGRAM  
AND OF THE QUALITY OF CONSTRUCTION

PREPARED BY:

*Jack A. Jones*

DATE:

*9/30/86*

APPROVED BY:

*R. D. Gill*  
ON-SITE QA REPRESENTATIVE

DATE:

*9/30/86*

APPROVED BY:

*J. L. Hamel*  
QA/QC REVIEW TEAM LEADER

DATE:

*9/30/86*

## 1.0 PURPOSE

This procedure prescribes the methodology for collective evaluation of the Construction QA/QC Program and of the Quality of Construction at Comanche Peak Steam Electric Station (CPSES) and delineates how interface relationships with other review teams are accomplished.

## 2.0 APPLICABILITY

This procedure applies to the work performed by the QA/QC Review Team during collective evaluation of the overall adequacy of the Construction QA/QC Program and of the Quality of Construction at CPSES.

## 3.0 REFERENCES

- 3.1 CPP-018, "QA/QC Interface with the Design Adequacy Program"
- 3.2 PAG-08, "Policy on CPRT Interfaces for Design and Construction Discrepancies Identified by the ISAP RTLs"
- 3.3 CPRT Program Plan
- 3.4 CPRT Program Plan, Appendix E

## 4.0 GENERAL

Implementation of Collective Evaluation is based upon the results of the CPRT Issue Specific Action Plans (ISAPs), and input from other applicable investigatory programs. The evaluation will assess the adequacy of the Construction QA/QC Program and will determine the Quality of Construction. Improvements to the Construction QA/QC Program related to future CPSES construction activities will be identified.

### 4.1 QA/QC Responsibilities

#### 4.1.1 QA/QC Review Team Leader

The QA/QC Review Team Leader (RTL) has the overall responsibility for the collective evaluation of the CPSES Construction QA/QC Program and of the CPSES Quality of Construction, the interfaces with other RTL's and the approval of the final reports.

The RTL maintains close coordination and communications with other RTL's on matters that impact or relate to issues concerning the Construction QA/QC Program or Quality of Construction.

#### 4.1.2 Supervisor of Collective Evaluation

The Supervisor of the Collective Evaluation Group (CEG) who reports to the Deputy Program Manager of External Source Issues is responsible for assuring the implementation of this procedure. He directs the work involved in the collective evaluation. For this purpose, he is assisted by technically qualified personnel who will be assigned responsibilities for specific activities.

He is responsible for the overall collective evaluation of issues concerning the Construction QA/QC Program and the Quality of Construction. He maintains coordination with other teams for issues relating to the Construction QA/QC Program and the Quality of Construction. Form CPP-014.1, Attachment 6.1, is used to transmit design concerns that are found during collective evaluation to the QA/QC Interface Coordinator, and to other responsible personnel. Inputs on issues concerning Construction QA/QC Program and the Quality of Construction are received from the Design Adequacy Program (DAP) via the QA/QC Interface Coordinator (References 3.1 and 3.2).

#### 4.2 Policy

##### 4.2.1 General Principles

Activities performed under this procedure shall conform to the policies contained in the latest CPRT Program Plan, Reference 3.3.

##### 4.2.2 Personnel Qualification Requirements

Personnel participating in the implementation of this procedure shall be qualified in accordance with Section III.H. of Reference 3.3.

##### 4.2.3 Delegations

Should an activity be designated as the responsibility of the Supervisor of the CEG, the activity may be delegated to an individual under his supervision.

#### 4.3 Conflicts

In case of a conflict between this procedure and documents referenced in Section 3.0 the later shall govern.



#### 4.4 Definitions

##### 4.4.1 General

The definitions currently in Reference 3.4. shall apply to this procedure.

##### 4.4.2 Collective Evaluation

Collective Evaluation is an across-the-project assessment of the adequacy of the Construction QA/QC Program and of the Quality of Construction at CPSES. This assessment will correlate the findings observations and conclusions drawn from results reports and other investigative programs that may become available. Additionally, these will be evaluated collectively to ensure that potential safety-significant trends implicit in the collective data that may not be apparent from the individual investigative activities are detected and delineated.

##### 4.4.3 Matrix

As used herein, a matrix is a listing of external source issues correlated in such a way that each issued may be tracked to closure. The issues are obtained from the external source documents listed in Attachment 6.2. In the matrix, each external source issue is correlated to the appropriate ISAP or hardware population; the appropriate criteria from 10CFR50, Appendix B; the appropriate classifications from SSER-11, Appendix P; the status of closure; and any needed clarifying comments.

#### 5.0 PROCEDURE

##### 5.1 General

This procedure will be implemented in two phases, Phase I and Phase II. Although the work to be accomplished in each phase is distinct there may be some overlap in timing.

Phase I is comprised of the collection, review and evaluation of issues contained in the external source documents listed in Attachment 6.2 to obtain information applicable to the matrix. Also, during Phase I, the matrix shall be constructed.

Phase II consists of the collection, review, and evaluation of all ISAP Results Reports and results from other applicable investigatory programs to determine the overall adequacy of the Construction QA/QC Program and of the Quality of Construction. Additional Construction QA/QC program or

hardware issues which are identified from these reviews and evaluations as areas of concern shall be evaluated further and the results of these evaluations included in the final conclusions.

5.2 Phase I - Development and Evaluation of Matrix Information.

Each external source issue is cataloged in the matrix. They are listed by the issue number, subject matter and referenced to the associated ISAP(s), DSAP(s) and Population(s). All issues are listed even though they may have been closed by the initiator. This allows consideration for trending items that may not appear in a results report. The status of the issues is recorded in the remarks column. As issues are addressed by results reports the remarks column will be updated to reflect the findings. The complete status of the issues and how they relate to ISAPs, DSAPs and Populations can be tracked by this system.

5.2.1 Responsible CEG personnel shall take the following actions to construct the matrix:

- a. Review each document of Attachment 6.2 and identify Construction QA/QC Program and hardware issues and itemize each issue on the matrix.
- b. Utilize Appendix "P" of the NRC's SSER-11 to help classify issues.
- c. Indicate on the matrix format the criteria from 10CFR50, Appendix B for each valid concern when applicable.
- d. Review each action plan of Attachment 6.3 and identify the applicability of its scope to the specific issues on the matrix. Include the ISAP number on the matrix with the applicable issues.
- e. Review the matrix information to determine whether all issues are covered by existing ISAP's.
- f. Advise the Supervisor of Collective Evaluation of the results of the review indicating any issues that are not covered, or inadequately covered.

5.2.2 The matrix is designed to be updated throughout the implementation of Phase II. All new inputs or requirements will be reviewed for inclusion in updating the matrix. Working copies of appropriate parts of the matrix will be distributed to Issue Coordinators (I/C's) and RTL's for assistance in completing their action plans and to form a basis for interfacing activities and communication between I/C's, RTL's and collective evaluation personnel.

5.2.3 The Supervisor of Collective Evaluation, shall review the issues from external sources which either have been covered inadequately by action plans or which have no coverage and shall determine whether:

- a. Information from another source is available which clearly shows the issue to be invalid.
- b. Further evaluation is required and whether that evaluation shall be specified in a new ISAP, in a revision to an existing ISAP, or by a memorandum for the record.

The Supervisor of Collective Evaluation shall forward these recommendations to the QA/QC RTL for approval.

5.3 Phase II - Review/Evaluation of ISAP Results and Other Investigative Program Results.

5.3.1 Implementation of this phase is dependent upon completion of ISAP Results Reports as issued by the RTL's. As these reports become available, CEG personnel shall:

- a. Obtain a copy of each ISAP Results Report and the results from other investigative programs which become available and are applicable to the issues.
- b. Review the ISAP Results Reports and the results of other investigative programs and determine that:
  - Required QA/QC program and hardware adverse trends, deficiencies, and corrective actions have been identified
  - Deviations have been discussed.
  - Safety significance of identified deficiencies has been specified.
  - Root causes and generic implications of identified deficiencies and adverse trends have been discussed.
  - Actions to prevent recurrence of deficiencies and adverse trends have been delineated.
  - Additional problems or potential problems affecting Construction QA/QC Program or the Quality of Construction from the inter-relationships of ISAP Results Reports have been identified.



- External source issues applicable to the scope of ISAPs and other investigative programs have been addressed.

5.3.2 If the evaluation in Section 5.3.1 above indicates less than complete information in the reports or indicates additional or potential problem areas, the Supervisor of Collective Evaluation shall notify the QA/QC RTL who shall notify the cognizant RTL and Issue Coordinator. The QA/QC RTL and cognizant RTL will resolve the concerns by:

- a. Recommending a new ISAP or a revision to an existing ISAP to the Senior Review Team if further evaluation is required.
- b. Justifying that no further activity is required. The primary reason that further evaluation would not be required would be that information is available which clearly shows the issue to be invalid.

5.3.3 When all information from Results Reports and other Program data has been collected per Sections 5.3.1 through 5.3.2 the CEG will perform the collective evaluation process by disciplines/10CFR50, Appendix B criteria so that they may cross relate the information that is common.

The evaluations will utilize the process outlined by Attachment 6.4.

5.3.4 Issues that were identified and then subsequently addressed by the external sources that identified the issues will be considered for information during collective evaluation.

5.3.5 The collective evaluations may identify potential generic implications not previously documented and may require the performance of additional inspections or document reviews.

#### 5.4 Reports

5.4.1 Three reports will be written as a result of the implementation of Phases I and II of this procedure. These reports will encompass the following topics as delineated in Reference 3.3, Appendix B.

- a. A Collective Evaluation Report related to the adequacy of the CPSES Construction QA/QC Program, including the identification of any necessary improvements related to future CPSES construction activities and plant operations.

- b. A Collective Evaluation Report related to the Quality of Construction at CPSES, including the identification of corrective actions necessary to resolve any construction deficiencies and adverse trends. Recommendations will be made to prevent recurrence.
- c. A Summary Report that integrates the results of the two Collective Evaluation Reports and sets forth the CPRT conclusions.

5.4.2 Each report will summarize the following:

- a. Deficiencies, adverse trends and associated root cause(s) and generic implications.
- b. Corrective action required to resolve deficiencies and adverse trends and recommendations to preclude recurrences during the remaining work on Unit 2.
- c. The adequacy of the CPSES Quality of Construction and the Construction QA/QC Program including any recommendations for improvements related to future CPSES construction.

#### 5.5 Records

The CEG will maintain files which reflect the records and documentation required to accomplish the collective evaluation tasks.

#### 6.0 ATTACHMENTS

- 6.1 CPRT Data Collection Form
- 6.2 External Source Document List
- 6.3 CPRT Action Plan Review List
- 6.4 Collective Evaluation Flowsheet



CPRT OA/OC DATA COLLECTION FORM

TO: \_\_\_\_\_ FROM: \_\_\_\_\_

SUBJECT: \_\_\_\_\_ DATE: \_\_\_\_\_

REFERENCED DOCUMENT/S:

TITLE: \_\_\_\_\_

REV. DATE: \_\_\_\_\_

ACTION REQUESTED: \_\_\_\_\_

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

RESPONSE: \_\_\_\_\_

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

RESPONSE RECEIVED: \_\_\_\_\_ DATE CLOSED: \_\_\_\_\_

CPP-014.1

EXTERNAL SOURCE DOCUMENT LIST

1. NRC-TRT Evaluation Letters
  - ° Dated September 18, 1984
  - ° Dated November 29, 1984
  - ° Dated January 8, 1985
2. NRC Safety Evaluation Report (NUREG 0797) Supplements
  - ° SSER 7
  - ° SSER 8
  - ° SSER 10
  - ° SSER 11
3. Other Reports/Documents
  - ° NRC SIT Report - February 15, 1983
  - ° NRC CAT Report - April 11, 1983
  - ° NRC Special Review Team Report - April 1984
  - ° NRC Region IV Inspection Reports
  - ° CYGNA Independent Assessment Program Report
  - ° Concerns associated with matters in contention before the ASLB for CPSES
  - ° Technical Allegations raised in the NRC HITS Docket
  - ° Lobbin Report - February 4, 1982
  - ° MAC Report - May 17, 1978
  - ° Teledyne Report - February 21, 1985

CPRT ACTION PLAN REVIEW LIST

<u>ISAP No.</u>	<u>Subject Matter</u>
I.a.1	Heat Shrinkable Sleeves
I.a.2	Inspection Reports on Butt-Splices
I.a.3	Butt-Splice Qualification
I.a.4	Agreement Between Drawings and Field Terminations
I.a.5	NCRs on Vendor Installed Amp Terminal Lugs
I.b.1	Flex Conduit to Flex Conduit Separation
I.b.2	Flexible Conduit to Cable Separation
I.b.3	Conduit to Cable Tray Separation
I.b.4	Barrier Removal
I.c	Electrical Conduit Supports
I.d.1	QC Inspector Qualifications
I.d.2	Guidelines for Administration of QC Inspector Tests
I.d.3	Craft Personnel Training
II.a	Reinforcing Steel in the Reactor Cavity
II.b	Concrete Compression Strength
II.c	Maintenance of Air Gap Between Concrete Structures
II.d	Control Room Ceiling
II.e	Rebar in Fuel Handling Building
III.a.1	HFT Date Packages
III.a.2	JTG Approval of Test Data
III.a.3	Tech Specs for Deferred Tests
III.a.4	Traceability of Test Equipment
III.b	Conduct of CILRT
III.c	Prerequisite Testing



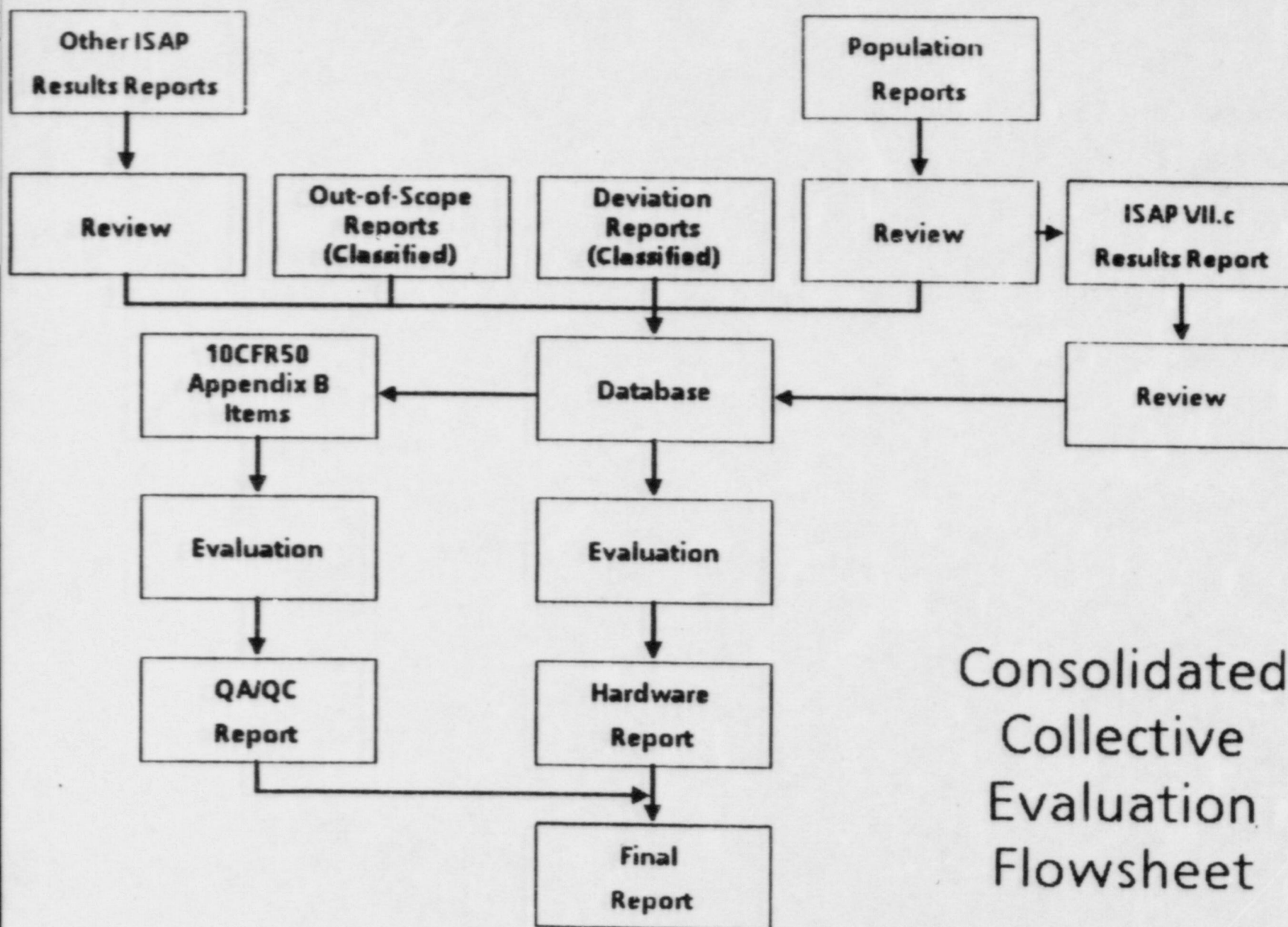
CPRT ACTION PLAN REVIEW LIST

<u>ISAP No.</u>	<u>Subject Matter</u>
III.d	Preoperational Testing
IV.a	Surveillance Program for Coatings
V.a	Skewed Welds in NF Supports
V.b	Shortening of Anchor Bolts
V.c	Piping Between Buildings
V.d	Plug Welds
V.e	Installation of Main Steam Piping
VI.a	Insulation/Shield Wall Gap
VI.b	Polar Crane Shims
VII.a.1	Material Traceability
VII.a.2	Non-Conformance and Corrective Action Systems
VII.a.3	Document Control
VII.a.4	Audit Program and Auditor Qualification
VII.a.5	Periodic Review of QA Program
VII.a.6	Exit Interviews
VII.a.7	Housekeeping and System Cleanliness
VII.a.8	Fuel Pool Liner Documentation
VII.a.9	Adequacy of Purchased Safety Related Equipment and Material
VII.b.1	Onsite Fabrication
VII.b.2	Valve Disassembly
VII.b.3	Pipe Support Inspections
VII.b.4	Hilti Anchor Bolts Installation
VII.c	Construction Reinspection/Documentation Review Plan

CPRT ACTION PLAN REVIEW LIST

<u>DSAP No.</u>	<u>Subject Matter</u>
VIII	* Civil/Structural Discipline
VIII.g	* Component Design Evaluation
IX	* Piping Pipe Supports
X	* Mechanical Systems and Components DSAP
XI	* Electrical/I&C Systems and Components

\* DAP - Info only



## Consolidated Collective Evaluation Flowsheet