

1. Allegation Category: QA/QC 1, Design Process
2. Allegation Number: AQ-15 and AQ-89
3. Characterization: It is alleged that final design drawings were altered. It is also alleged that "field changed" drawings were not design-verified by the originating design organization, Gibbs & Hill (G&H).
4. Assessment of Safety Significance: The NRC Technical Review Team (TRT) reviewed both the Brown & Root (B&R) and Texas Utilities Electric Company (TUEC) procedures applicable to design verification and design change control. The TRT also discussed these procedures with the TUEC nuclear supervising engineer of project and engineering support, a quality assurance (QA) staff engineer, the document control center (DCC) supervisor, the project control manager, the Comanche Peak Project Engineering (CPPE) technical service supervisor, and a CPPE staff engineer.

The TRT learned that both TUEC and B&R procedures required design reviews for all design change authorizations (DCAs), component modification cards (CMCs), and drawing revisions that affected the design of safety-related components. These procedures also identified G&H pipe support drawings which required verification of design changes. G&H drawings which may be affected by support configuration and/or location changes are: G&H hanger drawings (GHH), pipe layout drawings, and pipe routing drawings which indicate seismic support locations.

The TRT found that all drawing changes, CMCs, and DCAs, for safety-related components were subject to design verification by G&H or by the appropriate vendor. G&H and vendor engineers are located onsite for this purpose. The TRT determined that the TUEC and B&R design change control procedures satisfied the requirements of 10 CFR Part 50, Appendix B, Criterion III, "Design Control."

The TRT found that responsibility for design verification was transferred to TUEC Nuclear Engineering (TNE) following the completion of the construction design phase of the project. The TRT also found that TNE was responsible for the accounting of all DCAs and CMCs that were issued and was responsible for assuring that design verification of all design changes had been accomplished and documented, except for design changes affecting pipe supports.


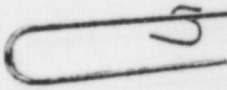
The TRT determined that the interface between G&H design and the piping support design was documented in procedures. Initially, the piping support vendor uses G&H piping composites to develop piping isometrics and hanger location drawings. (The TRT evaluation of vendor certification of drawings is contained in QA/QC Category 1, allegations AQ-21, 22, 119.) These isometrics were not G&H drawings; therefore, changes to them were not subject to G&H review. However, DCAs and CMCs written against these piping isometrics can affect the G&H composites, and changes to them are subject to G&H design verification. The actual, installed configuration was documented on "as-built" drawings, which were then used by G&H for final stress analyses.

5

The TRT reviewed implementation of procedures for design verification by selecting and examining samples of CMCs, DCAs, and drawings to determine whether design verifications were correctly documented. The TRT selected 100 design change documents (CMCs) for review. Of this sample, 17 CMCs were void (not issued) and 49 affected hanger designs. The TRT reviewed the remaining 34 pipe CMCs for proper design verification. The TRT selected 42 DCAs from those issued and reviewed them for design verification. The TRT also reviewed 21 drawings for proper design verification using the drawing numbers TNE transmitted to DCC as a key. The sample exhibited proper design verification. Design changes made during all phases of construction, up to and including operation, must be verified. In addition, design changes can be made to final design drawings as long as established procedures are followed and design verification is accomplished. The TRT review found no instance in which this was not accomplished.

5. Conclusion and Staff Position: Based on the review of applicable procedures and design records, along with interviews with TUEC and B&R personnel, the TRT concludes that the alterations (changes) to final design drawings reviewed by the TRT were supported by adequate technical reviews and design verification was accomplished in accordance with 10 CFR 50, Appendix B, Criterion III, "Design Control." The TRT further concludes that the allegation concerning design changes not being design-verified cannot be substantiated.
- These allegations have no generic implications.

In a meeting with the alleged on November 27, 1984, the TRT presented the results of the assessment of allegation AQ-15 and the TRT's conclusions. There were no major items of disagreement, and no new concerns or allegations were identified. The alleged of AQ-89 could not be identified, thus no contact was made.

7. Attachments: None.

Reference Documents:

1. TUGCO procedure CP-EP-4.5, "Design Verification."
2. TUGCO procedure CP-EP-4.6, "Field Design Change Control."
3. TUGCO procedure CP-EI-4.6.1, "Field Design Change Control Instructions."
4. TUGCO procedure CP-EI-4.6.8, "Field Design Change Control for Large Bore Pipe Supports."
5. TUGCO procedure CP-EI-4.6-13.
6. TNE drawing update activities, April 1984.
7. TNE procedures TNE-DC-1 through TNE-DC-21.
8. AQ-89: GAP Witness 0 #1.
9. AQ-15: A-5 letter March 7, 1984, Item No. 12, and GAP 2.206 Petition, March 19, 1984, Item No. 25.
10. SSERs for allegations AQ-21, AQ-22, AQ-44, AQ-119, and AQ-128.
11. A-5 interview, November 27, 1984, pp. 84-86.

8. This statement prepared by:

R.W. Bonnenberg
R. W. Bonnenberg, TRT
Technical Reviewer

6-7-85
Date

Reviewed by:

H. Livermore
H. Livermore,
Group Leader

6-7-85
Date

Approved by:

V. Noonan,
Project Director

Date

This page intentionally left blank