



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

February 4, 1985

FOIA-85-55

V/145

NOTE TO: Herbert Livermore  
Group Leader, QA/QC

FROM: R. C. Tang  
Comanche Peak TRT

*R. C. Tang*

SUBJECT: COMMENTS BY TRT CONSULTANT TED WORKINGER ON DRAFT QA/QC SSERS,  
CATEGORY 1 - DESIGN PROCESS

The following comments are submitted for consideration with respect to  
preparing the final SSERs for QA/QC.

*✓ incorporated into SSER*

AQ-15 and 89 (Draft 5 10/9/84)

- ✓ 1. The proposed word changes on page 3 are suggested because, as now stated, it is implied that TRT set out to verify and determine that design verifications were correctly documented. We propose that TRT made a review to determine whether design verifications were correctly documented.
- ✓ 2. Delete, from the last sentence of the middle paragraph on page 3, the words "no lack of". The sample revealed design verification, rather than no lack of design verification.
- ✓ 3. The last sentence of Section 5, on page 4, should be deleted. It is an improper conjecture about the alleged's understanding.

AQ-21, AQ-22 and AQ-119 (Rev. 1 - 10/29/84)

- 1. The first sentence, of the last paragraph, on the first page raises an issue about why or the basis for selecting only three procedures for review. Avoid the issue by inserting "relevant" in place of "three of the numerous" before the word procedures.
- 2. To obtain better sequence or organization, consider moving the last paragraph on page 5 forward to become the second paragraph on page 3.
- 3. The second paragraph on page 5 states, "As a measure of the effectiveness...TRT selected 11 supports..." and made certain measurements. Either state the conclusion here, or make a specific reference to exactly where the conclusion is stated in QA/QC Category 8; or delete this paragraph.
- 4. In Section 5, on page 6, for the first time the issue is raised about weld number identifications being deleted. In general, a subject not discussed in the body of the report is not inserted into the summary or conclusions. If this topic has some significant relevance, it should be discussed in Section 4; otherwise, it should be deleted.

Herbert Livermore

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5. Consider modifying the last sentence of Section 5, on page 6, to state:  
However, VCD changes and modifications were acceptable practices, if they were documented and vendor certified, and thus did not violate procedures or requirements.

QA-90 (Draft 2 10/8/84)

No comments.

The above comments are reflected in the attached marked-up copies of the SSERs.

R. C. Tang  
Comanche Peak TRT

location drawings and piping isometrics. 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 <sup>can</sup> ~~do~~ 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.

- ① The TRT <sup>reviewed</sup> ~~verified~~ implementation of procedures for design verification by selecting and examining samples of CMCs, DCAs, and drawings to determine <sup>whether</sup> ~~that~~ design verifications were correctly documented. The TRT selected 100 design change documents (CMCs) for review. Of this sample, 17 were void (not issued), and 49 affected hanger designs. The TRT reviewed the remaining 34 CMCs for proper design verification, ~~and found that the percentage of hanger and voided CMCs in the sample was representative of the total population.~~ 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 <sup>both?</sup> revealed ~~no lack of~~ proper design verification.

<sup>which must be verified</sup>  
Design changes are made during all phases of construction, up to and including operation. ~~These changes must be verified, and the~~  
<sup>evidence that design verification</sup>  
TRT review found no ~~instances in which~~ this was not being accomplished.

regarding

5. Conclusion and Staff Position: Based on our review of applicable procedures and design records, along with interviews with TUEC and E&R personnel, the TRT concluded that <sup>S</sup>alternations (changes) to final design drawings were supported by adequate technical reviews and design verification 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 was ~~CANNOT be substantiated~~. ~~This allegation apparently resulted from an incomplete understanding of the total design verification process.~~

Accordingly, <sup>there</sup> the TRT concludes that the ~~implied~~ significance of the allegations are without consequence relative to the programmatic and technical implementation of commitments and NRC requirements. <sup>Accordingly, these allegations do not</sup> The TRT conclusion regarding the as-built condition versus the final design-verified document is presented in the QA/QC Category 8. <sup>significant</sup> <sup>no</sup> <sup>known</sup> <sup>implications</sup>

6. Actions Required: None.

8. Attachments: None.

Revision 1 - 10/27/84

AQ-21, 22, 119 CP5

SSER

1. Allegation Group: QA/QC Category No. 1
2. Allegation Number: AQ-21, AQ-22, and AQ-119
3. Characterization: It is alleged that vendor-certified drawings (VCDs) for ASME code component supports have numerous dimensional errors when compared to the actual plant installation and that vendor certification of drawings has been invalidated by revisions that inappropriately reflect the as-built condition of the plant.
4. Assessment of Safety Significance: The implied significance of these allegations is that fabrication and installation of safety-related components may have occurred that ~~have not been design certified or verified~~ <sup>occ. not reflect verified or cert. f. r.</sup> making questionable their ability to perform their intended safety function.

The NRC Technical Review Team (TRT) reviewed <sup>relevant</sup> ~~three of the~~ numerous procedures related to the control, review, and verification of the fabrication, installation, and inspection of ASME component supports. This review and the TRT's subsequent discussions with Brown & Root (B&R) personnel provided an understanding of the vendor document control

①  
basis  
for selecting  
only these  
three?

During fabrication and installation of supports, however, various conditions may arise that require modification of the original vendor drawing. Modifications may result from conditions such as interferences encountered during installations, changes resulting from in-process and final inspection, and engineering design changes directly or indirectly related to a particular support. Regardless of the reason for a change affecting a vendor drawing, its source, or the number of times the vendor has previously certified the drawing, both the Final Safety Analysis Report (FSAR) commitment and NRC requirements require vendor personnel to recertify their own drawings. ~~In addition, as-built determinations must be made against a VCD.~~

Insert  
from P. 3

② TUEC's vendor document control system is consistent both with their FSAR commitments and applicable NRC requirements. The TRT verified the implementation of this process by their review of vendor drawings, which included associated change documents, all drawing and change revisions, bases for changes and revisions, nonconformance reports (NCRs), and the certification packages for each VCD. The TRT found that VCDs were changed for a number of reasons. The TRT reviewed the processing of one drawing which had been identified by the allegor as being improperly processed. This drawing was processed through vendor drawing control as follows.



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drawings and installed conditions can potentially occur at any time; however, the <sup>final</sup> as-built condition must be in conformance with the applicable VCD.

As a measure of the effectiveness of the control of VCDs, the TRT selected 11 supports for physical verification against the applicable VCD. Physical measurements made by the TRT included dimensions, weld sizes, and location. ~~The few discrepancies identified were within the allowable tolerances.~~ <sup>3</sup> A more comprehensive TRT as-built evaluation is presented in QA/QC Category No. 8.

③ State findings  
~ delete

MW  
11/15/84

The revision of any design document invalidates the design verification of that document and thus requires verification by the organization responsible for the original design. (Refer to 10 CFR 50, Appendix B, Criterion III). Therefore, onsite changes of essentially every vendor support drawing would be in violation of NRC regulations if B&R personnel were performing the design verification of the changes instead of the appropriate vendor personnel. However, B&R personnel were not performing these design verifications. The TRT determined that both principal support vendors (ITT Grinnell and NPSI) have staffs onsite to conduct design verification of changes to their own drawings and to recertify these drawings when required.

delete or  
move  
to obtain  
better  
organization  
of sequence

②  
move to  
page 31  
sub R.

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5. Conclusion and Staff Positions: Based on the review described above, the TRT concludes that these allegations are substantiated. Supports were installed before the drawings were vendor certified, VCDs were revised (dimensions, material, orientation, etc.) to reflect as-built conditions, supports were revised after the drawings were vendor certified, and weld number identifications were deleted from drawings and weld data cards on nearly all ASME Class 2 supports. The TRT also found that vendor drawings were converted to B&R drawings by applying a B&R corporate sticker and, by changing the document numbers to be consistent with the onsite numbering system. However, these practices did not violate procedures or requirements. <sup>④</sup> The TRT concludes that this allegation has neither safety significance nor generic implications. (The TRT conclusion regarding the as-built condition versus the final design verified documents is presented in QA/QC Category 8.)

6. Actions Required: None.



8. Attachments: None.

Can TRT say -- However, these ~~design~~ VCD changes and modifications were acceptable practices, provided that they were documented and vendor certified, which did not ... ?

⑤

What is the significance of deletion of weld number identification?



Document Name:  
SSER AQ-91

Requestor's ID:  
JEAN

Author's Name:  
Poslusny

Document Comments:  
1/10/85 REVISIONS - Please return this sheet w/any revisions

FOIA-85-59

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