

AUG 08 1988

Official

Tennessee Valley Authority
ATTN: Mr. S. A. White
Manager of Nuclear Power
6N 38A Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

Gentlemen:

SUBJECT: REPORT NOS. 50-390/86-14 AND 50-391/86-14

We have reviewed your responses dated September 4 and 15, 1986, to our Notice of Violation issued August 1, 1986, concerning activities at your Watts Bar facility. We have evaluated your response to Violation B (390/86-14-04) and find that it meets the requirements of 10 CFR 2.201. We will examine the implementation of your corrective actions for this violation during future inspections.

Our review of your response denying Violation A (391/86-14-03), concerning measures to ensure that deviations from design specifications were controlled, has been completed. We have concluded, after careful consideration of the basis of your denial, that the violation occurred for the reasons stated in the enclosure to this letter. Therefore, in accordance with 10 CFR 2.201(a), please submit to this office, within 30 days of the date of this letter, a written statement describing steps which have been taken to correct Violation 391/86-14-03, and the results achieved, corrective steps which will be taken to avoid further violations, and the date when full compliance will be achieved. You should ensure that the specific inadequacies listed in the enclosure are addressed.

In accordance with Section 2.790 of the NRC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations, a copy of this letter and its enclosure will be placed in the NRC Public Document Room.

The responses directed by this letter and its enclosures are not subject to the clearance procedures of the Office of Management and Budget as required by the Paperwork Reduction Act of 1980, Pub. L. No. 96-511.

If you have any questions, please contact us.

Sincerely,

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PDR ADDCK 05000390
Q PNU

Steven D. Richardson
Acting Director
TVA Projects Division
Office of Special Projects

Enclosure: (See page 2)

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Tennessee Valley Authority

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Enclosure:
Staff Assessment of Licensee
Response

cc w/encl:

✓ J. A. Kirkebo, Vice President,
Nuclear Engineering
✓ R. A. Pedde, Site Director
Watts Bar Nuclear Plant
✓ R. L. Gridley, Director
Nuclear Safety and Licensing
✓ J. A. Domer, Site Licensing
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✓ TVA Representative, Rockville
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bcc w/encl:

✓ J. G. Partlow, OSP
✓ S. Black, OSP
F. R. McCoy, OSP/RII
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✓ J. Rutberg, OGC
✓ NRC Resident Inspector
DRS, Technical Assistant
NRC Document Control Desk
State of Tennessee

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✓ J. G. Partlow
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✓ J. Rutberg
8/31/88

STAFF ASSESSMENT OF LICENSEE RESPONSE

Re-Statement of Violation A (391/86-14-03)

10 CFR 50, Appendix B, Criterion III as implemented by TVA's QA Topical Report, TVA-TR-75-1A, Rev. 8, paragraph 17.1.3 requires that measures shall be established to ensure that deviations from quality standards are controlled.

Contrary to the above, as of June 20, 1986, measures were not established to ensure that deviations from quality standards are controlled in that General Design Specifications were not considered as mandatory requirements by Division of Nuclear Engineering personnel. Design procedures did not provide guidance to designers to properly control deviations from specifications.

Summary of Licensee's Response

The first two paragraphs state that a typographical error in the title of Section 9.5 of General Construction Specification G-53, "ASME Section III and non-ASME Section III (including AISC, ANSI/ASME B31.1, and ANSI B31.5) Bolting Material," led the inspectors to conclude that the section applied to Watts Bar; that a footnote correctly explained the section's applicability; and that the ASME codes governing safety-related piping at Watts Bar do not require locking devices except for turn-buckles and similar devices. The licensee has, in effect, stated that there is no requirement for locking devices.

The third and fourth paragraphs elaborate on the thesis of General Construction Specifications being consistent reference sources for designers and applying only when referenced in a design drawing or other output document. General Construction Specifications are also described as "design output" and the "standard specifications" described in Procedure NEP-3.2, "Design Input" are described as actually being "standard procurement specifications."

The fifth paragraph reiterates that 10 fasteners on pipe supports in Unit 2 safety injection pump room did not have locking devices installed, but there is no requirement.

The sixth paragraph reiterates that General Construction Specifications are not mandatory requirements because they are design output documents incorporated by reference into designs.

The last paragraph discusses the Design Baseline and Licensing Verification Program previously described to the NRC. This program is intended to confirm the effectiveness of the licensing, design and construction practices.

NRC Evaluation

The NRC staff has carefully reviewed the licensee's response and the inspection report. Based on this review and discussions with the inspector, it is concluded that the licensee's response was inadequate and that the violation did occur.

Concerning the licensee's response to the specific observation concerning locking devices, it is common for designers to use locking devices on fasteners to account for vibration effects, and General Construction Specification G-53 appeared to require locking devices while the drawing did not. It appeared that Standard Specifications were defined as a "design input." The apparent proximate cause for the conditions observed was failure to control deviations from standards (the specification). The licensee's response makes it clear that, in fact, they have neither a specification nor a requirement for locking devices at Watts Bar, excepting turn-buckles and similar devices. There is, however, a requirement that vibration be a design input (American National Standard ANSI N45.2.11, "Quality Assurance Requirements for the Design of Nuclear Power Plants"). During the intervening months since the inspection, the resident inspector had discussed this issue with the licensee staff several times, but the licensee has provided no information concerning how vibration is addressed or that it is, in fact, addressed.

Concerning the design status of General Construction Specifications, the licensee's response elaborates on the thesis that General Construction Specifications are design output documents-not mandatory requirements. In fact, supporting licensee procedure NEP-5.1, "Design Output," specifies "Construction Specifications" to be a design output.

The staff review of Procedure NEP-3.2, "Design Input" shows that the procedure defines the Design Basis Document (DBD) as a design input, requires that a DBD be prepared for each nuclear power plant and specifies that the DBD capture, among other things, (a) all licensing commitments made to generic upper tier design input documents and (b) commitments made in licensing documents. Though General Construction Specification G-53 is not involved, several uses of General Construction Specifications do occur in the Final Safety Analysis Report, a licensing document. Specific examples are:

- G-32 (Bolts Anchors Set in Hardened Concrete) - FSAR Page 3.8.3-8c
- G-29 (Process Specification for Welding) - FSAR Page 3.8.3-8c; 3.8-4; 3.8.4-21
- G-21 (Plain and Reinforced Concrete) - FSAR Page 3.8-13; 3.8-3
- QCP-2.2 (Concrete Placement and Documentation) - FSAR Page 3.8-13
- G-30 (Fly Ash for Use as an Admixture in Concrete)-FSAR Page 3.8-14

ANSI N45.2.11-1974, Section 3.2, requires that design inputs shall include, where applicable, "codes, standards and regulatory requirements including the applicable issue and/or addenda." Considering only the question of whether specifications or documents discussed in the FSAR are a design input, it is the NRC staff position that referencing or describing "local" codes, specifications, standards, procedures, etc., in the FSAR is of the same nature as referencing national-scale standards and that they must then be used as design input as described in ANSI N45.2.11, Section 3.2. If the issue or addenda of the local code or standard is not described, the one in effect when the FSAR is submitted is the applicable one. Subsequent changes must not decrease commitments or be less conservative unless this fact is clearly described to the NRC

in a licensing submittal (FSAR Change). Failure to describe changes to the NRC can result in an inaccurate Safety Evaluation Report which is one of the bases supporting the facility license when issued.

The Notice of Violation states that "Design procedures did not provide guidance to designers to properly control deviations from specifications." Supporting data in the inspection report indicates that the licensee could not provide a procedure that would evaluate the effects on existing output documents whenever an input document [specification] is changed. The licensee did not respond to this area in their September 15, 1986 response.

Conclusion

Based on the above review, the staff concludes that the licensee's response is inadequate for two reasons: first, the licensee's response focused on responding to the initiating observation and to the use of General Construction Specifications, but did not respond to the statement that "Design procedures did not provide guidance to designers to properly control deviations from specifications." Secondly, since there are cases where certain General Construction Specifications are used in a manner that requires their use as a design input, the licensee's response with respect to General Construction Specifications only being a design output is inappropriate. It is also concluded that the status of Watts Bar with respect to vibration and the resulting need for locking devices is indeterminate, pending further licensee submittals.