



South Texas Project Electric Generating Station P.O. Box 289 Wadsworth, Texas 77483

September 24, 1998
NOC-AE-00283
File No.: G20.02.01
10CFR50

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555

South Texas Project
Units 1 and 2
Docket Nos. STN 50-498 and STN 50-499
Notification of Revised Analysis Utilized in Evaluation of
Steam Generator Tube Laser Welded Sleeving

- References:
1. Letter from T. H. Cloninger to the Nuclear Regulatory Commission Document Control Desk, dated May 17, 1996 (ST-HL-AE-5362)
 2. Letter from Janet L. Kennedy (NRC) to William T. Cottle, dated September 4, 1997 (ST-AE-HL-94927)
 3. Letter from J. S. Wyble (Westinghouse) to Lawrence E. Martin, dated May 18, 1998 (ST-WN-NOC-98-0025)

In Reference 1, South Texas Project proposed to amend Facility Operating Licenses NPF-76 and NPF-80 to allow installation of laser welded sleeves as an alternative to plugging defective steam generator tubes. The basis for this proposed amendment was analyses performed by Westinghouse as documented in generic proprietary WCAP-13698 (WCAP-13699 is non-proprietary version), 'Laser Welded Sleeves for 3/4 Inch Diameter Tube Feeding-Type and Westinghouse Preheater Steam Generators'. In Reference 2, the Nuclear Regulatory Commission issued Amendments Nos. 90 (Unit 1) and 77 (Unit 2) to the South Texas Project Facility Operating License approving installation of laser welded sleeves as an alternative to plugging defective steam generator tubes. To date, South Texas Project has not sleeved any steam generator tubes.

Recently, South Texas Project was informed by Westinghouse (Reference 3) that one analysis documented in WCAP-13698 had a non-conservative error. This was the finite element model used to initially qualify the 0.015 inch weld width. This model under-predicted the shear stress in the welds. The design of the laser welded sleeve is predicated on the design rules of Section III of the ASME Code. Section III of the ASME Code provides two alternative approaches to qualify a component, by analysis or by experiment. Utilizing conventional analysis techniques, it was determined that the shear stress for the 0.015 inch minimum weld width exceeded the ASME Code allowable. Consequently, a verification program using experimental

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analysis has been performed by Westinghouse to show that the 0.015 inch weld remains in compliance with Section III of the ASME Code.

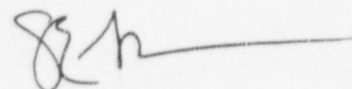
The acceptability of the 0.015 inch weld was evaluated using pressure tests to establish the pressure retaining capability of the welds (primary stress), and a revised finite element analysis to evaluate fatigue usage in the welds. Overall, the verification effort shows that a minimum weld width of 0.015 inch for the tube/sleeve weld is acceptable and meets the requirements of the ASME Code.

Addendum 1 to WCAP-13698 provides the revised design basis information for the 0.015 inch weld width. This report applies only to the qualification of the 0.015 inch laser weld. The qualification of the sleeve and tube documented in earlier revisions of the generic topical and/or South Texas Project specific WCAP report (WCAP-14653, 'Specific Application of Laser Welded Sleeves for the South Texas Power Plant Steam Generators') still applies. All other aspects of the existing licensing documentation for laser welded sleeves are unaffected by the recent weld width verification effort and remain in effect. Therefore, only the referenced WCAP in the BASES section of the South Texas Project Technical Specifications has been affected by this addendum and will be revised to indicate inclusion of this addendum.

Attachments to support this letter are listed on Page 3 of this letter. Since WCAP-13698 contains information proprietary to Westinghouse, a signed affidavit by Westinghouse, owner of the information, is included. The affidavit sets forth the basis on which the information may be withheld from public disclosure by the Nuclear Regulatory Commission, and addresses with specificity the considerations listed in paragraph (b)(4) of 10CFR2.790. Accordingly, Westinghouse respectfully requests that the information which is considered proprietary be withheld from public disclosure in accordance with 10CFR2.790.

Correspondence with respect to the copyright or proprietary aspects of the attached Westinghouse documents should reference Westinghouse Letter CAW-98-1252 and be addressed to N.J. Liparulo, Manager of Equipment Design and Regulatory Engineering, Westinghouse Electric Company, Energy Center Site, 4350 Northern Pike, Monroeville, PA, 15146-2886.

South Texas Project has determined that the only new commitment contained within this document is identified on Attachment 1. If there are any questions regarding this proposed amendment, please contact either Mr. A. W. Harrison at (512) 972-7298 or me at (512) 972-7162.



S. E. Thomas
Manager,
Design Engineering

BJS/

- Attachments
1. List of New Identified Commitments
 2. Westinghouse Proprietary Information Notice
 3. Westinghouse Copyright Notice
 4. Westinghouse Application Letter (CAW-98-1252) for Withholding Proprietary Information from Public Disclosure with Affidavitt
 5. WCAP-13699, Rev. 2, Addendum 1, June 1998 (Non-Proprietary Class 3)
 6. WCAP-13698, Rev. 2, Addendum 1, June 1998 (Proprietary Class 2C)

c:*

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*Without Attachment 6

ATTACHMENT 1

List of New Identified Commitments

The below new commitment has been identified as contained within this document:

- South Texas Project will revise the Technical Specification Bases section that refers to WCAP-13698 to include reference to Addendum 1 of that document.

ATTACHMENT 2

Westinghouse Proprietary Information Notice

Proprietary Information Notice

Transmitted herewith are proprietary and/or non-proprietary versions of documents furnished to the NRC in connection with requests for generic and/or plant-specific review and approval.

In order to conform to the requirements of 10 CFR 2.790 of the Commission's regulations concerning the protection of proprietary information so submitted to the NRC, the information which is proprietary in the proprietary versions is contained within brackets, and where the proprietary information has been deleted in the non-proprietary versions, only the brackets remain (the information that was contained within the brackets in the proprietary versions having been deleted). The justification for claiming the information so designated as proprietary is indicated in both versions by means of lower case letters (a) through (f) contained within parentheses located as a superscript immediately following the brackets enclosing each item of information being identified as proprietary or in the margin opposite such information. These lower case letters refer to the types of information Westinghouse customarily holds in confidence identified in Sections (4)(ii)(a) through (4)(ii)(f) of the affidavit accompanying this transmittal pursuant to 10 CFR 2.790(b)(1).

ATTACHMENT 3

Westinghouse Copyright Notice

Copyright Notice

The reports transmitted herewith each bear a Westinghouse copyright notice. The NRC is permitted to make the number of copies of the information contained in these reports which are necessary for its internal use in connection with generic and plant-specific reviews and approvals as well as the issuance, denial, amendment, transfer, renewal, modification, suspension, revocation, or violation of a license, permit, order, or regulation subject to the requirements of 10 CFR 2.790 regarding restrictions on public disclosure to the extent such information has been identified as proprietary by Westinghouse, copyright protection notwithstanding. With respect to the non-proprietary versions of these reports, the NRC is permitted to make the number of copies beyond those necessary for its internal use which are necessary in order to have one copy available for public viewing in the appropriate docket files in the public document room in Washington, DC and in local public document rooms as may be required by NRC regulations if the number of copies submitted is insufficient for this purpose. Copies made by the NRC must include the copyright notice in all instances and the proprietary notice if the original was identified as proprietary.

ATTACHMENT 4

**Westinghouse Application Letter
(CAW-98-1252)
for
Withholding Proprietary Information
from
Public Disclosure**