

REGION II
TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401
500C Chestnut Street Tower II

APR 11 1979 APR 16 A 9:30

Mr. James P. O'Reilly, Director
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Region II - Suite 3100
101 Marietta Street
Atlanta, Georgia 30303

Dear Mr. O'Reilly:

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2 - NRC-OIE REGION II LETTER
RII:EHG 50-390/79-09, 50-391/79-07 - INSPECTION REPORT - RESPONSE
TO INFRACTION AND UNRESOLVED ITEM

The subject letter dated March 20, 1979, cited TVA with one infraction
and requested a written response to an unresolved item. Enclosed is
our response to the infraction and the unresolved item.

If you have any questions concerning this matter, please get in touch
with M. R. Wisenburg at FTS 854-2581.

Very truly yours,



J. E. Gilleland
Assistant Manager of Power

Enclosure

cc: Mr. John G. Davis, Acting Director (Enclosure)
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, DC 20555

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REGION III
GEORGIA

ENCLOSURE

79 APR 16 A.D. 30
WATTS BAR NUCLEAR PLANT UNITS 3 AND 2
RESPONSE TO INFRACTION 390/79-09-01 AND 391-79-07-01
AND UNRESOLVED ITEM 390/79-09-02 AND 391/79-07-02

Infraction 390/79-09-01, 391-79-07-01

As required by Criterion V of Appendix B to 10 CFR 50 and implemented by FSAR, paragraph 17.1A.5, "Activities affecting quality shall be prescribed by documented instructions, procedures, or drawings or a type appropriate to the circumstances and shall be accomplished in accordance with these instructions. . .".

Contrary to the above, on February 21, 1979, the weld reinforcement on both ASME Section III, Class 3 CVCS Holdup Tanks exceeded the maximum specified by ND-4426 of ASME Section III.

Corrective Action Taken and Results Achieved

TVA has inspected all accessible welds on the subject holdup tanks (those which were accessible to the NRC inspector). Inspection was made using a Palmgren weld gage. Out of approximately 50 linear feet of weld, 1-3/4 inch in isolated areas was found to exceed 3/32 inch reinforcement with none exceeding 1/8 inch. The longest segment of weld involved was 3/4 inch. It is TVA's position that since only approximately 0.3 percent of the linear feet of weld are involved, and none of the additional reinforcement exceeds 1/32 inch, that this matter constitutes a minor deviation of weld reinforcement requirements and requires no further corrective action. We have discussed this with the authorized nuclear inspector who signed the Code Data Reports for these tanks, and he agrees with our position.

Unresolved Item 390/79-09-02, 391/79-07-02

Licensee management was informed that the inspector had requested a response to concerns he had expressed regarding controls on cold spring in piping. It is understood that this response will be provided in writing, as discussed with licensee engineer E. Merrick. The NRC inspector's concern with the requirements are described below:

1. Paragraph 1.3 of Specification G-43 defines cold springing in terms of a piping segment that is either too short or too long, making the application of force necessary to join adjacent segments. This appears incomplete in that it does not address other examples of cold springing such as the use of force to align segments of piping that are offset from one another or to move piping into a position where it will be permanently restrained by hangers or supports.

2. The second paragraph (new paragraph 5.3) of Addendum 1 to Process Specification 4.M.2.1(c) states that "pipe which has a final strain less than .5 percent (as calculated in paragraph 3.2.3.c), may be aligned up to 5 degrees for purposes of fit up, by cold bending. . .". Two licensee personnel questioned regarding this item indicated that they interpreted it as permitting the forced movement (cold springing) of piping segments up to five degrees, whenever necessary for alignment, and without any subsequent removal of the elastic stresses produced. From a subsequent conversation with the licensee engineer responsible for the specification, it is the NRC inspector's understanding that there was no intention to permit elastic stresses to remain in the pipes with this requirement.
3. Paragraph 5.1 of Process Specification 4.M.2.1(c) authorizes the selective deposition of weld bends for alignment of pipe or tubing. The elastic stresses produced in piping by this technique of alignment would appear to create a condition similar to cold springing. It does not appear that such stresses can be satisfactorily accounted for in the design. The licensee has been requested to respond in writing regarding the adequacy of his requirements for control of cold spring in piping, specifically addressing the three areas of concern described above. This will be an unresolved item, identified as number 390/79-09-02 and 391/79-07-02.

Response to Unresolved Item

1. It has never been the intent of construction specification G-43 to permit cold spring by the application of force to align offset segments of piping. The purpose of G-43 is to ensure that piping is installed so as to validate the piping system analysis. This specification is being reviewed to determine if cold spring to align segments is analytically definable, and clarification will be provided if necessary.
2. It has never been the intent of G-29M, Process Specification 4.M.2.1, to allow cold springing. A survey of construction engineers did not indicate that this specification had actually been used to permit cold springing (forced movement) for purposes of alignment for fit up. This specification has been clarified to ensure that it will not be interpreted as permitting cold springing.
3. TVA believes that the use of weld bead deposition for alignment of pipe is fully in compliance with ASME Code Section III philosophy, in regard to fabrication and design requirements. Residual stresses induced by using the draw bead technique are localized peak stresses which would either be relieved upon loading beyond yield or are of the type which do not affect the piping system stress analysis and consequently do not require analysis. Weld bead deposition for purposes of alignment is generally used on thin wall material. For greater material thicknesses, welding procedures dictate that the weld affected area be stress relieved and that this action be appropriately documented. For these reasons, it is felt that no revision to current TVA practice in this regard is necessary.