

Washington Public Power Supply System

P.O. Box 968 3000 George Washington Way Richland, Washington 99352 (509) 372-5000

Docket Number 50-508

September 22, 1982
G03-82-924

F. J. Miraglia, Chief
Licensing Branch No. 3
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, DC 20555

Dear Mr. Miraglia:

Subject: NUCLEAR PROJECT 3
WNP-3 RESPONSES TO NRC QUESTIONS ON PIPE CLAMPS

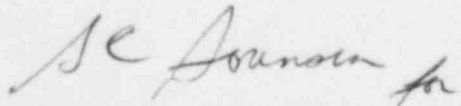
References: a) Letter F. J. Miraglia to R. L. Ferguson, dated June 25, 1982
b) Letter #G03-82-760, G. D. Bouchey to F. J. Miraglia, dated July 30, 1982, same subject

Reference a) transmitted a set of questions regarding the use of ITT-Grinnell Pipe Clamps at WNP-3. Responses to those questions were included in reference b).

The response to Question #13 of reference a) was under evaluation at the time reference b) was sent to you. That response is provided here as Attachment I.

If you require additional information or clarification the Supply System point of contact for this action is the WNP-3 Licensing Project Manager, Mr. K. W. Cook (206/482-4428).

Sincerely,



G. D. Bouchey, Manager, (370)
Nuclear Safety and Licensing

GDB/AJM/ss

Attachment: 1. Response to NRC Question

cc: J. A. Adams, NESCO
D. J. Chin, Ebasco - New York
Ebasco, Elma
D. Smithpeter - BPA
WNP-3 File, Richland

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Attachment I

Question #13

Appendix Table 1-13.1 has for 17 Cr-4Ni-4Cu to SA-564 (footnote 5). The temperature of exposure for which these are designed cause embrittlement of this material. Provide a fracture mechanics rationale as to the acceptability of this material in the high humidity and high load conditions in which these clamps might be exposed. The stress levels in the rivet hole area should be specifically addressed.

Response

After exposure to higher temperature, this strap material will lose some of its room temperature ductility; however, at room temperature, the stresses in the strap will be constant because of the applied pre-load. Therefore, without a high rate of load change, these straps will not be prone to brittle failure because the pre-load "isolates" them from impact type loadings.

As for the high humidity and load conditions cited, the vast majority of fatigue life of any material is spent in crack initiation and early stage propagation of a crack from a notch such as the rivet hole. Since the only cyclic loads that would be encountered are due to changes in operating temperature and pressure the total number of these cycles are small, compared to overall fatigue life. Therefore, fracture due to propagation of a fatigue crack is unlikely.