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Direct Dial Number

July 23, 1980

Mr. Richard Snaider
General Issues Branch
United States Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: NUREG-0577, "Potential for Low Fracture Toughness and Lamellar Tearing on PWR Steam Generator and Reactor Coolant Pump Supports"

Dear Mr. Snaider:

Mr. Darrel G. Eisenhut's letter of May 19, 1980 with the General Operating Review Procedure and Acceptance Criteria has been reviewed. We believe some of the requirements could be exceedingly difficult to comply with and others are excessively conservative. Based upon preliminary studies, we submit the following comments. In addition, we request that an extension in comment time be granted for further study of the proposed standard.

Comments - Attachment 1

Park I - Fracture Toughness

This section states, "These materials must meet either NDTT or CVN criteria for thicknesses $\leq$ 2.5 inches. NDTT criteria must be met for thicknesses > 2.5 inches." Fracture toughness requirements can be included for new construction; however, providing requirements for structural components not ordered to specific criteria is most uncertain. This was recognized in the study prepared by Sandia. In practice, industrial failures from fracture toughness have generally been experienced at low temperatures. For many years the ASME Pressure Vessel Code required CVN tests for vessels in service at -20°F and below. Although this may not have been conservative, heavy walled vessels above -20°F with known deficiencies in notch toughness have not failed except under very unusual conditions.

The testing of the same heat of steel poses problems which should be recognized. Sections can be cut from heavy beams for testing.

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Unfortunately, large weld repairs made under restraint and possibly poor access could crack. If cracking was experienced, we are concerned the structure could become unsafe and fail.

The Evaluation Procedure states that the support function will be maintained if the failure of the most highly stressed member not meeting the above criteria is assumed. This appears unlikely and will result in the application of heat as a permanent solution to structural component problems. If the ambient temperatures were low, and the service stresses high, heating could possibly be justified. In the case of materials at approximately 75°F, the application of heat is not justified.

Part II - Stress Corrosion Cracking For Materials With Minimum Yield Strength Greater Than 120 ksi

The 120 ksi minimum yield strength would encompass virtually all ASTM A193 Grade B7 bolting which is universally used by industry. (A lower strength B7M material is available with considerably greater resistance to severely corrosive environments such as sour gas, etc.) Grade B7 material has not failed, even in moist boric acid leakage in a nuclear plant. We would suggest the minimum yield strength be increased to 180 ksi as shown in Figure 1, page 13, NUREG-0577 (For Comment).

Very truly yours,

R. M. Kascsak
Manager
Nuclear Systems Engineering Division

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xc: Karl Stahlkopf (EPRI)