



EdwardValves inc
a BTR company

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Publicly Available

December 23, 1991

Mr. George L. Smith
Consumers Power Company
27780 Blue Star Memorial Hwy.
Covert, MI 49043

Dear Mr. Smith:

This letter is to advise you of a recent Edward Valve stem failure at Duke Power's Catawba Unit #2 nuclear plant. The stem is in a Size 3 Figure 12511(CF8M) Equiwedge gate valve in PORV block service. This valve is similar to the two Size 4 Figure 12011(CF8M) PORV block valves in your Palisades nuclear plant.

The stem is under study by Duke Power and Edward Valves, and the exact reason for the failure is unknown at this time. Testing performed by Duke Power has shown significant loss of ductility on the end of the stem exposed to the line fluid, i.e., the hotter end of the stem. The stem material in both valves is ASME SA-564 T630 (17-4 PH with 1100°F temper). Charpy values in the range of 35 to 18 ft-lbs at 650°F and 10 to 2 ft-lbs at room temperature were determined by Duke Power.

Edward Valves is unable to assess the affect of this potential material degradation on the performance of the valve. For this reason we are notifying Consumers Power in accordance with the requirements of 10CFR Part 21. The hardness, tensile and yield strength in the failed end of the stem tested higher compared to the material certification we have on file. While the increased strength is not undesirable, the ductility loss is reason for concern in stems subjected to possible high closing torques.

Edward Valves is prepared to assist Consumers Power in reviewing this matter. Our contact is Earl Bake, Research Manager (919-831-3396).

The Duke Power contact who can provide information relative to their PORV block valves is Mr. Steve Hart, (704-373-8538).

Mr. Smith
December 23, 1991
Page 2

For information purposes copies of this letter are being sent to Mr. James Davis of the Nuclear Regulatory Commission and Mr. Hart.

Very truly yours,



R. D. Norden
Vice President, Engineering

cc: ✓ Mr. James Davis, NRC
Mr. Steve Hart, Duke Power
R. Sook, EVI
J. Westendorf, EVI
R. Bandukwala, EVI
E. Bake, EVI