

Babcock & Wilcox

a McDermott company

Nuclear Power Generation Division

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October 15, 1982

Dr. R. C. DeYoung, Director
Office of Inspection & Enforcement
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Dear Dr. DeYoung:

The purpose of this letter is to inform you about a potential safety concern for which B&W has completed a preliminary examination. This concern may have general applicability to plants beyond those B&W designed units described in this letter. Dresser has provided B&W, Combustion Engineering and Westinghouse, in a telecopy sent 10/14/82, their description of this concern. The NRC is generally aware of the results of the EPRI Safety & Relief Valve Test Program, and is aware of one facet of the specific concern through a report made by Duke Power Co., 10/14/82, to your Region II office in Atlanta, Ga. concerning the operability of the pressurizer code safety valves on Ocone 2.

The data examined that led to this concern was for Dresser Industry, Alexandria, Louisiana, Models 31739A and 31709NA code safety valves. These models and the intermediate valve Model 31759A are in use or planned for use on all B&W designed plants except VEPCO, North Anna 3, and Toledo Edison, Davis Besse 1. See attached list of Dresser valves used on B&W plants.

Recent review of the EPRI test data indicate that for certain combinations of lower and middle ring settings the safety valves could chatter (rapid cycle valve opening and closing). Two consequences of valve chattering have been noted during valve testing: a reduction in safety valve capability to relieve pressure while chattering and subsequent damage to valve internals. During the EPRI tests, this chattering phenomenon was noted only with valves with long inlet piping configurations. However, present understanding of the effect of ring settings on valve operation indicates that even with the valves mounted directly on pressurizer nozzles, valve chatter could be postulated for a combination of ring settings significantly different from those used during EPRI tests.

Also for certain ring setting and back pressure conditions, design capacity may not be obtained at the design accumulation of three percent. Actual ring settings for Dresser safety valves are not known for all valves in the B&W operating plants. B&W has recommended to those utilities with operating plants that actual ring settings be determined and, if necessary, adjusted to values indicated by EPRI Safety & Relief Valve Test results. Back pressures used with these ring settings should be determined from plant specific data.

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A preliminary assessment of FSAR analyses of moderate frequency events for B&W plants indicates only a small percent (approx. 10%) of the capacity of one safety valve is needed for safe operation. Therefore, interim operation with even a small portion of the capacity of one valve appears reasonable.

The B&W Owners Group has an established committee to handle concerns resulting from the EPRI Safety and Relief Valve Tests. The specific course of action to resolve this issue will be determined by each utility in conjunction with the Owners Group to assure that valve performance fulfills the design function.

If you have any question concerning this report, please call me at (804) 385-2817.

Very truly yours,

THE BABCOCK & WILCOX COMPANY

T. L. Baldwin for
J. H. Taylor
J. H. Taylor, Manager
Licensing Services

JHT/TAB/bkh

cc: R. B. Borsum - B&W Bethesda
A. G. Hosler - Supply System
L. M. Mills - TVA
T. G. Sullivan - Consumers Power Co.
F. R. Miller - TED
K. S. Canady - Duke Power
J. J. Mattimoe - SMUD
D. G. Raasch - SMUD
D. G. Slear - GPUN
J. M. Griffin - AP&L
E. C. Simpson - FPC
E. G. Wallace - GPUN

DRESSER PRESSURIZED CODE SAFETY VALVES

Duke Power Co. 31739A	Oconee 1, 2, & 3	2 1/2" Model No.
General Public Utilities Nuclear	TMI-1 TMI-2	2 1/2" Model 31739A 3" Model 31759A*
Florida Power Corporation	Crystal River 3	2 1/2" Model 31739A
Arkansas Power & Light	ANO-1	3" Model 31759A*
Sacramento Municipal Utility District	Rancho Seco	3" Model 31759A*
TVA	Bellefonte 1 & 2**	6" Model 31709NA
Washington Public Power Supply System	WNP-1**	6" Model 31709NA
Consumers Power Co.	Midland 1 & 2**	2 1/2" Model 31739A
Toledo Edison Co.	Davis Besse 1	Dresser valves not used
VEPCO	North Anna	Dresser valves not used

NOTES

*Not tested in EPRI Safety & Relief Valve Test Program. Test results for 2 1/2" and 6" Dresser valves intended to envelop 3" valve.

**Plants under construction.