Babcock & Wilcox

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DP 1101.02

Mr. J. G. Evans, Station Superintendent
Davis-Besse Nuclear Power Station
5501 North State Route #2
Oak Harbor, Ohio 43449

Send Co. to P.R. ...
CRESWELL

Subject: Recommendations for Avoiding Pressurizer Off-Scale Indications

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Dear Jack:

Experience has shown that the B&W 177 Fuel Assembly Plants with the pressurizer level indication range of only 320 inches are susceptible to below zero level indications on reactor/turbine trips and load rejection transients. Our Control Analysis Unit in Lynchburg has reviewed this problem and provided the following generic resolution:

1. For a plant with normal operating level of the pressurizer of 180 $^{+40}_{-20}$ inches, raise the nominal level to 200 ± 20 inches rather than 180 inches. Operating history of automatic pressurizer level control shows a deviation of approximately ± 10 inches. Any additional increase in level will be in conflict with the assumptions employed in the Anticipated Transient Without Scram study for the NRC.

2. The amount of blowdown of the steam safety relief valves has been assumed to be 5% or approximately 50 psi for the safety valves with the lowest setting (1050 psig). Measured steam line pressures at operating plants of this type indicate that the actual blowdown is about 7% or 75 psi and even as large as 8.5%. The minimum reactor coolant system average temperature following a reactor trip should not decrease below 548°F and the minimum steam generator discharge pressure should exceed 975 psig at the same time. Should the measured steam safety valve blowdown exceed 7%, the valve blowdown should be readjusted to approximately 5% at your earliest convenience.

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The pressurizer level alarms should remain the same with the exception of the low level alarm. The low level alarm should be raised to 180 inches from 160 inches. Pressurizer alarms are selected with an adequate margin for the operator to take action before the pressurizer level achieves a critical high or low value. This change will increase that margin.

Implementation of these recommendations will require changes in Plant Setpoints, Plant Limits & Precautions, and all procedures with a reference to normal pressurizer level and pressurizer low level alarm setpoint.

If you have any questions in this matter, please do not hesitate to call.

Yours truly,

R. J. Baker, Jr.

R. J. Baker, Jr.
Site Operations Manager

RJB:RES:nlf
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