

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

March 23, 1976

R. C. Knop, Chief, Reactor Projects Section 1

VENT VALVE INSPECTION REQUIREMENTS - DAVIS-BESSE 1

The design and evaluations of the 14 inch diameter internals vent valves utilized in the Davis-Besse Unit 1 design are described in Sections 4.2.2.2.8, 4.2.2.3, and 4.2.2.4 of the FSAR. The description notes that these valves will be fully open at a differential pressure between the plenum assembly inside the core support shield and the coolant annulus outside the shield of not more than 0.3 psig. The description also notes that these valves should start to open at a differential pressure of 0.15 psig. (It is noted that Q.4.4.3 of the FSAR indicates that valves will be open at "about 0.5 psig".)

These valves are fitted with lifting lugs which permit their exercising during periods when the vessel is open utilizing long handling tools. Such periodic exercising is required every 18 months by Technical Specification 4.4.10.1.2.b (Draft Technical Specifications - Davis-Besse Unit 1):

"Each internals vent valve shall be demonstrated OPERABLE at least once every 18 months by visual inspection and manual actuation."

During the review of preoperational test procedure TP 200.01, "Reactor Internals Vent Valve Removal and Replacement, Exercise, and Inspection Test", it was noted that one of the acceptance criteria for this test called for the opening force (using the exercising tool) to be in the range of 15-25 lbs. with the fully open force to be in the range of 75-100 lbs. This suggests that the ratio of opening to fully open force could be acceptable in the range of 1:3 to 1:7. Based on the FSAR description and drawings of these valves, it would appear that a ratio of less than 1:2.5 would be appropriate.

In discussing the above with the licensee's staff, I was informed that these acceptance criteria were recommended by B&W as being indicative of the experience obtained at other sites and are not directly related to the design criteria for the valves.

In light of the above, I recommend the following steps be taken:

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1. I will inform the licensee that he should obtain sufficient design information and acceptance criteria guidance from B&W to enable the evaluation of the proper performance of these valves using the lift forces measured or to provide an alternate testing method which will demonstrate their operability.
2. Headquarters should be informed of this problem to determine if:
 - a. Specific acceptance criteria should be included in the Davis-Besse Technical Specifications for the 18 month testing of these valves.
 - b. Similar requirements exist or should be added to other B&W facilities using internals vent valves.

Unless I hear to the contrary, I will inform the licensee of the need for additional information. Other actions will await your decision to bring this matter to the attention of Headquarters.



R. D. Martin
Reactor Inspector
Reactor Projects Section 1