

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

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 FACIL: 50-305 Kewaunee Nuclear Power Plant, Wisconsin Public Service 05000305  
 AUTH. NAME: MATHEWS, E.R. AUTHOR AFFILIATION: Wisconsin Public Service Corp.  
 RECIP. NAME: SCHWENCER, A. RECIPIENT AFFILIATION: Operating Reactors Branch 1

SUBJECT: Submits interim position for containment purge during operation, in response to NRC 791023 ltr. Also submits addl info for comparing Branch Technical Position 6-4 for Containment Sys Branch.

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 TITLE: Containment Purging

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# WISCONSIN PUBLIC SERVICE CORPORATION



P.O. Box 1200, Green Bay, Wisconsin 54305

December 10, 1979

Mr. A. Schwencer, Chief  
Operating Reactors Branch #1  
Division of Operating Reactors  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

Gentlemen:

Docket No. 50-305  
Operating License DPR-43  
Containment Purge and Vent System

Ref: (1) October 23, 1979, letter to Mr. Mathews from Mr. A. Schwencer  
(2) October 18, 1979, letter to Mr. A. Schwencer from Mr. Mathews

Your October 23, 1979, letter requested that we commit to an interim position for containment purge during operation. By letter of October 18, 1979, we transmitted to you our response to both your August 27, 1979, and September 14, 1979, letters. In the letter we compared our system to Branch Technical Position CSB 6-4 and provided information on modifications we intended to make. Previously, we had committed to restrict purging to less than 90 hours in one year while at power.

In a subsequent phone conversation with members of your staff concerning our October 18, 1979, response, it was indicated that our interim position had been accepted, however, more information and analyses were needed to justify our position for a permanent solution.

The following responds to the requested interim position of your October 23, 1979, letter:

- Item 1 Our previous transmittals concerning the use of the containment purge and vent system restricted operation to 90 hours per year while at power. We further stated our policy would be to limit purging to those times when there was an established need to improve working conditions. Therefore, we feel we are in agreement with this item.
- Item 2a. We have provided information on the tests we have performed to show that the purge and vent system valves close within the design limit of two seconds. As of this date we have not been provided with a

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technical basis for limiting the butterfly valve opening to 30° to 50°. We have not been informed by the vendor that this would aid in closing the valve under accident flow condition loading. Our butterfly valves operate on the principle that there is flow (and therefore force) balance on each half of the disc. Thus, closure of the valve against dynamic flow conditions would not be dependent on the degree of valve opening. Partial opening during normal system operation may present an unevaluated excess wear on critical valve components for our design of valve and, therefore, we do not propose to operate in this manner.

- Item 2b. Modifications have been initiated to ensure that the automatic safety injection signals are uninhibited and operable to initiate valve closure when any other isolation signal may be blocked, reset, or over-ridden. Until such modifications are complete, strict operating orders have been issued to assure an SI signal will result in closure of the ventilation system purge valves by administratively prohibiting over-ride.

During the telecon, we were also asked to update our response for information needed to compare to Branch Technical Position CSB 6-4. The following additional information responds to those particular items addressed.

- Item 1f. We are currently pursuing an analysis from Westinghouse which will determine the maximum allowed closing times for the purge and vent valves including instrument delays. Upon receipt of this information we will be prepared to submit a Technical Specification. Currently our valve closure times have been measured less than 2 seconds.
- Item 1g. The intake line is located 40 feet above the operating (top) floor in containment. This minimizes the potential for debris to collect and possibly block or jam open the purge and vent valves. Trash screens are not currently provided.
- Item 4. We currently have the ability to test the isolation function of these valves and to measure the leak rate by pressurizing between the redundant isolation valves. We know of no way to determine which one of two valves may be leaking without closing down the system, crawling in the duct work, forcibly securing one valve, and then repressuring. If the leaking rate proved unacceptable during operation, we would have to shut down to perform the individual valve test. We have collected purge and vent system data which we believe can accurately predict valve seal/adjustment life for these valves in the Kewaunee Plant environment; this would eliminate the necessity of leak rate testing following each operation of the purge and ventilation system.

Mr. A. Schwencer  
December 10, 1979  
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Item 5c. We are proceeding with Westinghouse to provide an analysis for the effect of the reduction in ECCS back pressure resulting from a LOCA with these valves initially open. We anticipate negligible effects provided the valves close in a short time-frame, on the order of closure time design specification of the valves.

Item 5d. We understand that a curve of leak rate versus differential pressure up to design pressure is desired for the purge and vent system isolation valves. We will obtain either measured values at the next refueling or vendor projected data for this curve.

Very truly yours,

*E. R. Mathews*

E. R. Mathews, Vice President  
Power Supply & Engineering

snf

Subscribed and Sworn to  
Before Me This 12th Day  
of DECEMBER 1979

*De August*  
\_\_\_\_\_  
Notary Public, State of Wisconsin

My Commission Expires

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