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1-12-73

Docket No. 50-305

Mr. E. W. James
Senior Vice President
Wisconsin Public Service Corporation
P. O. Box 1200
Green Bay, Wisconsin 54305

Dear Mr. James:

Our letter to you dated December 15, 1972, regarding the safety implications of postulated failures of high energy piping systems outside of the containment, transmitted a guide entitled "General Information Required for Consideration of the Effects of a Piping System Break Outside Containment." At your request, we met with your representatives on January 5, 1973 to discuss the initial results of your stress analyses of high-energy piping systems for the Kewaunee Nuclear Power Plant and your interpretation of the criteria for design of these piping systems which were included with the December 15, 1972, letter.

As a result of the discussions held during the meeting and further consideration by the staff, certain changes to this guide have been made and errors have been corrected. These changes and corrections are shown on the enclosed Errata Sheet; they have been discussed with your representatives.

In view of the need to resolve this problem in order to complete our review of the Kewaunee plant, it is requested that you make every effort to submit to us the information requested in the December 15, 1972 letter not later than January 26, 1973.

Sincerely,

/s/

Karl Kniel, Chief
Pressurized Water Reactors
Branch No. 2
Directorate of Licensing

Enclosure:
As Stated

OFFICE ▶	PWR-2	PWR-2				
SURNAME ▶	LCrocker:nlg	KKniel				
DATE ▶	1/12/73	1/12/73				

Form AEC-318 (Rev. 9-53) AECM 0240 GPO c43—16—81465-1 445-678

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UNITED STATES
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WASHINGTON, D.C. 20545

January 12, 1973

Docket No. 50-305

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Senior Vice President
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P. O. Box 1200
Green Bay, Wisconsin 54305

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ERRATA SHEET FOR "GENERAL INFORMATION REQUIRED FOR CONSIDERATION OF THE EFFECTS OF A PIPING SYSTEM BREAK OUTSIDE CONTAINMENT"

The following lists the changes that have evolved on our initial information request:

1. Page 2, Item 2--Insert the following in 2. to precede the existing first sentence:

   "Design basis break locations should be selected in accordance with the following pipe whip protection criteria; however, where pipes carrying high energy fluid are routed in the vicinity of structures and systems necessary for safe shutdown of the nuclear plant, supplemental protection of those structures and systems shall be provided to cope with the environmental effects (including the effects of jet impingement) of a single postulated open crack at the most adverse location(s) with regard to those essential structures and systems, the length of the crack being chosen not to exceed the critical crack size. The critical crack size is taken to be 1/2 the pipe diameter in length and 1/2 the wall thickness in width."

2. Page 2, Item 2(a)(2)--Change nomenclature to read "any intermediate locations between terminal ends where the primary plus secondary stress intensities S_n...

3. Page 4, Item 2.(b)(2)--Change 0.9 $(S_h + S_A)$ to 0.8 $(S_h + S_A)$.

4. Page 6, Item 7--Add "structural" to read "The structural design loads..."

5. Page 7, Item 11.(a)--Add "required" so as to read, "Loss of required redundancy..."

6. Page 7, Item 11.(a)--Delete "the steam line break" and replace with "that" to read "...the consequences of that accident..."

7. Page 8, Item 11.(b)--Replace (b) with the following: (b) "Environmentally induced failures caused by a leak or rupture of the pipe which would not of itself result in protective action but does disable protection functions. In this regard, a loss of redundancy is permitted but a loss of function is not permitted. For such situations plant shutdown is required."

8. Page 8, Item 13--Change wording in the first sentence to read "Environmental qualification should be demonstrated by test for that electrical equipment required to function in the steam-air environment resulting from a high energy fluid line break."