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MAR 9 1973

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:

In your response (Amendment 24) to our request of December 15, 1972, regarding protection of the Kewaunee plant from the effects of a postulated rupture outside containment of a line carrying high-energy fluid, you indicated that you were considering the use of guard pipes at certain locations to protect against the effects of jet impingement.

The Regulatory staff has developed a list of tentative criteria that it would expect to be met in providing an acceptable design for such guard pipes. A copy of these tentative criteria is enclosed.

Should you in fact determine that the use of guard pipes is required, the design for such modifications should be in accordance with the enclosed criteria.

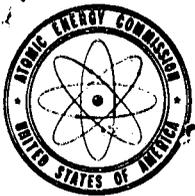
Sincerely,

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

Enclosure:  
 As stated

OFFICE ▶	PWR-2	PWR-2							
7701 SURNAME ▶	<i>LCrocker</i>	<i>KKniel</i>							
DATE ▶	3/8/73	3/8/73							

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UNITED STATES  
ATOMIC ENERGY COMMISSION

WASHINGTON, D.C. 20545

March 9, 1973

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Wisconsin Public Service Corporation  
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Sincerely,

A handwritten signature in cursive script, appearing to read "Karl Kniel".

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

Enclosure:  
As stated

Mr. E. W. James

-2-

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TENTATIVE CRITERIA FOR THE APPLICATION OF  
ENCAPSULATION SLEEVES ON HIGH ENERGY FLUID CARRYING LINES

The following requirements shall be met for the application of encapsulation sleeves at design basis break locations as means of reducing compartment pressurization levels in the event of a pipe severance:

1. The encapsulation sleeve shall be designed and supported in a manner which will not introduce significant strain concentrations on the encapsulated section of piping.
2. The piping beyond the encapsulation sleeve shall be provided with pipe whip restraints (or anchors) which restrict its axial displacement and motion within the sleeve following a postulated circumferential pipe break.
3. The encapsulation sleeve shall be designed (a) to withstand the dynamic forces of internal pressurization resulting from the escape of high energy fluid at the postulated pipe break location assuming complete pipe severance and axial separation to the extent permitted by the pipe restraints, and (b) to restrict the flow at the open ends of the sleeve to a level required to preclude compartment pressurization beyond the allowable structure design limits.
4. The stresses imposed on the encapsulation sleeve during dynamic pressurization shall be limited to the design limits associated with "emergency condition" as permitted by the rules of ASME Section III-Nuclear Power Plant Components Code, for Class 2 components.
5. The encapsulation sleeve shall be constructed in accordance with the rules of ASME Section III Code Class 2 or ANSI-B31.7 Class II components with the added requirement that each pass of the final assembly welds shall be nondestructively examined by surface examination techniques (i.e., liquid penetrant or magnetic particle).
6. The encapsulation sleeve shall be provided with open vent and drain pipe nipples which extend beyond the pipe insulation as a means of monitoring the encapsulated pipe section for any leaks which might develop in service.

7. The design of the encapsulation sleeve shall permit either its removal by machinery or flame cutting techniques or the replacement of encapsulated pipe section in the event leaks develop which require repair or replacement of the pipe.
8. Pipe weld joints located within the encapsulation sleeve and not accessible for subsequent inservice inspection in accordance with the rules of ASME Section XI-Inservice Inspection Code shall be nondestructively examined and the results satisfy the acceptance standards of this Code, prior to the assembly of the encapsulation sleeve.
9. The piping welds not encapsulated within the piping runs traversing safety-related areas, or within compartments adjoining safety related areas shall be subjected to periodic inservice examinations in accordance with ASME Section XI Code Class 2 component requirements except that 100 percent of such welds shall be examined during each inspection interval.