

Docket No. 50-305

October 4, 1972

Mr. E. W. James  
Senior Vice President  
Wisconsin Public Service Corporation  
P. O. Box 1200  
Green Bay, Wisconsin 54350

Dear Mr. James:

Your application for a license to operate the Kewaunee Nuclear Power Plant indicates that the design pressure for the reactor containment building would be significantly in excess of the highest pressure calculated for any loss-of-coolant accident using conservative assumptions for the energy released to the containment. During our licensing review we indicated that we would perform an additional evaluation to verify that an adequate margin has been provided between the design pressure and pressures during loss-of-coolant accidents, assuming that all potentially significant means of transferring heat energy from the reactor core and cooling system to the containment are taken into account in a conservative manner. An additional evaluation will also be made of the response of reactor building compartment walls to dynamic forces during such events.

During this ongoing review, we find that additional information is required to complete our evaluation. The specific information required is listed in the enclosure and should be provided in sufficient detail for the performance of independent analyses.

Our tentative schedule is based on the assumption that this additional information will be available for our review by October 23, 1972. If you cannot meet this date, please inform us within 7 days after receipt of this letter so that we may revise our scheduling.

Sincerely,

/s/

R. C. DeYoung, Assistant Director  
for Pressurized Water Reactors  
Directorate of Licensing

Enclosure:

	Request for Additional Information					
OFFICE ▶	cc: See page 2					LB
SURNAME ▶						
DATE ▶						

Mr. E. W. James

-2-

cc: w/enclosure  
Richard C. Straub  
Manager, Nuclear Development  
Wisconsin Public Service Corporation  
P. O. Box 1200  
Green Bay, Wisconsin 54305

Steven E. Keane, Esquire  
Foley, Sammand, and Lardner  
735 North Water Street  
Milwaukee, Wisconsin

Gerald Charnoff  
Shaw, Pittman, Potts, Trowbridge & Madden  
910 17th Street, NW  
Washington, D. C. 20006

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OFFICE ▶	PWR-2 <i>MS</i>	PWR-2 <i>KK</i>	PWR-2 <i>MS</i>			
SURNAME ▶	LCrocker:ng	KKniel	RCDeYoung			
DATE ▶	10/4/72	10/4/72	10/4/72			



UNITED STATES  
ATOMIC ENERGY COMMISSION

WASHINGTON, D.C. 20545

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Sincerely,

A handwritten signature in cursive script, appearing to read "R. C. DeYoung".

R. C. DeYoung, Assistant Director  
for Pressurized Water Reactors  
Directorate of Licensing

Enclosure:  
Request for Additional Information

cc: See page 2

Mr. E. W. James

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REQUEST FOR ADDITIONAL INFORMATION

WISCONSIN PUBLIC SERVICE CORPORATION

KEWAUNEE NUCLEAR POWER PLANT

DOCKET NO. 50-305

- 5.85 Provide the following information. All assumptions used in the analysis should be explained. Assumptions should be conservative with respect to the calculation of containment pressures.
- 5.85.1 Containment pressure-time response analyses should be provided for selected design basis loss-of-coolant accidents. Double-ended breaks of the largest reactor outlet pipe and double-ended breaks of the reactor coolant pump suction and discharge pipes should be included. Smaller pipe breaks should also be analyzed and should be selected to be representative of the spectrum of break sizes for both inlet and outlet reactor coolant pipes. The analyses should be extended, as a minimum, through the blowdown, reflood and post-reflood phases of the accidents (i.e., for about 1 hour following the accident).
- 5.85.2 The reflood model that is used following blowdown should be described in detail. The description should include the assumptions used to develop the model, e.g., hydraulic modeling of the primary coolant system, resistances of components (primary coolant pump, steam generator, piping and reactor core), and the methods used in computing steam generation in the core and other energy sources (core stored energy, decay heat [short and long term] thick and thin metal-stored energy, and steam generator-stored energy).
- 5.85.3 If the blowdown model differs from that described in the SAR for containment calculations, the differences should be discussed in detail.
- 5.85.4 For the cold leg break, the size and location resulting in the highest calculated containment pressure analyzed in Item 1, tables of mass release (pounds/second), the enthalpy of the mass (BTU/pound) released from the core, and the mass and enthalpy released to the containment should be provided throughout the blowdown and reflood phases of the accident. A graph showing core inlet velocity as a function of time should also be provided for the reflood phase of the accident.

- 5.86 With regard to reactor building compartment differential pressure analyses:
- 5.86.1 Identify the reactor building compartments analyzed. Provide the reactor coolant system break size and the free volume and vent area for each compartment.
  - 5.86.2 Describe the analytical model used to perform the analyses and discuss the assumptions in the model, including moisture carryover and the time steps used in predicting pressure differentials across compartment walls.
  - 5.86.3 Discuss the results of the analyses performed for each compartment, including the maximum absolute and differential pressures attained, and the jet forces on the compartment walls.
  - 5.86.4 Discuss the structural design capability of each compartment to withstand the differential pressure and jet forces resulting from loss-of-coolant accidents for each compartment.