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RESPONSE TO NRC LTR DTD 01/25/78...FURNISHING INFO CONCERNING APPLICANT"S REACTOR COOLANT SYSTEM SUPPORTS PROGRAM FOR EVALUATION OF REACTOR COOLANT SYSTEM SUPPORT LOADS DURING LOSS OF COOLANT ACCIDENTS.

PLANT NAME: KEWAUNEE

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WISCONSIN PUBLIC SERVICE CORPORATION

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

April 18, 1978



Division of Operating Reactors
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Attention Mr. A. Schwencer, Chief
Operating Reactors Branch #1

Gentlemen:

Operating License DPR-43
Docket 50-305
Reactor Coolant System Supports

On January 25, 1978, we were requested to identify our program for evaluation of reactor coolant system support loads during loss of coolant accidents.

We are full participants in the Westinghouse evaluation program which is organized in three phases as described in the attachment. The schedule for completion of the evaluation is controlled by Westinghouse who will perform the evaluation. We will submit results as they become available.

Very truly yours,

E. W. James
Senior Vice President
Power Supply & Engineering

sna

Attach.



A001/s *
1/1

Program

Westinghouse proposes a three-phased evaluation to study the effect of pipe rupture in the primary coolant system on operating nuclear power plants with Westinghouse supplied nuclear steam supply systems. The total program will consider the effects upon plant safety of postulated pipe ruptures, both inside the shield wall (reactor vessel nozzle safe end ruptures) and outside the shield wall. The total program will consist of the following three phases:

Phase I: Categorization of Plants

This phase will consist of gathering all available and pertinent data on the operating plants, categorizing the data, and recommending a method of grouping the plants to eliminate the need for individual plant analyses.

Phase II: Evaluation for Pipe Rupture Outside the Shield Wall

The analyses for the effect of the most severe postulated pipe rupture outside the shield wall will use the methods and grouping of plant obtained from Phase I.

Phase III: Evaluation for Pipe Rupture Inside the Shield Wall

The evaluation for pipe ruptures inside the shield wall will use the methods and grouping of plants from Phase I and will build upon the knowledge gained from Phase II.

The second and third phase of the evaluation program will utilize the knowledge and experience gained in the preceding phases and, as such, will not be completely defined regarding options or methods until the completion of the previous phases.

This proposal is only for Phase I, the grouping study. Potential options for Phase II or Phase III are presented below based upon the limited amount of information available at this time. The actual recommendations for these phases cannot be made until Phase I is completed.

Phase I

The purpose of Phase I is to divide those operating plants owned by utilities who choose to participate into groups based primarily on the similarity of the applied blowdown loads and structural configurations. Using drawings and other information supplied by the utilities as well as data from Westinghouse files, Westinghouse will compare the plants and categorize them in an effort to allow more generic analyses rather than individual plant analyses. A report describing the methods of grouping and the plant parameters, criteria and procedures to be used in Phases II and III will be submitted to the utilities for review.

The information required to be supplied by the Utilities to Westinghouse for Phase I is outlined in Attachment A. Attachment B provides a more detailed listing of the information needed for the reactor cavity pressure analysis. This data will be used together with supplementary data which Westinghouse will collect to categorize plants with respect to parameters such as the following:

1) Break opening area
2) Magnitude and nature of applied loads
3) Number of coolant loops
4) Equipment support similarities
5) Equipment support stiffnesses
6) Concrete capabilities
7) Plant normal operating condition parameters

Schedule for Phase I

It is expected that this study can be completed and the report submitted within approximately 3 months of receipt of data from the Utilities.

Phase II--Phase III

Due to the uncertainty of the outcome of Phase I, it is impossible to determine accurately the extent of the analyses required. However, the five major steps which will be performed in Phases II and III are as follows:

1) Calculation of applied loads
2) Development of structural models
3) Performance of analyses for the applied loads to determine the system response
4) System evaluation based upon the results of the analyses
5) Preparation of reports

Phase II and Phase III will be completed approximately 2 years from the initiation of Phase I. This schedule is consistent with the NRC objectives stated

in the meetings with Utilities.

Actual proposals for Phases II and III will be detailed and submitted to the Utilities upon completion of the preceding Phase.