JUNE 22 1979

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Docket Nos. 50-315 and 50-316

Mr. John E. Dolan, Vice President
Indiana and Michigan Electric Company
Indiana and Michigan Power Company
Post Office Box 18
Bowling Green Station
New York, New York 10004

Dear Mr. Dolan:

This letter is submitted in response to your letters dated April 24, May 4, and June 20, 1979 which provided documentation on the results of the seismic piping stress reanalysis for the D. C. Cook Power Station, Unit Nos. 1 and 2 in connection with IE Bulletin 79-07.

We have reviewed your reanalysis techniques and the results of the reanalysis and find them acceptable. In subsequent discussions with Westinghouse on computer code verification, Westinghouse has agreed to solve a set of benchmark problems using WESTDYN and to provide the NRC a problem for confirmatory analysis. For computer code verification, we find this acceptable.

A copy of our evaluation addressing this matter is enclosed.

Sincerely,

Original Signed By

A. Schwencer, Chief
Operating Reactors Branch #1
Division of Operating Reactors

Enclosure:
Safety Evaluation Report

cc: w/enclosure
See next page

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

June 22, 1979

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and 50-316

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A. Schwencer, Chief
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Safety Evaluation Report

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See next page

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DONALD C. COOK NUCLEAR PLANT UNITS 1 AND 2

REVIEW OF PIPING REANALYSIS PER I&E BULLETIN 79-07

SAFETY EVALUATION REPORT

ENGINEERING BRANCH
DIVISION OF OPERATING REACTORS

INTRODUCTION/BACKGROUND

In their April 24, 1979, response to I&E Bulletin 79-07, American Electric Power Service Corporation (AEP) identified 24 lines that had originally been analyzed using an earlier version of the WESTDYN computer program that incorporated an algebraic sum of intramodal responses to seismic loadings. However, 19 out of these 24 lines had subsequently been reanalyzed using absolute summation or SRSS method.

By letter dated May 4, 1979, the licensee (AEP) reported that a further check of their records showed that 23 of the 24 lines had previously been reanalyzed. In response to NRC questions discussed during telephone conversations, AEP supplied supplemental information on this subject in a letter dated June 20, 1979.

DISCUSSION

The licensee identified the only line that had not been seismically reanalyzed was the 14" pressurizer surge line. This line has the same geometry on both units, but in opposite hand, therefore, only one stress analysis was necessary.

AEP has stated that a reanalysis of the surge line in the "as-built" condition has been completed and the results show all piping stresses remain below their allowable values, as specified in the FSAR's. Additionally, the pipe supports meet FSAR criteria and the nozzle loads have been found acceptable.

This piping run was reanalyzed by Westinghouse using their current version of WESTDYN which combines the intramodal responses by absolute summation.

The licensee's response to I&E Bulletin 79-04 also states that no VELAN swing check valves are in this piping.

I&E Bulletin 79-02 was not addressed at this time.

The licensee has stated that the reanalysis has no effect on pipe break criteria since break locations were not postulated based on stress levels.

EVALUATION

The reanalysis technique employed was a lumped mass response spectra modal analysis. This dynamic analysis procedure is an acceptable method. The absolute combination of responses in two directions is consistent with the Staff Position and, therefore, is also acceptable.

Results of the reanalysis show that the pipe stresses are below their allowable values, as specified in the FSAR, and that the support designs remain in accordance with FSAR criteria. Also, Westinghouse has determined that the new nozzle loads imposed by the 14" surge line on the pressurizer are acceptable since they are bounded by the loads previously used in the stress analysis of the pressurizer

nozzle. Therefore, we find the results of the reanalysis acceptable.

Since the supports involved do not utilize concrete expansion anchor bolts, the licensee did not need to consider I&E Bulletin 79-02. Further, their response concerning I&E Bulletin 79-04 states that no VELAN swing check valves are in these lines.

The reanalysis has no effect on the Cook 1 or 2 pipe break criteria.

Code Verification

The computer listing of the dynamic portion of WESTDYN which performs the response spectrum analysis and modal combinations has been reviewed by the staff; statements regarding the intramodal and intermodal combinations have been verified and found acceptable. In addition, Westinghouse has also committed to solve a set of benchmark problems and to provide the NRC a problem for confirmatory analysis. They have agreed to submit this commitment in writing to the NRC by June 26, 1979. We find this response acceptable.

CONCLUSION

Based on the discussion and evaluation presented above, we conclude that the requirements set forth in I&E Bulletin 79-07 are satisfied.

Date: June 22, 1979