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SUBJECT: Responds to NRC ltr of 931216 re error notices received from Boeing Computer Services. Error notices in ref ltr evaluated & corrective actions implemented.

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January 18, 1994

G02-94-015

Docket No. 50-397

Mr. L. J. Norrholm
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Gentlemen:

Subject: **WNP-2, OPERATING LICENSE NPF-21
DISPOSITION OF ERROR NOTICES RECEIVED FROM BOEING
COMPUTER SERVICES**

Reference: Letter, dated December 16, 1993, LJ Norrholm (NRC) to GH Wooley (SS), same subject

This letter is in response to the NRC letter of December 16, 1993, (Reference 1) addressing concerns regarding error notices received from Boeing Computer Services (BCS). The Supply System has reviewed the information provided in Reference 1 against our evaluation of the BCS error notices and the actions taken in response to the notices. All of the error notices in Reference 1 have been evaluated and corrective actions implemented. The evaluations are on file at WNP-2 and are available for NRC review.

As requested on page 2 of Reference 1, the Supply System notes that we have expended approximately eighty hours in preparing this response.

Please contact me, HE Kook (509)377-4278, or MG Eades (509)377-4277, of Project Licensing, should you have any questions or desire further information regarding this matter.

Sincerely,

J. V. Parrish (Mail Drop 1023)
Assistant Managing Director, Operations

Attachments

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ATTACHMENT

PROCESS

The Supply System evaluates all external computer program error notices in accordance with a Supply System Engineering Directorate procedure. Error notices received from computer program vendors are routed through Quality Assurance to Engineering for evaluation by the program coordinator who is familiar with the usage of the particular program at WNP-2. Initially, if the program coordinator determined that the error significantly impacted safety related calculations, internal memos were used to document the review and corrective actions necessary. A Problem Evaluation Report (PER), rather than a memo, is issued under the current process. All impacted safety related calculations are then updated using corrected computer programs or alternative calculation methods. All other errors are addressed utilizing an internal memo or a computer error notice evaluation sheet. No significant impact on WNP-2 safety related calculations utilizing these codes has been identified since October 1991.¹

We have reviewed the list of error notices as requested by Reference 1. Some of the program errors that were included in the list had the potential to impact safety related calculations. In most cases the errors required the use of a certain combination of program features to cause a significant problem. Our program coordinators review the use of the computer codes to determine the extent of the error impact based on the program versions affected, the computer system utilized, and the way in which the program has been utilized on WNP-2 safety related calculations. The following provides a brief status of the results of our evaluation.

BCS ERROR NOTICE REVIEW

GTSTRUDL

The GTSTRUDL program was used by the Supply System stress analysis group from 1984 until the end of 1993. The program was used primarily for static analyses of frame structures for pipe supports. It has been replaced by PHI-Delta STRUDL.

The list included ninety-two GTSTRUDL error notices. All GTSTRUDL error notice dispositions have been completed, necessary corrective actions implemented, and are on file for review. It should be recognized that in the majority of cases, the errors have no significant impact on existing safety related calculations.

¹Time frame in which the process was changed to require PERs.

NUPIPE

The NUPIPE computer program was used by Johnson Controls Inc. (JCI) for design of instrument piping at WNP-2. The program has not been used for WNP-2 design since JCI finished their work in 1984. Of the original JCI work, approximately half of the analyses have been converted to the Supply System computer code ADLPIPE analysis. The list included four NUPIPE error notices. All NUPIPE error notice dispositions have been completed and are on file for review. No corrective actions were necessary.

ANSYS

The ANSYS computer program is used for general purpose finite element analyses. At WNP-2, it is primarily used for heat transfer analysis for ASME Class 1 piping thermal gradient stresses. We have reviewed our records for the seventy-eight error notices requested. The NRC letter of December-16, 1993 listed two error notices which the Supply System believes are incorrectly numbered. It appears that ANSYS error notice 88-71 should be 88-71R1 and notice 92-23R1 should be 91-23R1. The Supply System has confirmed through BCS that the above error numbers are correct. The 78 ANSYS error notice dispositions have been completed, necessary corrective actions implemented, and are on file for review. It should be recognized that in the majority of cases, the errors have no significant impact on existing safety related calculations.