



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

D. Lerao

MAR 2 1984

MEMORANDUM FOR: B. J. Youngblood, Chief
Licensing Branch No. 1, DL

FROM: Robert J. Bosnak, Chief
Mechanical Engineering Branch, DE

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION - PERRY NUCLEAR
POWER PLANT

In August 1982 the NRC received allegations regarding design deficiencies in Class 1 piping system. The alleged deficiencies were specifically related to piping designers ignoring the piping stresses induced by pipe clamps in Class 1 piping analyses. The NRC staff initiated a series of visits with several piping design organization and pipe clamp vendors. The results of that investigation were presented in the August 1983 report that was included as an enclosure to Board Notification (BN) 82-105A. BN 105, with the enclosure, was sent to the Perry ASLB (among others) on September 29, 1983.

The conclusion of the staff's report was that special pipe clamps have been recently developed for large rated load capacity for special applications in nuclear power facilities. These special pipe clamps, referred to as "stiff" pipe clamps in the report, have several new design features that represent a significant change from the conventional pipe clamp design used successfully in previous years. Utilization of these "stiff" pipe clamps without an adequate evaluation may result in inducing large stresses in the piping that have not been explicitly evaluated, and thus can result in a likelihood of underestimation of forces, moments and stresses in the piping system.

The staff found during its investigation that industry might not yet have acknowledged or is not aware of the above concerns for the following reasons (1) inappropriate reliance of piping designers on only engineering judgement based on past experience when new design concepts are involved and (2) inadequate lines of communication between organizations responsible for controlling the piping to pipe clamp interface design. For these reasons, IE Information Notice No. 83-80, "Use of Specialized 'Stiff' Pipe Clamps" was issued to licensees, NSSS suppliers and architect engineers.

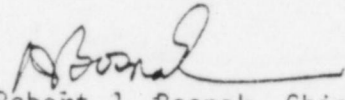
BN 105A, issued to the Perry ASLB, indicated that the staff intends to address the "stiff" pipe clamp issue during the safety evaluation for new plants. Discussions between the staff and representatives of E-Systems on February 10, 1983 and Gilbert Associates on March 2, 1983 indicated a large use of these "stiff" pipe clamps in the Perry design. Accordingly, in order for the staff to review the piping to pipe clamp

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interface design in cases where stiff pipe clamps are used for the Perry design the attached request for additional information should be transmitted to the applicant for the Perry facility.


Robert J. Bosnak, Chief
Mechanical Engineering Branch
Division of Engineering

Attachment: As stated

cc: R. Vollmer, DE
J. Knight, DE
A. Schwencer, DL
J. Stefano, DL
M. Haughey, DL
R. Martin, DL
H. Brammer, DE
✓ D. Terao, DE

ATTACHMENT

210.15 Identify the "stiff" pipe clamps installed or expected to be installed on Perry Units 1 and 2. Identify also the systems on which they are installed, and the clamp vendor for each clamp. Describe in detail how the localized loads from these "stiff" pipe clamps on the piping, are accounted for in the analyses performed for all ASME Code Class 1, 2, and 3 piping systems. Also discuss how the special installation and post-installation requirements are controlled for "stiff" pipe clamps.