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SUBJECT: Provides 60-day response to 951103 RAI re GL 95-07 on
 pressure locking & thermal binding.

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**INDIANA
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November 13, 1995

AEP:NRC:0966AA

Docket Nos.: 50-315
50-316

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555

Gentlemen:

Donald C. Cook Nuclear Plant Units 1 and 2
GL 95-07, PRESSURE LOCKING AND THERMAL BINDING
REQUEST FOR ADDITIONAL INFORMATION 60 DAY RESPONSE

The purpose of this letter is to respond to your November 3, 1995, letter request for additional information. In our initial response we indicated that we were combining the required 90-day screening with our 180-day final evaluation. In the attachment we have further outlined all the ongoing activities we have performed to substantiate our position that we have complied with the intent of the 90-day screening to identify valves potentially susceptible to pressure locking and thermal binding. The results of two NRC inspection reports (50-315&316/93006 DRS and 50-315&316/95006 DRP) and our review of several recent NRC Information Notices have revealed no critical deficiencies in our previous evaluations, and no safety concerns as a result of pressure locking/thermal binding.

Sincerely,

E. E. Fitzpatrick
Vice President

SWORN TO AND SUBSCRIBED BEFORE ME

THIS 14th DAY OF November 1995

Lisa D. Hice
Notary Public

My Commission Expires: 6-29-99

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U. S. Nuclear Regulatory Commission
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Attachment

cc: A. A. Blind
G. Charnoff
H. J. Miller
NFEM Section Chief
NRC Resident Inspector - Bridgman
J. R. Padgett

ATTACHMENT TO AEP:NRC:0966AA

GL 95-07, PRESSURE LOCKING AND THERMAL BINDING
REQUEST FOR ADDITIONAL INFORMATION 60 DAY RESPONSE

Based on the clarification provided on the purpose of the 90-day requested actions in the November 3, 1995 letter and the scope of our activities to date, we have already met the intent of the 90-day requested actions. The action plan presented in the initial 60-day response remains a valid mechanism to support the 180-day response and to further develop our supporting documentation.

The subject of thermal binding (TB) at Cook Nuclear Plant (CNP) was first considered as part of the original plant design, and pressure locking (PL) was considered before commercial operation. These subjects have continued to be reviewed and addressed throughout the life of the plant up to the present. Below is a brief chronology of our activities addressing PL/TB, which indicates the substantial effort that has been expended in this regard.

- The original design considered thermal binding and utilized double disc or parallel slide type valves for those gate valve services considered susceptible.
- In 1974, prior to commercial operation, a design change added bonnet pressure equalizing lines to those MOV services considered susceptible to pressure locking.
- In 1976, shortly after commercial operation of unit 1, a design change removed equalizing lines from one service; viz., the recirculation sump isolation valves, based on further evaluation.
- In 1985, in response to INPO SOER 84-07 the previous activities were reviewed, which confirmed the evaluations to date. One additional service was determined to be subject to pressure locking and a design change added equalizing lines to the MOVs in that service.
- In 1989, in response to INPO SER 8-88 the previous activities were reviewed, which again confirmed existing evaluations. This effort emphasized the performance of valves in the "test" configuration.
- In 1992, our review of NRC Information Notice 92-26 verified that the valve design and specific service cited had been previously addressed for CNP.
- In 1993, the issues of PL/TB were again revisited to respond to NRC inspectors' questions, and resulted in the following statement in the inspection report: "The inspectors reviewed normally closed valves in the systems where these problems were observed in other plants. The licensee took steps to preclude either pressure locking or thermal binding in all

valves subject to those problems." [Para. 2.8.4, Reports No.50-315/93006(DRS);50-316/93006(DRS)].

- In 1994, the issues were again reviewed to develop a paper presented by our cognizant valve engineer at the NRC sponsored industry conference on PL/TB. (Published in NUREG/CP-0146)
- In 1994, our review of Supplement 6 to GL 89-10 verified that the valve services listed as susceptible to PL/TB had been previously addressed, as applicable.
- In 1995, an NRC inspector's specific concern about pressure locking of the recirculation sump isolation valves was addressed and a mathematical analysis was performed to support our earlier evaluation that no equipment modifications were required for this service. The analysis was found to be acceptable and NRC Inspection Manual Temporary Instruction 2515/129 was closed for CNP.
- In 1995, our reviews of NRC Information Notices 95-30, 95-14, and 95-18 (including supplement 1) identified no additional susceptible services and no critical deficiencies in past evaluations.

Based on the above, our past evaluations and consideration of recent information constitute acceptable completion of the 90-day screening evaluation, since no short term safety concerns exist regarding particular valves as a result of PL/TB.

Our intent in requesting a waiver of the 90 requested actions was based on performing a final, fully documented evaluation of the potential for PL/TB at CNP. To this end we have developed an action plan, which includes a multi-step progressive screening of safety related power operated gate valves to eliminate from concern those that are not susceptible to PL/TB. Each step considers the valves that failed the prior screening step. The steps in turn include component design, system configuration, and procedural effects. The completion of this effort will provide the information needed to support the 180-day action.