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NRC-94-0102

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

- References:
- 1) Fermi 2
NRC Docket No. 50-341
NRC License No. NPF-43
 - 2) Detroit Edison letter to NRC, "Detroit Edison Initiatives on Pressure Locking and Thermal Binding of Gate Valves at Fermi 2," NRC-93-0127, dated October 13, 1993

Subject: Status of Detroit Edison Initiatives on Pressure Locking and Thermal Binding of Gate Valves

The purpose of this letter is to provide an update on Detroit Edison's initiatives regarding pressure locking and thermal binding of gate valves at Fermi 2 and to modify commitments related to these initiatives. These initiatives were described by Detroit Edison during a meeting with the NRC on September 13, 1993 and in Reference 2. This letter also serves to document the discussion of this subject during a conference call on restart issues between Detroit Edison, NRR and Region III personnel on October 27, 1994.

The first initiative was to resolve the pressure locking issues for the six valves previously evaluated as being susceptible to the phenomena:

- o E1150F015A
- o E1150F015B
- o E2150F005A
- o E2150F005B
- o E4150F006
- o E5150F013

Detroit Edison recalculated (DC-5132, Revision B) the capability of the six valves to open under pressure locking conditions using the methodology developed by Entergy. The revised calculation, using the Entergy methodology, indicated that three valves (E2150F005B, E4150F006 and E5150F013) would operate under postulated conditions and that three valves (E1150F015A&B and E2150F005A) may not open under the postulated conditions for pressure locking.

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A finite element analysis was performed for valve E1150F015B. This calculation (#P1-15153) indicated that E1150F015B is capable of opening under postulated conditions of pressure locking. During the present outage (RFO4), three valves (E2150F005A and B and E1150F015A) were modified to incorporate a permanent pipe to vent the potentially high pressure fluid that may cause pressure locking to the reactor side of the valve. These modifications eliminate the susceptibility for pressure locking in these valves. In addition, a modification will be performed prior to startup on valve E5150F013 which will increase the actuator capability for overcoming pressure locking effects. Therefore, Detroit Edison regards the pressure locking issue for these six valves to be resolved.

The second initiative proposed to re-evaluate the potential for pressure locking of safety-related gate valves including the review of:

- INPO SOER 84-7
- GE SIL 368, including Revision 1, Supplement 1
- Information Notice 92-26
- GL 89-10, Supplement 6
- AEOD Report S92-07

Detroit Edison's Generic Letter (GL) 89-10 program has incorporated the guidance of these documents in consideration of pressure locking and thermal binding. The matter of pressure locking and thermal binding has been reviewed by the NRC under the scope of Generic Letter 89-10. During an August 1994 Engineering and Technical Support inspection, the NRC staff indicated that actions taken by Detroit Edison have sufficiently addressed the pressure locking and thermal binding issue such that the Phase II MOV Inspection Unresolved Item 50-341/93003-07 (dated March 30, 1993) on pressure locking and thermal binding would be considered resolved. The inspectors indicated that it is appropriate to complete any further evaluation after an anticipated Generic Letter with guidance on pressure locking and thermal binding is issued.

Initiative 3 addressed Detroit Edison's plans to use the EPRI Performance Prediction Program for evaluating valves that are considered susceptible to pressure locking. In light of the fact that the EPRI model has not yet been issued, Initiative 3 could not be completed by the original date committed in Reference 2. Detroit Edison believes that this initiative is no longer necessary as pressure locking and thermal binding have been addressed in the GL 89-10 program and an expected Generic Letter providing further guidance regarding pressure locking and thermal binding is forthcoming. Detroit Edison will consider the EPRI model in light of the pressure locking and thermal binding Generic Letter once both are issued.

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Initiative 4 is to revise, as needed, procedures or work instructions to assure proper consideration of pressure locking and thermal binding effects is given to the design and operation of affected valves. Initiative 5 is to initiate physical modifications, as required. Initiatives 4 and 5 were committed to be completed by the end of the fifth refueling outage. Detroit Edison believes that these initiatives should be addressed in the light of more specific guidance from the NRC in the form of a pressure locking and thermal binding Generic Letter. Therefore, Detroit Edison is retracting the commitment to perform these initiatives and will further address the pressure locking and thermal binding issue once the NRC issues the expected Generic Letter on the subject.

Detroit Edison continues to participate in industry efforts and meetings related to MOV issues, including pressure locking and thermal binding. Based upon information gained from industry efforts and the forthcoming Generic Letter, Detroit Edison will continue to evaluate pressure locking and thermal binding.

If you have any questions, please contact Ms. Margaret M. Offerle at (313) 586-1661.

Sincerely,

Robert M. Keon

cc: T. G. Colburn
J. B. Martin
M. P. Phillips
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