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

Perry Nuclear Power Plant
Docket 50-440
Verification of Response
to NRC Bulletin 93-02,
Supplement 1: Debris
Plugging of ECCS Pump
Suction Strainers

Reference 1: April 19, 1994, letter from R. A. Stratman to the Nuclear Regulatory Commission, "Response to NRC Bulletin 93-02, Supplement 1: Debris Plugging of ECCS Suction Strainers," (PY-CEI/NRR-1791L).

Gentlemen:

On February 18, 1994, the Nuclear Regulatory Commission (NRC) issued Supplement 1 to Bulletin 93-02, "Debris Plugging of Emergency Core Cooling Suction Strainers." This bulletin supplement described the potential for loss of net positive suction head for Emergency Core Cooling System (ECCS) Pumps due to debris plugging of ECCS suction strainers and requested that licensees take interim actions to mitigate this type of an event.

The Perry Nuclear Power Plant (PNPP) has completed the specific interim actions described in Reference 1. Submittal of this response to Supplement 1 to NRC Bulletin 93-02 satisfies the second reporting requirement contained therein; "All Action addressees are required to submit the following written reports: ... (2) Within 30 days of completion of the requested actions, a report confirming completion." Submittal of this letter completes the requested actions of this bulletin supplement.

Also discussed within Reference 1 were two possible enhancements to the emergency operating procedure flowcharts (titled Plant Emergency Instructions (PEIs) at PNPP) that were being considered by the PEI Improvement Team as part of an ongoing PEI upgrade effort. The first proposed enhancement to the PEI flowcharts was implemented, the second enhancement was not, for the reasons described below.

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The first proposed PEI enhancement involved making the preferred pump suction source for injection systems the alternate non-suppression pool source (the Condensate Storage Tank (CST)) for those systems having two suction sources. This was already the case for the Reactor Core Isolation Cooling (RCIC) System. Guidance was added to the PEI flowcharts to direct the use of the CST as the preferred suction source for the High Pressure Core Spray System (HPCS).

It was recognized during the development of guidance by the BWROG that the availability of the ECCS/RCIC Systems could be maximized in the event of a Loss of Coolant Accident (LOCA) [that involved the potential for transport of debris to the suppression pool], by avoiding (or delaying) taking suction from the suppression pool. Debris would then not be entrained on the non-operating ECCS/RCIC Systems suppression pool suction strainers until it was necessary to put them in service. This would occur when the operating injection system(s) suppression pool suction strainers fouled to a point where PEI parameters could not be maintained within limits. The original approach envisioned was to provide guidance in the PEI flowcharts to direct the operators to prepare the ECCS/RCIC Systems for operation but not to place the systems in the minimum flow or test modes if they are not immediately needed to maintain plant parameters within PEI limits.

The PEIs are symptom based versus event based and are designed to mitigate the consequences of any LOCA regardless of where the break occurred. The PEI entry conditions of interest here are those that may signify that a LOCA has occurred; high drywell pressure (greater than 1.68 psig - indicating a break in the Drywell) and low reactor vessel water level (less than 178 inches).

During the evaluation by the PEI Improvement Team it was recognized (assuming that the suppression pool is maintained in a clean condition) that only in the event of a LOCA where a high drywell pressure signal is received (indicative of a pipebreak in the Drywell that could introduce debris into the pool) is there a concern with respect to suppression pool suction strainer clogging. For this event the ECCS Systems would already have been automatically initiated and would be running in the minimum flow mode with most of the systems taking suction from the suppression pool (the HPCS System could be taking a suction on its alternate source the CST). Consequently, adding guidance to the PEIs to have the operators only prepare the systems for operation but not to operate in the minimum flow or test modes is moot since the systems would already have been automatically initiated and taking a suction on the suppression pool (with the exception of HPCS).

If only a low reactor vessel water level signal is received, the reduced level could be caused by many reasons (e.g., loss of normal flow to the vessel (loss of feedwater), a break outside containment etc.), that are unrelated to a LOCA in the Drywell which could introduce debris into the suppression pool. Adding guidance to the PEIs to have the operators only prepare the systems for operation but not to operate in the minimum flow or test modes is unnecessary

and undesirable for these type of situations. Restricting the number of ECCS/RCIC Systems operating, or their flowrates, to preclude/reduce depositing debris on the suppression pool suction strainers is unnecessary since a LOCA has not introduced debris into the pool which could potentially clog the strainers. Consequently, for the above reasons this enhancement was not implemented.

As described in Reference 1 a new event-based Off-Normal Instruction (ONI) was developed to provide clear direction to the operator for indications of ECCS/RCIC suppression pool suction strainer clogging. This ONI directs the operator (where not in conflict with the PEIs) to minimize flow and the number of operating ECCS/RCIC Systems, alternate injection systems, and backwash systems to maximize their availability in the event of suppression pool suction strainer fouling.

If you have questions or require additional information, please contact Mr. James D. Kloosterman, Manager - Regulatory Affairs at (216) 280-5833.

Very Truly Yours,

RAS:RAL

cc: NRC Project Manager
NRC Resident Inspector Office
NRC Region III

I, Robert A. Stratman, being duly sworn state that (1) I am Vice President, Nuclear - Perry of the Centerior Service Company, (2) I am duly authorized to execute and file this certification on behalf of The Cleveland Electric Illuminating Company and Toledo Edison Company, and as the duly authorized agent for Duquesne Light Company, Ohio Edison Company, and Pennsylvania Power Company, and (3) the statements set forth herein are true and correct to the best of my knowledge, information and belief.

Robert A. Stratman

Sworn to and subscribed before me, this 30th day of September, 1994.

Sheryl A Eckelberry

SHERYL A. ECKELBERRY
Notary Public, STATE OF OHIO
My commission expires 5-9-1998
Recorded in Lake County

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