



444 South 16th Street Mall
Omaha NE 68102-2247

June 28, 2006
LIC-06-0070

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555-0001

- Reference:
1. Docket No. 50-285
 2. Letter from Harry J. Faulhaber (OPPD) to Document Control Desk (NRC) dated June 9, 2005, Revised Request for an Extension to the Completion Date for Corrective Actions Taken in Response to Generic Letter 2004-02 (LIC-06-0067)
 3. Letter from Harry J. Faulhaber (OPPD) to Document Control Desk (NRC) dated June 12, 2005, Correction to Revised Request for an Extension to the Completion Date for Corrective Actions Taken in Response to Generic Letter 2004-02 (LIC-06-0069)

SUBJECT: Supplement to Revised Request for an Extension to the Completion Date for Corrective Actions Taken in Response to Generic Letter 2004-02 (TAC#MC4686)

In Reference 2, the Omaha Public Power District (OPPD) requested an extension to the completion date for the corrective actions taken in response to Generic Letter 2004-02. In a phone call with the NRC on June 15, 2006, the NRC requested clarification of the second bulleted item on Page 8 of Attachment 1 of Reference 2. This item describes how mitigative measures previously discussed will minimize the risk of degraded Emergency Core Cooling System and Containment Spray System functions. The following clarification of this item is provided:

The current Fort Calhoun Station (FCS) Emergency Core Cooling System (ECCS) and Containment Spray System (CSS) net positive suction head (NPSH) design margin for the limiting loss of offsite power (LOOP)/Loss of Coolant Accident (LOCA) is 1.75 ft for the CS pumps and greater than 4.75 ft for the High Pressure Safety Injection System (HPSI) pumps. (Note that with LOOP, only one ECCS/CSS train with suction from one sump strainer would be operable, because the worst single failure for this scenario is assumed to be one diesel-generator power source.) Head loss testing using the FCS post-2006 outage debris mix has been conducted for the replacement strainer modules. This testing determined a strainer head loss of less than 1 ft for a strainer surface area of 1500 ft² for the limiting LOOP/LOCA. Applying these test results to the current design margin, the resulting NPSH design margin would be approximately 0.75 ft for the CS pumps and greater than approximately 3.75 ft for the HPSI pumps.

The consequences of a number of small and medium break LOOP/LOCA scenarios can be successfully mitigated with the installation of the interim strainers (550 ft² of surface area each) since each strainer provides sufficient surface area to maintain the CS and HPSI pumps within their NPSH design margin. This is because the debris loading for these cases would be less than that assumed for the limiting LOOP/LOCA case. For large break LOOP/LOCA scenarios with the worst case debris loading,

securing the CS pump due to insufficient NPSH may be necessary. With no CS pump operating, containment pressure control and cooling would continue using the fully redundant containment cooling units. In these scenarios, strainer head loss is expected to be less than 3.75 ft, with sufficient HPSI system NPSH margin maintained to assure adequate flow is delivered to the core. In addition, HPSI pump flow may also be throttled which will result in significantly more NPSH margin.

The current FCS ECCS and CSS NPSH design margin for the limiting LOCA with offsite power available is 2.5 ft for the CS pumps and greater than 7 ft for the HPSI pumps. Since both ECCS/CSS trains would be assumed operable in this scenario, the resulting debris load would be spread over a surface area of 1100 ft² (both interim strainers). This amount of surface area is close to the tested case of 1500 ft². Assuming strainer head loss is proportional to surface area, the estimated head loss for an 1100 ft² screen is 1.5 ft. Using this estimate, the amount of available NPSH, estimated to be 1.0 ft for the CS pumps and greater than 5.5 ft for the HPSI pumps, provides assurance that the CS pumps and HPSI pumps will be operable for LOCAs with offsite power available.

Additionally, the NRC requested that OPPD describe the materials that will be used to replace the calcium silicate (CalSil) insulation associated with the major components being replaced (steam generators and pressurizer) during the fall 2006 outage at FCS. OPPD plans to replace the CalSil insulation with reflective metal insulation (RMI) in areas where the exact dimensions are known (such as steam generator and pressurizer bodies), and with low density fiber glass (Thermalwrap) in areas where exact dimensions are not known (such as on the hot and cold leg welds to the replacement steam generators).

I declare under penalty of perjury that the foregoing is true and correct. (Executed on June 28, 2006.)

If you have additional questions, or require further information, please contact Thomas R. Byrne at (402) 533-7368.

Sincerely,



Harry J. Paulhaber
Division Manager
Nuclear Engineering

HJF/TRB/trb