**LER 278/82-004**

Event Description: Trip with One Pump of RHR Inoperable

Date of Event: April 10, 1982

Plant: Peach Bottom 3

**Summary**

During normal operation on April 10, 1982, while surveillance tests were being performed on the D low-pressure core spray (LPCS) and D residual heat removal (RHR) pumps, the room cooler fans failed to start with the control switches placed in the auto or run position. The fans were placed in continuous service until the auto and run positions could be verified as operable. Investigation revealed that a control circuit had been inadvertently de-energized. The circuit was re-energized and surveillance tests were successfully completed. A plant trip occurred on March 17 (NUREG-0020) a few weeks prior to the discovery of the failure of the room cooler fans to start. The length of time in which the room cooler fans were inoperable is not known. It is assumed in this analysis that the room cooler fans were inoperable at the time of the plant trip. NUREG/CR 4550 Vol. 4, Rev. 1, Part 1 *Analysis of Core Damage Frequency: Peach Bottom, Unit 2 Internal Events* assumes that RHR will fail within 1 0 hours if room cooling fails.

Since NUREG/CR 4550 assumed that RHR would fail within 10 hours given a loss of room cooling, LPCI and LPCS were assumed to be unaffected by the loss or room cooling and one train of RHR and RHR(SPCOOL) was set to failed. It was assumed unlikely that the inadvertent de-energization of the control circuits would have occurred on other LPCS and RHR room cooler fans. This event was modeled as a transient with one train of RHR and RHR (SPCOOL) unavailable, with no increase in the failure probability for other RHR trains. The estimated conditional core damage probability for this event is $3.3\times10^{-6}$. The dominant sequence involved a successful reactor shutdown, failure of the power conversion system, successful main feedwater, and failure of RHR.