REPORTABLE DEFICIENCY AND CORRECTIVE ACTION
ECCS PUMP ROOM FLOODING DUE TO
FUEL POOL BOIL-OFF

Description of the Deficiency

During a LOCA or after a safe shutdown earthquake (SSE) the spent fuel pool cooling system is assumed to fail because it is not designed to Seismic Category 1 standards, nor is it Class 1E. Eventually, the fuel pool will begin to boil, with the vapor condensing on walls and floors. This condensate (maximum of 18 gpm) will end up in the floor drain system. All the sumps in the reactor building floor drain system are located in the Emergency Core Cooling System (ECCS) pump rooms. Because the reactor building sump pump system is not Seismic Category 1 nor Class 1E, it cannot be counted on to pump out the ECCS pump rooms. Even though Class 1E instrumentation is available within each ECCS pump room to tell the operator that the room is flooding, there is no way to stop the source of flooding (fuel pool boiling), to isolate the ECCS pump rooms from the condensate, and to pump out the ECCS pump rooms post-LOCA or post-SSE. Eventually, the ECCS pump rooms will flood, shorting out ECCS pumps.

Safety Implications

Loss of any ECCS pump, post-LOCA, due to flooding from fuel pool boiloff, could reduce the number of core cooling pumps below the minimum required to keep the core covered and to keep the suppression pool cool.

Corrective Action Taken

WNP-2 is currently evaluating the feasibility of upgrading the spent fuel pool cooling system to Seismic Category 1, Class 1E requirements to eliminate the source of flooding, or qualifying the reactor building floor drain sump system to Seismic Category 1, Class 1E requirements so that WNP-2 can take credit for this system to keep the ECCS pump rooms from flooding. A recommendation on this evaluation is expected by the end of October, 1979.

JAO/10-8-79

7910230484