ENCLOSURE

SAFETY EVALUATION GRAND GULF UNIT 1 -

DRYWELL VACUUM BREAKER POSITION SWITCHES

In its letter dated May 24, 1985, the Mississippi Power and Light Company provided its position regarding the environmental qualification of the drywell purge and post-LOCA vacuum breaker position switches and described the design of position switches to be installed on vacuum breaker check valves. Grand Gulf Unit 1 License Condition 2.C.(35) requires installation of these position switches prior to startup following the first refueling outage.

The GGNS Post-LOCA Vacuum Relief System and the Drywell Purge Systems consist of three 10" lines that penetrate the drywell. Each line contains at least one vacuum breaker check valve in series with a motor operated isolation valve (MOV). The MOVs, which are equipped with qualified position switches are normally closed during normal operation and during the initial portion of an accident thereby insuring drywell isolation. The licensee stated that since the concern for having position indication on the check valves of the vacuum relief system is to identify a possible bypass leakage path, the qualified position indication on the MOV would accomplish the same function. The licensee further stated that a position switch will be installed on the check valves to provide closure indication of the vacuum breaker during normal plant operation, but not for accident conditions.

Appendix A to SRP 6.2.1.1.C requires in part that a redundant position indicator should be placed on all vacuum breakers with redundant indication and alarm in the control room. In this regard, the staff notes that the qualified position indicators on the MOV and the limited qualification of the position indicator to be installed on the check valves would not literally meet this redundancy requirement.

The MOVs may be opened manually; however, they would automatically open only when the drywell to containment pressure differential is 1 psid and decreasing or if the drywell pressure is less than the containment pressure by 1 psi and the drywell pressure was at one time greater than the containment pressure by 1 psi. Based on this valve logic, this MOV becomes a redundant barrier throughout the transient when pool bypass is a concern. As a result, the check valve can be considered as partially shielded from the LOCA environment during this time period. Therefore, the staff concludes that the main function of the check valve position indicator is to detect valve position during plant operation.

Based on its review, the staff concludes that the proposal made by the licensee (to install a single proximity type position switch on each of the six vacuum breaker check valves with separate position indication and a common annunciator alarm in the control room, along with the position indicators on the MOVs) is acceptable.