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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

July 22, 1980

MEMORANDUM FOR: Norman C. Moseley, Director
Division of Reactor Operations Inspection, IE

FROM: Darrell G. Eisenhut, Director
Division of Licensing, NRR

SUBJECT: "BACK-UP SCRAM VALVES ON GE BWRs"

Philadelphia Electric Company (licensee for Peach Bottom Unit Nos. 2 and 3) reported .. July 21, 1980 a deficiency on the installed solenoids of the backup scram valves at Peach Bottom. We have evaluated the safety significance of this deficiency and determined that it has marginal safety significance as discussed below:

1) The operating licensing basis for the scram system did not require the dc powered back-up scram solenoids. The licensee did not take credit for these valves in any design basis accidents because:

   a. The back-up scram valve system does not satisfy single failure criteria. Two divisions are required to actuate the valves in a two out of two logic. The back-up scram valves were reviewed only to the extent of confirming that they would not interfere with the "primary" scram system.

   b. The valve system has not been subject to Appendix B (QA) nor Technical Specification operability or surveillance requirements.

   c. The bleeding of control air from a large number of hydraulic control units (e.g., 185) through a single 1/2" pipe results in scram times longer than those assumed in the plant safety analyses.

   d. While the back-up scram valves do offer some potential back-up benefit in the rare case of gross multiple pneumatic failures, they are not considered "safety related" in that the remainder of the scram system satisfies all NRC licensing requirements.

2) We have assessed the impact of inoperability of these back-up scram valves on ATWS considerations. In the event of failure of multiple number of scram valves in the hydraulic control units, a slower insertion of control rods can be accomplished by the operation of the back-up scram

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valves. This slow insertion of control rods in conjunction with a recirculation pump trip would reduce the severity of the consequences from an ATWS event. However, on the basis of our evaluation of the GE RPS reliability assessment, we have concluded that the potential inoperability of the back-up scram valves in the current BWR scram systems would not significantly impact the risk from ATWS events.

In view of the above, we believe no immediate licensing or enforcement action is required for Peach Bottom Unit 3. However, in view of our growing concern about the reliability of BWR scram systems brought on by several recent events, we believe the identified deficiency should be corrected as soon as practicable. In this regard, we would expect all licensees with the same deficiency would propose a date by which the required modifications would be accomplished. Unless a licensee proposed an extended schedule (for example, longer than 60 days) we would not consider it necessary to take any specific actions. However, we will consider the need to require all licensees to perform periodic testing of these valves.

for Darrell G. Eisenhut, Director
Division of Licensing
Office of Nuclear Reactor Regulation