



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
SUPPORTING AMENDMENT NO. 63 TO FACILITY OPERATING LICENSE NO. DPR-57

GEORGIA POWER COMPANY

OGLETHORPE ELECTRIC MEMBERSHIP CORPORATION

MUNICIPAL ELECTRIC ASSOCIATION OF GEORGIA

CITY OF DALTON, GEORGIA

EDWIN I. HATCH NUCLEAR PLANT UNIT NO. 1

DOCKET NO. 50-321

Introduction

By letter dated January 19, 1979, Georgia Power Company (the licensee) requested an amendment to the Technical Specifications appended to Operating License No. DPR-57 for the Edwin I. Hatch Nuclear Plant Unit No. 1. The proposed amendment would delete the requirement for trip of the High Pressure Coolant Injection (HPCI) and Reactor Core Isolated Cooling (RCIC) steam line isolation valves upon a high differential temperature (dT) condition between the inlet and outlet ventilation air of the HPCI and RCIC pump rooms.

Discussion

The HPCI and RCIC steam driven pumps are part of the Emergency Core Cooling System (ECCS) and are used to provide water to the core under various conditions. The steam lines which provide the turbine steam contain two normally open containment isolation valves to minimize reactor coolant loss and radioactive materials release from the nuclear steam process barrier in the event of a gross leak or rupture of the line.

The HPCI and RCIC steam line isolation function is presently initiated by the following conditions in their respective equipment rooms or piping:

- a. High room ambient temperature (175°F)
- b. Inlet/Outlet room ventilation differential temperature (50°F)
- c. High steam flow (300%)
- d. Low steam line pressure (HPCI 100 psig; RCIC 50 psig)

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The isolation on inlet/outlet ventilation dT (item b above) has caused numerous spurious steam line isolations. The isolations are most likely to happen during periods of cold weather when the inlet temperature drops and a resultant increase in dT between ventilation inlet and outlet occurs. As a result of these isolations of the HPCI and RCIC steam lines, the reliability of these important ECCS subsystems is reduced.

#### Evaluation

We have reviewed the request for the Technical Specification change to delete the isolation capability of the high differential temperature monitors in the HPCI and RCIC pump rooms, and concur with the licensee that these spurious trips result in reduction of reliability of these systems. Deletion of these dT trips has previously been approved by the staff(1).

Our review included an evaluation of the isolation signals which remain following the proposed deletion. On the basis of this review, we have concluded that the remaining isolation signals are sufficiently redundant and diverse by themselves to cause isolation of the HPCI or RCIC steam line for a spectrum of potential breaks. We view the HPCI and RCIC pump reliability to be a more important matter in terms of overall plant safety than the retention of the high differential temperature monitor which provides only marginal added steam break protection, considering the varied other protection remaining. In addition, the use of room differential temperature to indicate steam leakage can itself be unreliable and misleading, since the circuit is indirectly dependent on ventilation flow, which is not monitored by this instrumentation. Since room differential air temperature is inversely proportional to ventilation flow, a reduction in flow by one-half due to, for example, a shutdown of several ventilation fans, could reasonably be expected to approximately double the room differential temperature, which could result in a spurious isolation. The operation (or isolation) of these systems should not be connected with operation of none-safety-related equipment or processes (e.g., room ventilation flow).

Small steam leaks occasionally occur in, for example, valve packing glands, flanges, or fittings. Such small leaks would not be expected to trigger the closure of the isolation valves since the isolation monitors are not designed for this level of sensitivity. Automatic isolation valve closure for small steam leaks would not be desirable, since the HPCI and RCIC should remain available to perform its safety function in the presence of small leaks which have no significant consequences.

Based on the foregoing, we conclude that the elimination of the HPCI and RCIC room temperature differential isolation signals is acceptable.

Environmental Consideration

We have determined that the amendment does not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendment involves an action which is insignificant from the standpoint of environmental impact and pursuant to 10 CFR Section 51.5(d)(4) that an environmental impact statement, or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of the amendment.

Conclusion

We have concluded, based on the considerations discussed above, that: (1) because the amendment does not involve a significant increase in the probability or consequences of accidents previously considered and does not involve a significant decrease in a safety margin, the amendment does not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Dated: February 9, 1979

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Safety Evaluation by NRR supporting Amendment No. 5 to DPR-71 and Amendment No. 27 to DPR-62, Dockets Nos. 50-325 and 50-324.