



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 67 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

I. INTRODUCTION

By letter dated May 14, 1979, Georgia Power Company (licensee) proposed a change to the Technical Specifications appended to Operating License No. DPR-57 for the Edwin I. Hatch Nuclear Plant Unit No. 1. The amendment would revise the Turbine Control Valve Fast Closure setpoint from ≥ 1000 psig to ≥ 600 psig on low Electro-Hydraulic Control oil pressure.

II. BACKGROUND

Fast closure of the turbine control valves is initiated to prevent overspeed of the turbine in the event of a load rejection which is greater than the bypass capacity of the facility. Such a fast closure, if otherwise unmitigated by the Reactor Protection System (RPS), would result in a nuclear system pressure increase and a shutdown of the reactor upon reaching either the high-pressure scram setpoint or high-flux scram setpoint. To mitigate the consequences this increase in reactor pressure and accompanying increase in core reactivity due to a reduction in core void fraction, a reactor scram is initiated upon sensing the start of control valve fast closure.

This reactor scram is required by Technical Specifications to insure that thermal limits of the core are not exceeded. The analyses which support the Technical Specification limit is a calculation of the reduction in Minimum Critical Power Ratio from the operating value that would result should a load rejection occur. The assumption used in this analysis (relevant to control valve closure) is that reactor scram is initiated at the start of control valve fast closure.

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It is noted that the nuclear system high-pressure scram in conjunction with the pressure relief system is more than adequate to preclude over pressuring the reactor system even if a turbine control valve closure were to occur. Thus, the reactor scram due to fast closure of the control valves is not required to ensure integrity of the reactor coolant system. Therefore, the evaluation of the acceptability of the licensee's request is limited to ensuring that the core thermal limits are not exceeded.

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III. EVALUATION

The licensee proposed to decrease the Control Valve Fast Closure setpoint from ≥ 1000 psig to ≥ 600 psig in order to decrease the probability of inadvertent reactor scrams due to normal EHC oil pressure fluctuations. The elimination of inadvertent scrams would decrease unwarranted thermal cycles on the reactor vessel. The licensee's proposal is identical to that approved for Hatch Unit 2. We have reviewed the licensee's submittal and agree that a reduced setpoint would be acceptable if the conservative assumptions used to ensure that the core thermal limits are not exceeded remain valid, i.e., a reactor scram is initiated upon sensing the start of control valve fast closure.

The EHC system at Hatch is similar to other BWRs. Fast closure of the turbine control valves is initiated when the EHC pressure drops below that pressure required to maintain the disk dump valve closed. At both Hatch 1 and 2, the operating range for opening the disk dump valve is 480-500 psig. A pressure switch senses the pressure of the EHC oil, which causes the disk dump valve to operate. Thus, the proposed trip setting of ≥ 600 psig for the pressure switch is higher than that pressure which would cause the disc dump valve to operate and is, therefore, at least as conservative as those conditions assumed in the analysis.

In the course of staff review, we considered instrumentation accuracy and RPS response times. The current Technical Specifications include the provisions that the RPS response time will not exceed 50 msec and the scram trip signal for turbine control valve fast closure will occur within 30 msec of the start of valve closure i.e., operation of the disk dump valve. Accordingly, instrumentation accuracy and delay times are already accounted for in the specifications and are unaffected by the proposed change. It is noted that the span of adjustment for the pressure switch is 250 psi to 1600 psi.

In view of the above, we find that the proposed change is acceptable.

IV. ENVIRONMENTAL CONSIDERATIONS

We have determined that the amendment does not authorize a change in effluent types or total amounts not 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 §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 this amendment.

V. 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 the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Dated: July 17, 1979

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