



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
SUPPORTING AMENDMENT NO. 41 TO FACILITY OPERATING LICENSE NO. NPF-5

GEORGIA POWER COMPANY
OGLETHORPE POWER CORPORATION
MUNICIPAL ELECTRIC AUTHORITY OF GEORGIA
CITY OF DALTON, GEORGIA

EDWIN I. HATCH NUCLEAR PLANT, UNIT NO. 2

DOCKET NO. 50-366

Introduction

By letter dated August 27, 1984, Georgia Power Company (the licensee) requested a change to Edwin I. Hatch Nuclear Plant, Unit No. 2, Technical Specification (TS) 3.8.2.6 dealing with setpoints for overcurrent protective devices for electrical penetrations installed in the primary containment. Due to equipment changes, the prescribed setpoints are no longer appropriate for four cases shown in TS Table 3.8.2.6-1.

For two penetrations, the new equipment should result in increased current setpoint values. These are penetrations serving the High Pressure Coolant Injection (HPCI) steam line inboard isolation valve motor (current increased from 30 to 35 amps) and the main steam line drain valve motor (current increased from 7 to 19 amps). Two penetrations now should have reduced current setpoint values. These are penetrations serving the "A" and "B" recirculation loop pump discharge valve motors (215 amps and 185 amps, respectively, to 135 amps each).

TS 3.8.2.6 allows the plant to startup and continue operation when the trip setpoints are not met, provided that the associated equipment is deenergized. The plant was completing a refueling outage and commencing a plant startup at the time of this request. While a plant startup with these loads deenergized is acceptable (and was in fact subsequently accomplished), this course of action has its drawbacks. Following a transient which results in Main Steam Isolation Valve (MSIV) closure, it would not be practical to reestablish the main condenser as a heat sink. This is because the now-closed main steam line drain valves are normally opened to equalize around the MSIVs prior to re-opening the MSIVs. Without the condenser, primary system heat would have to be released to the suppression pool via the safety-relief valves. This could be an undesirable challenge to an important safety system as well as a thermal cycle of the reactor vessel and associated equipment. For these reasons, the licensee requested expedited action on the request.

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The change of the setpoints for the HPCI isolation valve penetration and for the main steam line drain valve electrical penetrations can be accomplished with the plant on-line, following NRC approval. The setpoints for the recirculation pump discharge valve electric penetrations would be adjusted during the next plant shutdown; the licensee requested, therefore, that that portion of the change be made effective at that time.

In response to questions, the licensee provided supplementary technical information in a letter dated September 20, 1984.

Evaluation

Electrical overload protection for containment penetrations is essential to protect the integrity of the reactor containment structure. Technical guidance is provided in NRC Regulatory Guide 1.63, "Electric Penetration Assemblies in Containment Structures for Water-Cooled Nuclear Power Plants," dated October 1973. This guide basically endorses IEEE Standard 317-1972 as an acceptable method of complying with the regulations. The licensee committed to conform to Regulatory Guide 1.63, as stated on page 8.3-21 of the Hatch Unit 2 Updated Final Safety Analysis Report. A major feature of these documents is to specify redundant (single-failure proof) overload protection at current-time values below the damage threshold for the penetration assembly.

The licensee has stated that the penetration assemblies involved are General Electric 100-Series penetrations using #8 wire size and are capable of withstanding the following current conditions:

1. Steady state current rating - 50 amps
2. Startup current rating (30 seconds) - 350 amps
3. Short circuit current rating (8 cycles or 0.133 seconds) - 3300 amps RMS asymmetrical or 2350 amps symmetrical

The circuit breakers involved are Westinghouse Mark 75 HFB type molded case magnetic only (providing short circuit protection only) breakers. Reviews of manufacturer's specification sheets and characteristic trip curves for this breaker indicate an interrupt time of approximately 0.016 seconds (1 cycle), which is bounded by the 8 cycle short circuit current duration potential of the penetration.

Backup protection assuming single failures of these breakers, as required by Regulatory Guide 1.63, is provided by fuses located in the motor control centers.

The original values shown in TS Table 3.8.2.6-1 were based upon vendor recommendations corresponding to 160% of the locked-rotor-ampereage (LRA) of the load device (MOV). The proposed new setpoints are based upon the same calculation for the new MOVs. This recommendation is not related to nuclear plant safety. However, setpoints below 160% LRA could lead to spurious and undesirable tripping of safety-related loads.

We have determined that to protect the integrity of the penetration and to comply with Regulatory Guide 1.63, any setting between the specified 30-second limit (i.e., 350 amps) and the 160% LRA value is sufficient and acceptable. This is based in part upon the large margin afforded by the breaker which has a fast response time compared to 30 seconds. We conclude that since the values proposed by the licensee are within the 30-second values, they also are acceptable.

Exigent Circumstances

The exigent circumstances result from the licensee's late recognition that the Technical Specification change was necessary in order to provide the new overcurrent protection setpoints. While the plant can be started up and operated without this change, extended operation without this change is undesirable because it requires deenergizing the main steam line drain valve motor.

Final No Significant Hazards Consideration Determination

On August 31, 1984, a press release was sent to the local media, and during the week of September 17, 1984, a legal ad was published in several local newspapers by the Commission seeking public comment on its proposed determination that this amendment involves no significant hazards consideration. No public comments were received. The State of Georgia was consulted on this matter and had no comments on the proposed determination.

The Commission's regulations in 10 CFR 50.92 state that the Commission may make a final determination that a license amendment involves no significant hazards consideration if operation of the facility in accordance with the amendment would not:

- (1) Involve a significant increase in the probability or consequences of an accident previously evaluated; or
- (2) Create the possibility of a new or different kind of accident from any accident previously evaluated; or
- (3) Involve a significant reduction in a margin of safety.

The requested change is a minor change in the overcurrent protection setpoints for circuit breakers protecting four containment penetration electrical conductors. As noticed above in the Safety Evaluation, we have

concluded that this change is acceptable. The change does not affect the manner in which the plant is operated or the design bases for the plant. Therefore, we conclude that:

- (1) Operation of the facility in accordance with the amendment would not significantly increase the probability or consequences of an accident previously evaluated.
- (2) Operation of the facility in accordance with the amendment would not create the possibility of a new or different kind of accident from any accident previously evaluated.
- (3) Operation of the facility in accordance with the amendment would not involve a significant reduction in a margin of safety.

Accordingly, we conclude that the amendment to Facility Operating License NPF-5 revising the overcurrent protection setpoints of the circuit breakers for four motor operated valves involves no significant hazards considerations.

Environmental Considerations

The amendment involves a change in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has made a final no significant hazards consideration finding with respect to this amendment. Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

CONCLUSION

We have concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (2) 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: September 28, 1984

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