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Hatch Project



August 16, 1994

Docket No: 50-321

HL-4648

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Edwin I. Hatch Nuclear Plant - Unit 1
Request to Revise Technical Specifications
Unit 1 Diesel Generator Shutdown Requirements

Gentlemen:

In accordance with the provisions of 10 CFR 50.90, as required by 10 CFR 50.59(c)(1), Georgia Power Company (GPC) hereby proposes a one-time change to the Plant Hatch Unit 1 Technical Specifications, Appendix A to the Operating License, DPR-57.

The proposal involves the Unit 1 emergency DG operability requirements during reactor shutdown conditions.

Current Technical Specification 3.9.C requires that two DGs be operable during reactor shutdown when a core or containment cooling system is required to be operable. This amendment request proposes to revise the current requirement such that only one emergency DG is required to be aligned to its associated core or containment cooling system during a specific time of the outage.

During the time period in question, the Decay Heat Removal (DHR) system will be in service. The DHR system, which is completely independent of the existing Shutdown Cooling (SDC) system, is powered by the Baxley substation and has its own DG as a backup power supply. The proposed configuration actually provides more defense-in-depth than would strict adherence to the existing Technical Specifications. For example, a loss of one SDC suction valve would result in a complete loss of shutdown cooling to the reactor core, without DHR available. However, under the proposed configuration, a loss of the suction valve would not result in a total loss of decay heat removal to the core since DHR is available.

Furthermore, the proposed configuration of electrical and decay heat removal systems are in compliance with the existing Unit 2 and the improved Technical Specifications.

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Enclosure 1 provides a detailed description of the proposed change and the circumstances necessitating the change.

Enclosure 2 provides the bases for our determination that the proposed change does not involve a significant hazards consideration. This enclosure also provides an evaluation of the environmental assessment criteria given in 10 CFR 51.21.

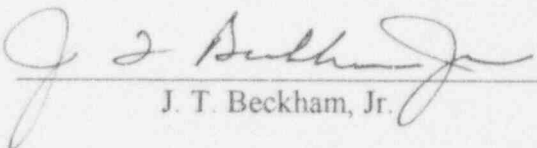
Enclosure 3 provides page change instructions for incorporating the change. The proposed Technical Specifications pages follow Enclosure 3. The markup of the proposed change is also included.

In order to support Hatch Unit 1 refueling outage activities, GPC request that the proposal be reviewed and approved prior to September 21, 1994. GPC also request that once the amendment is approved, it be issued with an immediate effective date.

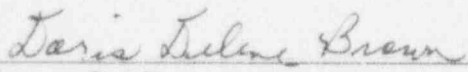
In accordance with the requirements of 10 CFR 50.91, the designated State official will be sent a copy of this letter and all applicable enclosures.

Mr. J.T. Beckham, Jr. states he is Vice President of GPC and is authorized to execute this oath on behalf of GPC, and to the best of his knowledge and belief, the facts set forth in this letter are true.

GEORGIA POWER COMPANY

BY: 
J. T. Beckham, Jr.

Sworn to and subscribed before me this 16th day of August, 1994.


Notary Public
MY COMMISSION EXPIRES NOVEMBER 3, 1997
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Enclosures: (See next page.)

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Enclosures:

- 1) Description and Bases for Requested Change
- 2) 10 CFR 50.92 Evaluation
- 3) Page Change Instructions

cc: Georgia Power Company

Mr. H. L. Sumner, Nuclear Plant General Manager
NORMS

U.S. Nuclear Regulatory Commission, Washington, D.C.

Mr. K. Jabbour, Licensing Project Manager - Hatch

U.S. Nuclear Regulatory Commission, Region II

Mr. S. D. Ebnetter, Regional Administrator

Mr. B. L. Holbrook, Senior Resident Inspector - Hatch

State of Georgia

Mr. J. D. Tanner, Commissioner - Department of Natural Resources

Enclosure 1

Edwin I. Hatch Nuclear Plant Request to Revise Technical Specifications to Revise Unit 1 Deisel Generator Shutdown Requirement

Description and Bases for Requested Change

Because of plant conditions that will be encountered during the upcoming Plant Hatch Fall 1994 Unit 1 maintenance and refueling outage, Georgia Power Company (GPC) requests a change to Unit 1 Technical Specification 3.9.C, which requires two diesel generators (DGs) to be operable when the reactor is shut down and fuel is in the vessel. Specific plant conditions on days 2 through 9 of the scheduled outage are expected to be as follows:

1. By day 2 of the outage, the nonsafety-related decay heat removal (DHR) system (G71) will be placed in service, providing cooling to the Unit 1 spent fuel pool. Both RHR loops will be available for shutdown cooling with loop A in service.
2. On day 3, DG 1A will be removed from service for normal maintenance and will remain out of service until approximately day 10 of the outage.
3. On day 5, the gates between the reactor pressure vessel (RPV) cavity and the fuel pool will be removed, and RHR loop A will be taken out of shutdown cooling. Since loop A (i.e., RHR pumps A and C) will remain filled and vented, it will be operable for shutdown cooling. The DHR system will be providing decay heat removal for the core and the spent fuel pool. As soon as the RPV head is off, the refueling cavity is flooded and the gates between the RPV and the fuel pool are removed, local leak rate testing (LLRT) will commence on RHR loop B, rendering it unavailable for shutdown cooling. The LLRT will require approximately 44 hours to complete.
4. On approximately day 6 or 7, RHR loop B will be operable for shutdown cooling, but not placed in service, and the LLRT for RHR loop A will begin, thereby removing it from service. The DHR system will continue providing core cooling.

For the above plant conditions, the Unit 1 Technical Specifications requirements for shutdown cooling and DGs are as follows:

1. Specification 3.5.b.1.b states that two RHR pumps must be available for shutdown cooling. On outage days 5 and 6, RHR loop A will fulfill this requirement; while on days 7, 8, and 9, RHR loop B will fulfill the requirement.

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Description and Bases for Requested Change

2. Specification 3.9.C.3 states that two DGs must be operable when a core or containment cooling system is required to be operable. On outage days 5 and 6, DGs 1B and 1C will be operable, and DG 1A will be out of service. With two operable diesels, Specification 3.9.C.3 is seemingly met. However, the requirement implies that the operable diesels must be capable of supplying the required core and/or containment cooling systems. While RHR loop A is serving as the required shutdown cooling system, DG 1A, which provides emergency power to RHR pump 1A, is out of service. Therefore, in this configuration, Unit 1 would be out of compliance with the intent of Specification 3.9.C.3.

Georgia Power Company is proposing a one-time change to the Unit 1 Technical Specifications to allow shutdown operations with only one of the two required DGs, per Specification 3.9.C, aligned to its corresponding core or containment cooling system. This will only be in effect during the period when the cavity is flooded, the fuel pool gates are removed, and RHR LLRTs and the 1A DG maintenance are occurring simultaneously.

Justification for Change

Georgia Power Company is proposing a change to Unit 1 Technical Specification 3.9.C.3. GPC believes the proposed changes are technically acceptable and will not jeopardize plant safety based on the following discussion:

When RHR loop A is serving as the required shutdown cooling system, DG 1C will be operable, thus emergency power is available to RHR pump 1C. With DG 1A out of service, emergency power to RHR pump 1A is not available. However, the DHR system, which is independent of the existing RHR shutdown cooling and fuel pool cooling systems, will be available and in service, providing core cooling during outage days 5 and 6. In fact, the DHR system will be capable of providing decay heat removal from the fuel pool and reactor cavity as early as day 3 of the refueling outage.

The DHR system is designed with a primary loop and a secondary loop. The primary loop consists of two pumps, two heat exchangers, and a strainer. These components are installed one elevation below the refueling floor (el 203 ft) in the reactor building. On the refueling floor, pipe spools allow the system to be aligned to either the Unit 1 or Unit 2 spent fuel pool, with suction from and discharge to the pools. The secondary loop consists of two cooling towers and two pumps located on the railroad airlock roof. Power is supplied from the Baxley, Georgia, substation. Furthermore, the DHR system has a dedicated nonsafety-related diesel to supply backup power if necessary.

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Description and Bases for Requested Change

During the Spring 1994 Unit 2 outage, the DHR system successfully demonstrated the ability to simultaneously provide adequate decay heat removal for the spent fuel pool and the reactor, with no other decay heat removal system, other than reactor water cleanup, in service. (Reference NRC Inspection Report 94-08 dated May 12, 1994.)

Under the proposed configuration, a loss of offsite power (LOSP), coupled with a failure of DG 1C, will render the RHR shutdown cooling system inoperable. However, the DHR system will remain available, with power being supplied from either its normal supply or the backup diesel. Under the configuration required by the Technical Specifications, an LOSP, coupled with one diesel failure, will not render shutdown cooling unavailable. However, closure of one RHR shutdown cooling suction valve will render the RHR shutdown cooling system unavailable. If DHR were not available, a complete loss of decay heat removal capabilities would occur.

Since the DHR system is completely independent of RHR shutdown cooling, the proposed decay heat removal scheme for the Unit 1 outage is neither susceptible to the single failure of a DG during an LOSP, nor to the single failure of a shutdown cooling suction path. Therefore, GPC believes the proposed decay heat removal alignment for days 5 and 6 of the upcoming Unit 1 refueling outage does not represent a reduction in safety and will provide more effective redundancy and in-depth defense than will strict adherence to the current Technical Specification 3.9.C.3 without the DHR system in service. Furthermore, the current Unit 2 Technical Specifications allow shutdown operations with the proposed shutdown cooling and DG maintenance configuration scheduled for the Unit 1 outage without reliance on the DHR system. (Reference Technical Specifications 3.8.1.2 and 3.9.12.) In addition, Unit 1 Improved Technical Specifications 3.8.2 and 3.9.7, submitted in February 1994, permit operations in the manner proposed in this submittal. Note that operation in the proposed manner requires deliberate entry into LCO 3.9.7, ACTION A. However, this is implicitly allowed by the new Specifications.

The request is important to the outage schedule because GPC plans to replace one RHR testable check valve, 1E11-F050A or B, depending on the results of the LLRTs. Replacement will take approximately 13 days to complete. However, due to the complexities and difficulties associated with working on this valve, replacement may require additional time. It is, therefore, important to begin work as early as possible in the outage to avoid critical path impact. Although difficult to quantify a cost savings, GPC estimates that each additional outage day will cost approximately \$128,000 in lost generation alone.

Enclosure 2

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10 CFR 50.92 Evaluation and Environmental Assessment

In 10 CFR 50.92(c), the NRC provides the following standards to be used in determining the existence of a significant hazards consideration:

A proposed amendment to an operating license for a facility licensed under 50.21(b) or 50.22 or for a testing facility involves no significant hazards consideration, if operation of the facility, in accordance with the proposed 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 the margin of safety.

Georgia Power Company has reviewed the proposed license amendment request and determined its adoption does not involve a significant hazards consideration based on the following discussion.

Basis for no significant hazards consideration determination

This proposed change does not involve a significant hazards consideration because it does not:

1. Involve a significant increase in the probability or consequences of an accident previously evaluated.

Although the proposed change slightly increases the probability of a loss of RHR shutdown cooling, the probability of the total loss of decay heat removal for the core is not increased. Upon an LOSP, coupled with the failure of one DG, RHR shutdown cooling (with two RHR pumps and their respective DGs available) will still be available. One diesel out of service, as will be the case on outage days 5 and 6, an LOSP, coupled with a diesel failure, will render RHR shutdown cooling unavailable. However, on outage days 5 and 6, the DHR system will be in service, providing decay heat removal for the core. If the DHR system is also affected by the LOSP, its backup diesel can be manually placed into service. Furthermore, the RHR shutdown cooling system is susceptible to a single failure on loss of suction path (inadvertent closure of either valve E11-F008 or F009 even without an LOSP).

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However, on outage days 5 and 6, the RHR and DHR systems will be available for decay heat removal; thus, the unit will not be susceptible to either single failure with respect to core decay heat removal.

This proposal does not involve any changes to the secondary containment, secondary containment ventilation systems, the standby gas treatment system or any other radiological release control systems. Therefore, the consequences of a loss of decay heat removal event are not increased.

This evolution is being performed in the refueling mode of operation, outside the realm of FSAR assumed accidents, except for a refueling accident. Since this proposal does not involve changes to any fuel handling mechanisms, the probability of a refueling accident is not increased. Furthermore, this proposal does not involve any changes to the operation or maintenance of any safety-related component designed to prevent or mitigate the consequences of previously analyzed events.

Therefore, based on this discussion, the proposed Technical Specifications change does not increase the probability or consequences of any previously analyzed accident or transient.

2. Create the possibility of a new or different event from any previously analyzed.

This proposed change does not introduce any new modes of operation. All affected systems; i.e., the RHR system, DGs, and the DHR system, will be operated within their design specifications. Although the nonsafety-related DHR is a relatively new system, it was installed, successfully tested, and used for decay heat removal during the Spring 1994 Unit 2 outage. Therefore, no failure modes that have not been previously considered are introduced by this proposed change.

3. Significantly reduce the margin of safety.

The proposed decay heat removal configuration, which will be in use during outage days 5 and 6, uses the DHR system as the primary decay heat removal mechanism, with RHR loop A as a backup. Although the DHR system is not designed as a safety-related system, it is conservatively designed with sufficient heat removal capacity and redundancy to provide full heat removal capacity in a variety of conditions. In fact, testing during the Unit 2 Spring 1994 outage showed that even early in the outage (approximately day 3) the DHR system is fully capable of handling the decay

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heat load of the reactor and the spent fuel pool. Additionally, even though the DHR system takes a suction from, and discharges to, the spent fuel pool, adequate natural circulation is firmly established between the pool and the reactor vessel such that adequate decay heat removal is taking place for both the pool and the reactor. This was demonstrated via a special test performed during the Spring Unit 2 refueling outage. In addition, duplicates of major components are provided so that loss of any one component does not result in loss of system function. Therefore, as far as decay heat removal capability is concerned, the margin of safety is not reduced.

As discussed previously, if an LOSP occurs, failure of DG 1C will result in a total loss of RHR shutdown cooling capacity, since RHR loop 1B will be out of service for LLRT. However, a loss of decay heat removal will not occur, since the DHR system is in service and is supplied power from the Baxley, Georgia, substation. However, if the Baxley power supply should fail, the DHR system has its own backup diesel that can be placed in service manually within a 4-hour period. Therefore, the margin of safety associated with an LOSP is not reduced as a result of this proposal.

Furthermore, the configuration of decay heat removal systems on days 5 and 6 is in compliance with the existing Unit 2 Specifications, which only require one RHR pump and one DG in Condition 5 (Specifications 3.9.12 and 3.8.1.2, respectively). Thus, the margin of safety, with respect to the existing Unit 2 Specifications, is not reduced.

Environmental Assessment

This proposed Technical Specifications change has been evaluated against the criteria for and identification of licensing and regulatory actions requiring environmental assessment in accordance with 10 CFR 51.21. GPC has determined that the proposed changes meet the criteria for categorical exclusion as provided for under 10 CFR 51.22(c)(9), based on the following:

1. The proposed change involves no significant hazards consideration. (Refer to the Significant Hazards Consideration section of this enclosure.)
2. There is no significant change in the types or significant increase in the amounts of any effluents that may be released offsite. The proposed changes do not affect the generation of any radioactive effluents nor do they affect any of the permitted release paths.

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3. There is no significant increase in individual or cumulative occupational radiation exposure.

Accordingly, the proposed change meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Based on the above discussion and pursuant to 10 CFR 51.22(b), no environmental assessment or environmental impact statement need be prepared in connection with issuance of an amendment to the Unit 1 Technical Specifications incorporating the proposed changes of this request.