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Georgia Power

the southern electric system

HL-2355
003813

July 30, 1992

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

PLANT HATCH - UNIT 1
NRC DOCKET 50-321
OPERATING LICENSES DPR-57
REQUEST TO REVISE TECHNICAL SPECIFICATIONS:
TEMPORARY EXTENSION OF DIESEL GENERATOR LCO

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 temporary change to the Plant Hatch Unit 1 Technical Specifications (TS), Appendix A to Operating License DPR-57.

During the upcoming refueling outage for Plant Hatch Unit 1, currently scheduled to begin in September of 1992, preventative maintenance and modifications to the 1B emergency diesel generator (DG) are planned which are expected to take approximately 14 days (including 2 days for contingencies). During this time, Plant Hatch Unit 1 is expected to be operating at full power. The anticipated 14 day outage for DG 1B exceeds the allowable outage time (AOT) of 7 days specified in the Unit 1 TS. GPC is therefore requesting the NRC to temporarily revise this AOT to 14 days for the one time only performance of this work on the 1B DG.

In addition, GPC is requesting a permanent revision to DG surveillance requirements 4.9.B.1 and 4.9.B.2 because they were made excessively restrictive by an administrative error implemented by a previous amendment.

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

Enclosure 2 details the basis for our determination the proposed changes do not involve a significant hazards consideration.

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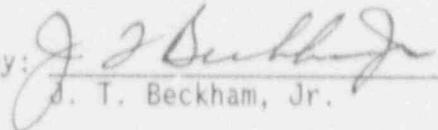
Enclosure 3 provides page change instructions for incorporating the proposed changes. Following Enclosure 3 are the proposed TS pages and the associated markups of the existing pages.

To allow time for procedure revisions and orderly incorporation into copies of the TS, GPC requests the proposed amendment, once approved by the NRC, be issued with an effective date to be no later than 60 days from the date of issuance of the amendment.

In accordance with the requirements of 10 CFR 50.91, a copy of this letter and all applicable enclosures will be sent to the designated state official of the Environmental Protection Division of the Georgia Department of Natural Resources.

Mr. J. T. Beckham, Jr. states he is duly authorized to execute this oath on behalf of Georgia Power Company, 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 30th day of July 1992.


Notary Public

My Commission Expires Aug. 8, 1995

MCM/cr

Enclosures

cc: (See next page.)

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cc: Georgia Power Company

Mr. H. L. Sumner, General Manager - Nuclear Plant
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. L. D. Wert, Senior Resident Inspector - Hatch

State of Georgia

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

ENCLOSURE 1

PLANT HATCH - UNIT 1
NRC DOCKET 50-321
OPERATING LICENSE DPR-57
REQUEST TO REVISE TECHNICAL SPECIFICATIONS:
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BASIS FOR CHANGE REQUEST

PROPOSED CHANGE 1:

During the Fall 1992 refueling outage for Plant Hatch Unit 2, GPC plans to perform preventative maintenance and modifications to emergency diesel generator (DG) 1B for the purpose of increasing its reliability and, in the future, upgrading its rated capacity. DG 1B serves as the "swing" diesel in that it is capable of supplying emergency power to either Unit 1 or 2. During the planned work, Hatch Unit 1 is expected to be in power operation. Per Unit 1 Specifications 3.5.G and 3.9.B.2, one DG may be inoperable for up to 7 days whenever the reactor is in the Start & Hot Standby or Run Mode and the reactor water temperature is greater than 212°F. The planned work on DG 1B is expected to take approximately 12 days to complete. Therefore, in order to account for possible contingencies, GPC is requesting the allowable outage time of 7 days be extended to 14 days for performance of this maintenance and modification work. This extension will be used only once and only for this purpose.

BASIS FOR PROPOSED CHANGE 1:

The work planned for the 1B DG involves replacement of internal components including cylinder liners, o-rings and pistons. The o-ring replacement was recommended by the manufacturer due to aging of the o-rings and the increased reliability of a new o-ring material. Since the o-rings must be installed in the cylinder liners by the manufacturer, replacement of the o-rings requires replacement of the cylinder liners.

GPC is also considering a future modification to DG 1B to increase its electrical capacity. This modification involves replacement of external and internal components including the pistons. Since the engine will already be disassembled for the o-ring replacement, GPC plans to replace the pistons at this time. Then, if the decision is made to complete the power upgrade modification, it can be done without disassembling the engine. The work external to the engine may take greater than 7 days. If another temporary Technical Specification revision is necessary for this work, a second request will be submitted when all of the details are finalized. This work is also expected to be performed on the other two Unit 1 DGs at some time in the future. Since DG 1B is the only DG capable of serving both units, performance of this work on the other two Unit 1 DGs will have no regulatory impact.

ENCLOSURE 1 (Continued)

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Following is a summary schedule showing the major tasks involved with performance of this maintenance and modification work. This schedule assumes work continuing for 24 hours per day.

* Tag out DG 1B making it inoperable	1 day
* Perform maintenance/modification work	7 days
* Restore tagout of DG 1B	1 day
* Perform required surveillance testing	3 days
* Contingency time	<u>2 days</u>
Total	14 days

During the time DG 1B is inoperable, all of the requirements specified in the Unit 1 TS for inoperability of one DG will be satisfied. These include increased electrical surveillance requirements as well as increased requirements for operability of other electrical, ECCS and containment cooling equipment. In addition to these requirements, the following compensatory actions will be taken during the time DG 1B is inoperable:

- * Non-essential work in the Plant Hatch Unit 1 switchyard will be limited.
- * The Georgia Power system operator in Atlanta will be informed of the situation and will be requested to take all possible actions to maintain the offsite power supply to Plant Hatch.
- * The Georgia Power system operator will be requested to limit work on the system which could impact Plant Hatch.
- * Per the TS increased surveillance requirements, the pressure in the diesel air start receivers must be verified at least once per 72 hours. This pressure will be verified at least once per 8 hours for the two remaining Unit 1 DGs.

The frequency of actual operability testing of the remaining Unit 1 DGs will not be increased more than is already required by the Unit 1 TS (once

ENCLOSURE 1 (Continued)

REQUEST TO REVISE TECHNICAL SPECIFICATIONS:
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BASIS FOR CHANGE REQUEST

per 72 hours) due to the excessive wear this would cause on these DGs. Additionally, operability testing of DGs requires short periods of inoperability at the beginning and end of each test.

The purpose of the DGs is to provide AC power to emergency equipment in the event of a loss of offsite power (LOSP). Analyses were performed for loss of coolant accidents (LOCAs) with various size line breaks in conjunction with various postulated single active failures (including loss of a diesel generator) and an LOSP. The limiting accident was found to be a recirculation suction line break with the failure of a diesel battery. Loss of a diesel battery results in loss of the associated DG as well as loss of control power to the associated 4160V emergency bus. Any event involving the inoperability of DG 1B as the single active failure is bounded by this limiting accident.

The Southern Electric System is highly reliable and stable. State-of-the-art computer technology is employed in the design and operation of the system. Four 230 kV lines and four 500 kV lines supply the Plant Hatch switchyard with offsite power. These factors contribute to an extremely low probability of an LOSP occurring at Plant Hatch. Probabilistic risk assessment performed as part of the Individual Plant Examination (IPE) program has resulted in quantitative probabilities of occurrence being assigned to certain events, some involving an LOSP. The probability of an LOSP by itself was determined to be 0.025 events per year. This would convert to a probability of $4.8 \text{ E-}4$ for the one week extension of the subject DG LCO. Analysis also indicates Unit 1 could be successfully brought to Cold Shutdown under LOSP conditions with only one operable DG. Therefore, in the unlikely event an LOSP did occur during the DG 1B outage, Unit 1 could be brought to Cold Shutdown even with the single failure of one of the two operable DGs.

If DG 1B is out of service, and all other DGs and low pressure ECCS systems are fully operable, the worst subsequent single failure would be the failure of either DG 1A or 1C, or their associated battery systems. Following is a listing of conceivable worst case assumptions and the postulated results of a design basis accident.

- * Prior to the event, DG 1B is out of service and all other DGs, offsite power supplies and ECCS are fully operable.
- * A DBA LOCA/LOSP occurs.

ENCLOSURE 1 (Continued)

REQUEST TO REVISE TECHNICAL SPECIFICATIONS:
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BASIS FOR CHANGE REQUEST

- * Either 1A or 1C DG or battery fails (single failure).
- * The one LPCI pump powered by the operating DG pumps into the broken recirculation line.

The resultant operable low pressure ECCS pumps are one core spray pump and one LPCI pump for a suction line break, or just one core spray pump for a discharge line break. In 1986, General Electric performed a sensitivity study for GPC using SAFER/GESTR licensing methodology, with Appendix K inputs, to analyze the results of a recirculation line break with various single failures. One of the analyses assumed a failure of a DG battery with one LPCI pump already out of service. These assumptions result in the same number and type of operable ECCS pumps as the worst case described above. The results of the analysis showed both of these accidents yielded peak clad temperatures less than 2200°F. Therefore, with DG 1B out of service, the worst credible single failure in conjunction with a design basis LOCA/LOSP will yield acceptable results.

Other analyses performed as part of the IPE program quantified frequencies for events resulting in core damage and determined the contributions to the overall core damage frequency resulting from the failures of various components. Removing DG 1B from service for the one week LCO extension increases the Unit 1 overall annual core damage frequency for 1992 by less than 8×10^{-7} .

The DGs at Plant Hatch are highly reliable. In the unlikely event an LOSP were to occur at Plant Hatch, there is a very high probability that both the 1A and 1C DGs would automatically start and tie to their respective 4160V emergency buses as designed. Last year, Plant Hatch developed a DG reliability program which implemented the requirements of NUMARC Initiative 5A along with Appendix D of NUMARC 87-00 Rev. 1. The Plant Hatch DG target reliability is .95. According to INPO and EPRI data, DG reliability for the industry has been greater than .98 since 1983. Using the INPO and EPRI reliability tracking criteria, the reliability of DGs 1A and 1C has been 100% since the inception of the tracking program (September 1989).

The proposed replacement of DG 1B internal components with new components made of superior material will increase the reliability of the engine and will result in an increase in safety in the future.

ENCLOSURE 1 (Continued)

REQUEST TO REVISE TECHNICAL SPECIFICATIONS:
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BASIS FOR CHANGE REQUEST

PROPOSED CHANGE 2:

This proposed change will correct two errors in the Plant Hatch Unit 1 DG SR specifications. These errors are administrative in nature and were included in an amendment application, dated March 31, 1986, which was approved and issued by the NRC on August 25, 1987 as part of Amendment 147 to the Plant Hatch Unit 1 TS. The original markup of Unit 1 TS Specifications 4.9.B.1 and 4.9.B.2 required performance of "Surveillance Requirement 4.9.A.2.a.1" in each specification. That change was typed and submitted as "Surveillance Requirement 4.9.A.2.a" which included both parts of that specification. This proposed change will correct these errors and make both specifications read "Surveillance Requirement 4.9.A.2.a.1".

This same proposed change was submitted as Proposed Change 3 of another amendment request dated July 17, 1992. However, this change is needed to support Proposed Change 1 of this submittal and therefore must be approved prior to the upcoming Unit 2 refueling outage which is currently scheduled to begin in September, 1992. For this reason, the proposed change is being resubmitted so that its processing can be expedited. Proposed Change 2 of this submittal supersedes Proposed Change 3 of the submittal dated July 17, 1992.

BASIS FOR PROPOSED CHANGE 2:

The purpose of the March 31, 1986 submittal was to change the TS for both units to enhance diesel generator (DG) reliability by eliminating some unnecessary and abusive testing requirements per NRC Generic Letter (GL) 84-15. The administrative errors increase required "fast cold" start testing of the DGs and are therefore contrary to the objective of GL 84-15.

Unit 1 Specification 4.9.B.1 contains required actions for the case of one inoperable offsite power source. Unit 1 Specification 4.9.B.2 contains required actions for the case of one inoperable DG. The original markups of Specifications 4.9.B.1 and 4.9.B.2 required, among other things, performance of Surveillance Requirement (SR) 4.9.A.2.a.1 which involves slowly starting, accelerating, and loading each DG. During processing of the submittal, SR 4.9.A.2.a.1 was inadvertently changed to SR 4.9.A.2.a. This had the effect of requiring performance of SR 4.9.A.2.a.2 in addition to SR 4.9.A.2.a.1. SR 4.9.A.2.a.2 involves rapidly starting, accelerating, and loading each DG. Therefore, each operable DG would have to be "slow start" tested and then "fast start" tested, all within 24 hours of entering either Specification 4.9.B.1 or 4.9.B.2.

ENCLOSURE 1 (Continued)

REQUEST TO REVISE TECHNICAL SPECIFICATIONS:
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BASIS FOR CHANGE REQUEST

On March 20, 1992, Amendment 178 to the Unit 1 TS was issued. This amendment added more DG surveillance requirements which were identified as SR 4.9.A.2.a.3 through 4.9.A.2.a.10. Therefore, the increased surveillances required by Specifications 4.9.B.1 and 4.9.B.2 include these additional eight tests. These surveillances are all either 18 month or 10 year tests which are required to be performed during shutdown. Taken literally, Specifications 4.9.B.1 and 4.9.B.2 would require shutting down Unit 1 to perform these ten surveillances any time one offsite power source or DG is inoperable. This is obviously not the intent of these specifications.

The purpose of Specifications 4.9.B.1 and 4.9.B.2 is to ensure availability of sufficient AC power sources when one of the normal or emergency AC power sources is determined to be inoperable. This is done by demonstrating operability of the remaining normal and emergency AC power sources at an increased frequency. SR 4.9.A.2.a.1 verifies each remaining DG is capable of starting and maintaining voltage and frequency for at least 60 minutes while loaded. For the purposes of this test, the DG is accelerated slowly and loaded gradually in order to minimize wear on the engine. SR 4.9.A.2.a.1 also requires verification of the pressure in both diesel air start receivers. This test is adequate to ensure operability of the DG. Any further testing, such as the fast start testing required by SR 4.9.A.2.a.2, would be redundant and would result in unnecessary wear on the engine.

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10 CFR 50.92 EVALUATION

The Commission has provided standards in 10 CFR 50.92(c) for determining whether a significant hazards consideration exists. A proposed amendment to an operating license does not involve a 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 a margin of safety.

Georgia Power Company has reviewed the proposed amendment and has determined its adoption would not involve a significant hazards consideration. The basis for this determination is given below.

Basis for Proposed No Significant Hazards Consideration Determination:

Evaluation of Proposed Change 1:

This change does not involve a significant hazards consideration for the following reasons:

1. The proposed amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated.

The IPE analysis performed for Plant Hatch, shows an extremely small probability of occurrence for any accident involving an LOSP during the proposed seven day extended AOT for the 1B DG. In addition, the reliability of the Hatch DGs has been shown to be very high. The combination of these two factors results in the conclusion that increasing the AOT by seven days for the 1B DG as a one time change will not cause a significant increase in the consequences of an accident previously evaluated. The operability of the 1B DG has no impact on the probability of occurrence of any type of accident. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

ENCLOSURE 2 (Continued)

REQUEST TO REVISE TECHNICAL SPECIFICATIONS:
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10 CFR 50.92 EVALUATION

2. The proposed amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated.

Extending the AOT for the 1B DG does not create any new modes of operation. Operation of Unit 1 with one inoperable DG has already been considered as evidenced by the existence of the 7 day AOT contained in the Unit 1 TS. This change will extend this AOT to 14 days for one time only. Because of the extremely small probability of occurrence for any accident involving an LOSP during the proposed seven day extended AOT and the high reliability of the Hatch DGs, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. The proposed amendment does not involve a significant reduction in the margin of safety.

The purpose of the DGs is to provide AC power to emergency equipment in the event of a loss of offsite power (LOSP). Analyses were performed for loss of coolant accidents (LOCAs) with various size line breaks in conjunction with various postulated single active failures (including loss of a diesel generator) and an LOSP. The limiting accident was found to be a recirculation suction line break with the failure of a diesel battery. Loss of a diesel battery results in loss of the associated DG as well as loss of control power to the associated 4160V emergency bus. Any event involving the inoperability of DG 1B as the single active failure is bounded by this limiting accident. Analysis also indicates Unit 1 could be successfully brought to Cold Shutdown under LOSP conditions with only one operable DG. Therefore, in the unlikely event an LOSP did occur during the DG 1B outage, Unit 1 could be brought to Cold Shutdown even with the single failure of one of the two operable DGs.

The combination of low accident probabilities, low LOSP frequencies and high DG reliabilities results in an extremely low probability of a severe accident due to DG failure. Therefore, the proposed one time change does not involve a significant reduction in the margin of safety.

ENCLOSURE 2 (Continued)

REQUEST TO REVISE TECHNICAL SPECIFICATIONS:
TEMPORARY EXTENSION OF DIESEL GENERATOR LCO

10 CFR 50.92 EVALUATION

Evaluation of Proposed Change 2:

This change does not involve a significant hazards consideration for the following reasons:

1. The proposed amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated.

The purpose of the DGs is to provide AC power to equipment necessary for mitigation of accidents involving a loss of offsite power (LOSP). The purpose of Specifications 4.9.B.1 and 4.9.B.2 is to ensure availability of sufficient AC power sources when one of the normal or emergency AC power sources is determined to be inoperable. This is done by demonstrating operability of the remaining normal and emergency AC power sources at an increased frequency. Performance of SR 4.9.A.2.a.1 adequately demonstrates DG operability. Therefore, this change will not significantly impact the capability of the DGs to perform their required function of mitigating accidents involving an LOSP. The DGs have no impact on the probability of occurrence of any accident. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. The proposed amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated.

Since this change only affects surveillance requirements, it will not change the mode of operation of the DGs, and will not introduce any new DG failure modes. Therefore, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. The proposed amendment does not result in a significant reduction in the margin of safety.

Performance of SR 4.9.A.2.a.1 adequately demonstrates DG operability. Therefore, this proposed change will not impact the ability of the DGs to provide AC power during accidents involving an LOSP. The DGs will still function to ensure that occurrence of the worst credible single failure in conjunction with a design basis LOCA/LOSP would result in acceptable consequences. Therefore, this change does not result in a significant reduction in the margin of safety.