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Vice President—Nuclear
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The world's most efficient electric system

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January 31, 1992

U.S. Nuclear Regulatory Commission
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PLANT HATCH - UNITS 1, 2
NRC DOCKETS 50-321, 50-366
OPERATING LICENSES DPR-57, NPF-5
RESPONSE TO GENERIC LETTER 91-11

Gentlemen:

On July 18, 1991, the NRC issued Generic Letter (GL) 91-11, "Resolution of Generic Issues 48, 'LOs for Class 1E Vital Instrument Buses,' and 49, 'interlocks and LOs for Class 1E Tie Breakers' Pursuant to 10 CFR 50.54(f)." The GL stated: "...that unless licensees provide adequate justification that such provisions are not needed at their specific facilities, all licensees should have appropriate procedures to fulfill the following requirements:

1. Limit the time that a plant is in possible violation of the single-failure criterion with regard to the Class 1E vital instrument buses and tie breakers,
2. Require surveillances of these components, and
3. Ensure that, except for the times covered in Item (1), the plant is operating in an electrical configuration consistent with the regulations and its design bases."

GL 91-11 further requires that, within 180 days of the receipt of the letter, all licensees provide the NRC with certification they have either implemented the appropriate procedures conforming to the guidance provided in the enclosure to GL 91-11 or have justified such procedures are not needed.

In response to GL 91-11, Georgia Power Company (GPC) implemented administrative controls on Unit 1 which provide added assurance the potential vulnerability to single failures, with regard to Class 1E instrument buses and tie breakers, is acceptable. Such guidance is already contained in the Unit Two Technical Specifications. To ensure consistency

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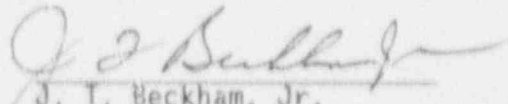
U.S. Nuclear Regulatory Commission
January 31, 1992
Page Two

between Unit 1 and 2, GPC intends to request a Unit One Technical Specifications amendment incorporating the time limitation and surveillance requirements discussed in GL 91-11. This amendment request is expected to be submitted for NRC review in mid-1992.


The enclosure to this letter provides a description of the Plant Hatch electrical systems and a more detailed discussion of the actions taken to fulfill the requirements of GL 91-11.

Mr. J. T. Beckham, Jr. states that 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 31st day of January 1992.


Notary Public

My Commission Expires Aug. 8, 1995

MCM/cr

Enclosures

cc: Georgia Power Company
Mr. H. L. Sumner, General Manager - Nuclear Plant
NORMS

U.S. Nuclear Regulatory Commission, Washington, D.C.
Mr. K. Jabbar, Licensing Project Manager - Hatch

U.S. Nuclear Regulatory Commission, Region II
Mr. S. D. Ebner, Regional Administrator
Mr. L. D. Wert, Senior Resident Inspector - Hatch

ENCLOSURE

PLANT HATCH - UNITS 1, 2
NRC DOCKETS 50-321, 50-366
OPERATING LICENSES DPR-57, NPF-5
RESPONSE TO GENERIC LETTER 91-11

DESCRIPTION OF ACTIONS TAKEN

Generic Letter (GL) 91-11 addresses resolution of Generic Issue (GI) 48, "LCOs for Class 1E Vital Instrument Buses," and GI 49, "Interlocks and LCOs for Class 1E Tie Breakers." Both issues are related in that they discuss maintaining single-failure criterion for safety-related electrical components. However, GIs 48 and 49 address different concerns and, therefore, will be discussed separately in this enclosure.

A. Generic Issue 48, "LCOs for Class 1E Vital Instrument Buses"

GI 48 concerns administrative controls governing operational restrictions for Class 1E 120V ac vital instrument buses. The term "vital instrument buses" (VIBs) is defined in GL 91-11 as:

"ac buses that provide power for the instrumentation and controls of the engineered safety features (ESF) systems and the reactor protection system (RPS) and are designed to provide continuous power during postulated events including the loss of normal offsite power."

In plants having VIBs, this capability is achieved by use of battery power fed through an inverter to the bus. In addition, VIBs normally have alternate power supplies fed from offsite sources. According to GL 91-11, the NRC discovered some plants have no administrative controls governing alignment or operability of these power sources. Thus, situations in which more than one VIB is connected to an offsite alternate power source could arise, and loss of this source could result in loss of more than one VIB. This condition could violate the plant design basis, including loss of offsite power (LOSP) or the single-failure criterion.

Plant Hatch has no instrument buses which meet the criteria for VIBs stated above. At Plant Hatch, the ac buses providing power for the instrumentation and controls of the ESF systems and RPS are: 1) RPS buses A and B, 2) instrument buses A and B, and 3) essential cabinets A and B. These buses, which are all powered from Class 1E sources having a diesel generator backup, are not designed to provide continuous power during an LOSP. That is, during an LOSP, the subject ac buses are initially without power. Instrument buses A and B, and essential cabinets A and B are reenergized automatically when the diesel generators start and automatically tie to the 4160V emergency buses. Since RPS buses A and B are normally powered from

ENCLOSURE (Continued)

RESPONSE TO GENERIC LETTER 91-11

DESCRIPTION OF ACTIONS TAKEN

motor-generator sets, manual actions to reenergize the buses are required after the diesels tie. These features are part of the design bases of both Plant Hatch Units 1 and 2 and have been considered in the accident analyses.

Although the scenario described in GL 91-11 does not apply to the Plant Hatch electrical system design, the potential for violation of the single-failure criterion has been addressed. A review of the design and administrative controls of the Hatch electrical system was performed by the architect-engineer. The following is a summary of existing controls, a determination of their adequacy for ensuring the single-failure criterion is met, and any corrective actions taken as a result of identified deficiencies.

1. RPS Buses A and B (Units 1 and 2)

These buses generally power instrumentation and controls having ESF or RPS applications. As stated above, in the event of an LOSP, both RPS buses A and B will be without power until manual actions are taken to reenergize them. These control systems are designed to be fail-safe such that a loss of power results in actuation of the safety function. Because of the fail-safe design, loss of power to these buses is not a concern. Therefore, no administrative controls governing operational restrictions are necessary.

2. Instrument Buses A and B

These buses power some instrumentation and controls having ESF applications. The normal power supply to each instrument bus is the associated essential cabinet. Essential cabinet A is part of Division I of the Class 1E electrical system and supplies power to instrument bus A. Likewise, essential cabinet B is part of Division II of the Class 1E electrical system and supplies power to instrument bus B. The only alternate power supply to an instrument bus is from the other instrument bus through crosstie breakers. If the crosstie breakers are closed, both instrument buses are powered by one essential cabinet, and the single-failure criterion is not being met for either bus. In this case, both buses must be considered inoperable, because one fault could result in failure of both buses. This information is applicable to both Plant Hatch Units 1 and 2.

ENCLOSURE (Continued)

RESPONSE TO GENERIC LETTER 91-11

DESCRIPTION OF ACTIONS TAKEN

The Unit 2 Technical Specifications (TS) require both instrument buses to be operable and specify that the crosstie breakers must be open. In reference to instrument buses A and B, the Action statement of Unit 2 TS section 3.8.2.1 states:

"With one of the above required A.C. distribution system buses inoperable, restore the inoperable bus to OPERABLE status within 8 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

With two or more of the above required A.C. distribution system buses or inverters inoperable, restore at least all except one of the inoperable buses and inverters to OPERABLE status within 2 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours."

Unit 2 TS Surveillance Requirement 4.8.2.1 requires a verification of correct breaker alignment and indicated power availability at least once per 7 days. These controls are adequate to ensure the buses remain operable and meet the single-failure criterion.

The Unit 1 TS do not address operability of the instrument buses. To provide interim controls for the Unit 1 instrument buses, requirements similar to the Unit 2 TS were conveyed to the operating staff. The time limits for inoperable buses on Unit 1 are the same as the time limits listed in the Unit 2 specification. In addition, the surveillance requirements established for Unit 1 are slightly different from those in the Unit 2 TS. That is, the Unit 2 TS require weekly verification of indicated power availability. The following corresponding requirement for Unit 1 is consistent with the requirements of the other Class 1E buses in the Unit 1 TS:

"The 120/208 volt Instrument Buses (1A and 1B) shall be monitored to the extent that they are shown to be ready and capable of transmitting the emergency load."

The intent of the surveillance requirement is that the control board operator monitor the buses continuously, rather than at some specified frequency indicated in a surveillance procedure. Any condition resulting in a lack of power availability to an instrument bus will be immediately apparent to the operator due to alarms and/or loss of indication.

ENCLOSURE (Continued)

RESPONSE TO GENERIC LETTER 91-11

DESCRIPTION OF ACTIONS TAKEN

The only instrument bus breaker misalignment which will not cause a lack of power availability is the crosstying of the instrument buses. Therefore, a surveillance requirement specifying a weekly verification that the crosstie breakers are open was established for Unit 1. These short-term controls ensure the Unit 1 instrument buses will remain operable and in compliance with the single-failure criterion. The long-term solution is to request a TS amendment to incorporate these requirements. The proposed TS changes are scheduled to be submitted to the NRC in mid-1992.

3. Essential Cabinets A and B

In addition to supplying power to the instrument buses, the essential cabinets supply power directly to some instrumentation and controls with ESF applications. The only power supply to essential cabinet A is 600V emergency bus C (Division I). The only power supply to essential cabinet B is 600V emergency bus D (Division II). The only other supply for power to an essential cabinet is through crosstied instrument buses. This could occur if the instrument buses were crosstied to each other and also simultaneously tied to their respective essential cabinets. The Unit 1 and Unit 2 procedures prohibit this configuration. In addition, the Unit 2 design includes a system of keylock switches which prohibit aligning the breakers in this manner.

The Unit 2 TS contain the same operability and surveillance requirements for the essential cabinets as for the instrument buses. The portion concerning the crosstie breakers is not applicable to the essential cabinets. These controls are adequate to ensure the buses remain operable and meet the single-failure criterion.

The Unit 1 TS do not address operability of the essential cabinets. To provide controls for the Unit 1 essential cabinets, requirements similar to the Unit 2 TS requirements were conveyed to the operating staff. The added operability and surveillance requirements for the essential cabinets are the same as those added for the instrument buses, except for the crosstie breaker verification which is not applicable to the essential cabinets. These short-term controls will ensure the Unit 1 essential cabinets remain operable and in compliance with the single failure criterion. The long-term solution is to incorporate these requirements in the proposed Unit 1 TS amendment mentioned above.

ENCLOSURE (Continued)

RESPONSE TO GENERIC LETTER 91-11

DESCRIPTION OF ACTIONS TAKEN

B. Generic Issue 49, "Interlocks and LCOs for Class 1E Tie Breakers"

GI 49 concerns administrative controls governing operational restrictions for Class 1E tie breakers. GL 91-11 defines "tie breakers" as:

"devices which cross-connect either redundant Class 1E buses in one unit or Class 1E buses in different units at the same site."

According to GL 91-11, an event occurred in which tie breakers closed during plant shutdown were not reopened prior to unit startup. This condition resulted in a loss of independence of safety-related buses and would have prevented automatic closure of each diesel generator output breaker due to electrical interlocks.

At Plant Hatch, the only redundant Class 1E buses which can be cross-connected by tie breakers are instrument buses A and B. The administrative controls described above are adequate to ensure the independence of tie buses is maintained. No tie breakers at Plant Hatch are capable of cross-connecting Class 1E buses in different units.