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The Southern Electric System

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HL-1375
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U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

PLANT HATCH - UNITS 1, 2
NRC DOCKETS 50-321, 50-366
OPERATING LICENSES DPR-57, NPF-5
RESPONSE TO GENERIC LETTER 89-10, SUPPLEMENT 3

Gentlemen:

On October 25, 1990, the NRC issued Supplement 3 to Generic Letter (GL) 89-10, "Consideration of the Results of NRC-Sponsored Tests of Motor-Operated Valves," which documents NRC concerns regarding the ability of BWR isolation valves on certain high-energy lines to fully close under guillotine line break conditions. For Plant Hatch, these lines are the high pressure coolant injection (HPCI) and the reactor core isolation cooling (RCIC) steam supply lines, and the reactor water cleanup (RWCU) water supply line.

Licensees were instructed to notify the NRC within 30 days of receipt of Supplement 3 to GL 89-10 that a plant-specific safety assessment verifying the generic safety assessments performed by the NRC staff and the BWR Owners' Group (BWROG) are applicable. Also, licensees were instructed to notify the Staff of the existence of motor-operated valves (MOVs) with potential deficiencies having "greater safety significance" than the HPCI, RCIC, or RWCU isolation valves.

Supplement 3 to GL 89-10 also requested licensees submit a 120-day response in which the following items are addressed:

1. Identification of HPCI, RCIC, and RWCU isolation valves having "deficiencies."
2. An explanation of the criteria used to make this determination.
3. A schedule for any necessary corrective action(s). If corrective actions require more than 18 months (or to the end of the next refueling outage, whichever is later), the licensee should submit the safety-assessment and obtain Staff approval for the proposed corrective action schedule.

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Georgia Power Company (GPC) has elected to submit at this time the information requested for both the 30-day and the 120-day responses.

A. 30-Day Information Request

As requested, GPC has prepared a safety assessment for Plant Hatch Units 1 and 2, showing that the failure of the HPCI, RCIC, or RWCU isolation valves to promptly isolate following a design-basis guillotine line break is not a significant safety concern. GPC has chosen to submit the safety assessment as an enclosure to this 30-day response. The assessment is based on the "generic" BWROG report attached to the GL and includes plant-specific discussions on inspection programs, environmental qualification, leak detection capabilities, and emergency procedures. In addition, operator actions for an unisolatable line break into secondary containment were addressed as a specific item in the last quarterly requalification training.

GPC is not aware of any MOVs with deficiencies of greater significance than the subject valves. A qualitative assessment was performed to identify any safety-significant MOVs with deficiencies. The assessment was based on the applicability of the INEL test data to other safety-related MOVs, considering both application (differential pressure (dp), flow, and temperature) and similarity (globe, butterfly, size, manufacturer, etc.). Preliminary qualitative scoping studies of available margin which considered open versus close controls, circuits and installed equipment, were performed.

The INEL test data and the issue of standard industry equations underpredicting required thrust are primarily associated with blowdown conditions. The HPCI, RCIC, and RWCU lines are the largest high dp lines carrying primary system fluid outside containment that are isolated by motor-operated gate valves. (Main Steam Isolation Valves (MSIVs) are air-operated; feedwater (FW) lines have check valves; and, HPCI and RCIC injection lines and the RWCU return line have FW checks and a normally closed injection MOV for isolation following a postulated break). The INEL testing was performed under a specific set of conditions and does not indicate other MOVs in safety-related applications are

potentially deficient. Therefore, GPC has no reason to believe other safety-significant MOVs used in the Plant Hatch (e.g., core cooling, containment heat removal, service water, etc.) are deficient.

The Electric Power Research Institute (EPRI) has also reviewed the INEL data in detail in order to aid utilities in planning the EPRI MOV Performance Prediction Program. EPRI concurs the applicability of the INEL test data is only for selected MOVs under specific conditions typically associated with blowdown conditions.

Required thrust is a combination of static loads and dp-related loads. The issue of underprediction is associated with high dp/flow conditions which become less of a factor as the expected maximum dp is reduced. Most of the MOVs at Plant Hatch operate at a substantially lower dp than the subject isolation valves. Therefore, selection of a "bounding" valve factor becomes less important when the operating dp on a valve is lowered.

Preliminary scoping studies have been performed on the margin in Plant Hatch MOVs (motor, operator, and valve ratings). Substantial margins exist in the as-installed capabilities of the MOVs at a valve factor of 0.3.

It should be noted that the above assessment is qualitative in nature and does not replace the thorough design-basis review of each MOV included in GPC's GL 89-10 MOV program. The total program will not be completed until 1994. The assessment does, however, support our statement that GPC is unaware of any MOVs with potential deficiencies having greater safety-significance than the subject isolation valves.

B. 120-Day Information Request

Current switch settings on the subject HPCI, RCIC, and RWCU isolation MOVs have been reviewed and are set to protect the motor, actuator, and valve from any design limitations on valve closure. GPC has also completed a preliminary assessment of "deficiencies" associated with these MOVs, utilizing standard Limitorque sizing methodology with the following conservative assumptions:

1. A valve factor of 0.5 was used in the minimum thrust calculations.
2. Motor capacity was calculated using the expected voltage at the motor under degraded voltage conditions.
3. Additional margin was added to the newly calculated minimum required thrust to facilitate torque switch adjustment and diagnostic equipment measurement inaccuracies.

Using the above criteria, modifications for the Unit 1 and Unit 2 HPCI steam supply and the RWCU water supply isolation MOVs, and the Unit 2 RCIC steam supply isolation MOVs would be required. (The Unit 1 RCIC steam supply isolation MOVs will not need modifications or torque switch adjustments.) The modifications, which are valve-specific in nature, may involve installation of larger motors, operators, cabling, and/or selected valve parts.

GPC's proposed schedule for implementation is dependent upon the availability of the necessary parts and design packages, as well as scheduled refueling/maintenance outages.

Plant Hatch Unit 2 is scheduled for a Spring 1991 refueling/maintenance outage at the end of the current Cycle 9 operation. Lead times to procure valve motors and operators are on the order of 36 weeks, and although GPC is aggressively pursuing procurement of these items, the design package and parts will not be available in time to support the Unit 2 Spring 1991 outage. Therefore, GPC will be unable to complete any modifications on the Unit 2 subject valves within the 18-month timeframe specified in the GL. As an alternative, we propose completing the required work during the refueling/maintenance outage following Unit 2 Cycle 10 operation. This outage is currently scheduled for the Fall of 1992.

Plant Hatch Unit 1 is scheduled for a maintenance/refueling outage in the Fall of 1991. GPC has initiated design activities and parts procurement with the intent of supporting modifications during this outage, which would allow corrective action(s) to be completed within the specified 18-month timeframe.

In summary GPC intends for this letter to fulfill both the 30-day and the 120-day reporting requirements of GL 89-10, Supplement 3. A detailed safety assessment, which is applicable to both Unit 1 and Unit 2, is enclosed. The safety assessment is being submitted to support GPC's request for schedule relief for Unit 2, since the Unit 2 outage following Cycle 10 operation will probably extend beyond 18 months after issuance of the GL supplement. As specified in the GL supplement, GPC will notify the NRC if changes to the proposed schedule for corrective action(s) are required. Additionally, as information that might impact the valve modifications becomes available, GPC will notify the NRC if changes to this letter are necessary.

Mr. W. G. Hairston, III states he is Senior Vice President of Georgia Power Company and is 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: W. G. Hairston III
W. G. Hairston, III

Sworn to and subscribed before me this 11th day of December 1990.

Sherry Ann Mitchell
Notary Public

MY COMMISSION EXPIRES DEC. 15, 1992

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Enclosure: Safety Assessment: Isolation Function of MOVs for
HPCI and RCIC Steam Supply Line and RWCU Water
Supply Line for Plant Hatch

c: Georgia Power Company
Mr. H. L. Sumner, General Manager - Nuclear Plant
Mr. J. D. Heidt, Manager Engineering and Licensing - Hatch
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. D. Wert, Senior Resident Inspector - Hatch