



PSEG Public Service
Electric and Gas
Company

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Robert L. Mittl General Manager
Nuclear Assurance and Regulation

August 26, 1985

Director of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
7920 Norfolk Avenue
Bethesda, MD 20814

Attention: Mr. Walter Butler, Chief
Licensing Branch 2
Division of Licensing

Gentlemen:

SAFETY EVALUATION REPORT CONFIRMATORY ISSUE 22
HOPE CREEK GENERATING STATION
DOCKET NO. 50-354

Pursuant to discussions held with J. Mauck and D. Wagner on August 19, 1985, Public Service Electric and Gas Company has revised the response to FSAR Question 421.42 to reflect the re-review of IC Circular No. 79-02 as required by 1E Bulletin 79-27. This item closes out SER Confirmatory Issue 22 and is attached for your review. This information will be included in Amendment 12 of the HCGS FSAR.

Should you have any questions in this regard, please contact us.

Very truly yours,

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The Energy People

C D. H. Wagner
USNRC Licensing Project Manager

A. R. Blough
USNRC Senior Resident Inspector

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QUESTION 421.42 (SECTION 7.5)

If reactor controls and vital instruments derive power from common electrical distribution systems, the failure of such electrical distribution systems may result in an event requiring operator action concurrent with failure of important instrumentation upon which these operator actions should be based. IE Bulletin 79-27 addresses several concerns related to the above subject. You are requested to provide information and a discussion based on each IE Bulletin 79-27 concern. Also, you are to:

- 1) Confirm that all a.c. and d.c. instrument buses that could affect the ability to achieve a cold shutdown condition were reviewed. Identify these buses.
- 2) Confirm that all instrumentation and controls required by emergency shutdown procedures were considered in review. Identify these instruments and controls at the system level of detail.
- 3) Confirm that clear, simple unambiguous annunciation of loss of power is provided in the control room for each bus addressed in item 1 above. Identify any exceptions.
- 4) Confirm that the effect of loss of power to each load on each bus identified in item 1 above including ability to reach cold shutdown, was considered in the review.
- 5) Confirm that the re-review of IE Circular No. 79-02 which is required by Action Item 3 of Bulletin 79-27 was extended to include both Class 1E and non-Class 1E inverter supplied instrument or control buses. Identify these buses or confirm that they are included in the listing required by Item 1 above.

RESPONSE

An analysis (see Reference 1) was conducted based on the Limerick Generating Station (LGS-1) approach for answering the concerns raised in IE Bulletin 79-27. This methodology has been reviewed and approved by the NRC via a report written for the LGS-1 project.

The analysis showed there is no situation where a single bus power failure would prevent plant personnel from achieving a safe shutdown condition. The results established that no single bus supplies power to all existing shutdown paths. The assignment of the instrument loads identified in this analysis is such that the loss of one bus would not prevent the minimum safety function from being performed.

The failure of each of the buses are annunciated and are displayed by the computer in the control room, thereby giving the operator the knowledge of which power bus is lost. The analysis showed that control room personnel will have knowledge of individual bus and/or circuit failures, and that the operator has alternative instruments and shutdown paths available to achieve a cold shutdown condition.

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REFERENCE

1. "Cold Shutdown/Power Bus Failure Analysis Report," Hope Creek Generating Station, Public Service Electric and Gas Company, August 1984.

The analysis was extended to include both Class 1E and non-Class 1E inverter supplied instrument power buses. These buses are identified on Table 2 of Reference 1 corresponding to the annunciator column designation of "120 Vac UPS Trbl". No design modifications or administrative controls were considered necessary based on a re-review of 1E Circular No. 79-02.