

July 23, 1981

Docket No. 50-245
LS05-81-07-075

Mr. W. G. Council, Vice President
Nuclear Engineering and Operations
Northeast Nuclear Energy Company
P. O. Box 270
Hartford, Connecticut 06101



Dear Mr. Council:

SUBJECT: SEP TOPIC VIII-3.B, DC POWER SYSTEM BUS VOLTAGE MONITORING
AND ANNUNCIATION, SAFETY EVALUATION FOR MILLSTONE 1

The enclosed staff safety evaluation is based on a contractor's document that has been made available to you previously. This document supports the findings of the staff safety evaluation of Topic VIII-3.B and recommends modifications to the dc systems.

The need to actually implement these changes will be determined during the integrated safety assessment. This safety evaluation may be revised in the future if your facility design is changed or if NRC criteria relating to this topic are modified before the integrated assessment is completed.

Sincerely,

Dennis M. Crutchfield, Chief
Operating Reactors Branch No. 5
Division of Licensing

Enclosure:
As stated

cc w/enclosure:
See next page

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Mr. W. G. Council

cc

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TOPIC: VIII-3.B, DC POWER SYSTEM BUS VOLTAGE MONITORING AND ANNUNCIATION

I. INTRODUCTION

To assure the design adequacy of the dc power system battery and bus voltage monitoring and annunciation schemes such that the operator can (1) prevent the loss of an emergency dc bus; or (2) take timely corrective action in the event of loss of an emergency dc bus, we reviewed the dc power system battery, battery charger, and bus voltage monitoring and annunciation design with respect to dc power system operability status indication to the operator.

II. REVIEW CRITERIA

The review criteria are presented in Section 2 of EG&G Report 0140J, "DC Power System Bus Voltage Monitoring and Annunciation."

III. RELATED SAFETY TOPICS AND INTERFACES

None

IV. REVIEW GUIDELINES

None

V. EVALUATION

As noted in EG&G Report 0140J the Millstone 1 control room has no indication of battery current, battery charger current, dc bus voltage, or breaker/fuse status. Therefore, the dc power system monitoring is not in compliance with current licensing criteria.

VI. CONCLUSION

The staff proposes that as a minimum, the following indications and alarms of the Class 1E dc power system(s) status should be provided in the control room.

- Battery current (ammeter-charge/discharge)
- Battery charger output current (ammeter)
- DC bus voltage (voltmeter)
- DC bus ground alarm (for ungrounded system)
- Battery breaker(s) or fuse(s) open alarm
- Battery charger output breaker(s) or fuse(s) open alarm