Docket No.: 50-423

NOV 28 1984

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

Dear Mr. Counsil:

Subject: Request for Additional Information for Millstone Nuclear Power Station, Unit 3

The NRC staff has reviewed your submittal to me dated April 5, 1984, concerning the Safety Parameter Display System Safety Analysis Report, and concluded that additional information is needed to complete its review. Please submit your response to the requests contained in the enclosure to this letter no later than April 30, 1985.

For further information or clarification, please contact the Licensing Project Manager, Elizabeth L. Doolittle at (301) 492-4911.

Sincerely,

B. J. Youngblood, Chief
Licensing Branch No. 1
Division of Licensing

Enclosure: As stated

cc: See next page

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MILLSTONE

NOV 28 1984

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ENCLOSURE

REQUEST FOR ADDITIONAL INFORMATION

MILLSTONE NUCLEAR POWER STATION UNIT 3

NORTHEAST NUCLEAR ENERGY COMPANY

DOCKET NO. 50-423

DOCKET NO. 50-423

REQUEST FOR ADDITIONAL INFORMATION

CONCERNING THE

MILLSTONE 3

SAFETY PARAMETER DISPLAY SYSTEM

Each operating reactor shall be provided with a Safety Parameter Display System (SPDS). The Commission approved requirements for an SPDS are defined in NUREG-0737, Supplement 1. In the Regional Workshops on Generic Letter 82-33 held during March 1983, the NRC discussed these requirements and the staff's review of the SPDS.

The staff reviewed the SPDS safety analysis and implementation plan provided by Northeast Utilities (Reference 1). The staff was unable to complete the review because of insufficient information. The following additional information is required to continue and complete the review:

420.0 Instrumentation and Control Systems Information

Isolation Devices
Provide the following:

420.7 For each type of device used to accomplish electrical isolation, describe the specific testing performed to demonstrate that the device is acceptable for its application(s). This description should include elementary diagrams when necessary to indicate the test configuration and how the maximum credible faults were applied to the devices.

420.8 Data to verify that the maximum credible faults applied during the test were the maximum voltage/current to which the device could be exposed, and define how the maximum voltage/current was determined.

420.9 Data to verify that the maximum credible fault was applied to the output of the device in the transverse mode (between signal and return) and other faults were considered (i.e., open and short circuits).

420.10 Define the pass/fail acceptance criteria for each type of device

420.11 A commitment that the isolation devices comply with the environmental qualifications (10 CFR 50.49) and with seismic qualifications which are the basis for plant licensing.

420.12 A description of the measures taken to protect the safety systems from electrical interference (i.e., Electrostatic Coupling, EMI, Common Mode and Crosstalk) that may be generated by the SPDS.

If any of the above information is provided in the FSAR, full responses need not be supplied - reference to the FSAR section is sufficient.

620.0 Human Factors Engineering Information

620.1 Human Factors Program

Provide a description of the display system, with emphasis on its human factored design, and the methods and results of a human factors program to ensure that the displayed information can be readily perceived and comprehended so as not to mislead the operator. Color photographs or reproductions of display pages and interface devices may be helpful in supporting the discussion.

620.2 Data Validation

Describe the method used to validate data displayed by the SPDS. Also describe how invalid data is identified to the operator on the displays.

620.3 Verification and Validation Program

Define and discuss the Verification and Validation Program which was used or will be used in the development of the SPDS. Also, describe results to date from the Verification and Validation Program, and the corrective actions taken to address identified design deficiencies.

620.4 Unreviewed Safety Questions

Provide conclusions regarding unreviewed safety questions or changes to technical specifications.

620.5 Implementation Plan

Provide a schedule for full implementation of the SPDS including hardware, software, operator training, procedures and users manuals.

## REFERENCES

1. Letter from W. G. Counsil (N.U.) to B. J. Youngblood (NRC) dated April 5, 1984, with enclosure.