

December 13, 1982

Docket No. 50-245
LS05-82-12-028

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

Dear Mr. Council:

SUBJECT: SAFETY EVALUATION REPORT FOR ENVIRONMENTAL QUALIFICATION OF
SAFETY-RELATED ELECTRICAL EQUIPMENT

Millstone Station Unit 1

This letter transmits the Safety Evaluation Report for the Environmental Qualification of Safety-Related Electrical Equipment at your facility. This evaluation is based on your response to our previous Safety Evaluation Report, dated June 10, 1981 and subsequent submittals dated September 14, 1981, February 9, 1982, and April 28, 1982. This Safety Evaluation Report presents the results of the Environmental Qualification Review for safety-related electrical equipment, exposed to a harsh environment, in accordance with NRC requirements. We request that you provide your plans for qualification or replacement of the unqualified equipment and the schedule for accomplishing your proposed corrective actions to us within ninety (90) days of the receipt of this letter.

As indicated in the conclusion section of the Safety Evaluation Report, we request that you reaffirm the justification for continued operation and within thirty (30) days of receipt of this letter, submit information for items in NRC categories I.B, II.A and II.B (presented in the enclosed Technical Evaluation Report) for which justification for continued operation was not previously submitted to the NRC. We suggest that the clarification set forth in item 8 of Generic Letter No. 82-09, "Clarification Questions and Answers on Environmental Qualification Requirements," should be considered in your justification for continued operation.

The Technical Evaluation Report contains information from certain test reports which you have previously claimed to be proprietary. We request that you inform us as indicated in the proprietary section of the Safety Evaluation Report whether any portions of the identified pages still require proprietary protection.

8212200100 821213
PDR ADDCK 05000245
P PDR

PHOI Add: NSIC-NP

OFFICE							
SURNAME							
DATE							

Please Send Copy of XA to PDR

Mr. W. G. Council

- 2 -

December 13, 1982

At your option, the staff will be available to discuss the findings in the Safety Evaluation Report as augmented by the Technical Evaluation Report. Questions regarding this letter should be directed through the NRC-Project Manager for your plant.

The reporting and/or recordkeeping requirements contained in this letter affect fewer than ten respondents; therefore, OMB clearance is not required under P.L. 96-511.

Sincerely,

Original signed by WPaulson for/

Dennis M. Crutchfield, Chief
Operating Reactors Branch #5
Division of Licensing

Enclosures:

1. Safety Evaluation Report
2. Technical Evaluation Report- Vols 1 and 2
(withheld from public disclosure)

cc w/o Technical Evaluation Report:
See next page

DISTRIBUTION (Enc. 1 only)
HSmith NRC PDR
DCrutchfield Local PDR
OELD NSIC
ELJordan NTIS
JMTaylor
ACRS (10)
SEPB
ORB Reading

DISTRIBUTION

Docket (w/both enclosures)- including Vols. 1 and 2, non-proprietary
Licensee (w/both enclosures)
JShea (w/both enclosures)

OFFICE	DL:ORB#5	DL:ORB#5	DL:ORB#5				
SURNAME	HSmith:ajs	JShea	DCrutchfield				
DATE	12/9/82	12/14/82	12/13/82				

Mr. W. G. Council

- 3 -

December 13, 1982

cc

William H. Cuddy, Esquire
Day, Berry & Howard
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Nuclear Regulatory Commission
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Northeast Nuclear Energy Company
ATTN: Superintendent
Millstone Plant
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Mr. Richard T. Laudenat
Manager, Generation Facilities Licensing
Northeast Utilities Service Company
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Hartford, Connecticut 06101

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John F. Opeka
Systems Superintendent
Northeast Utilities Service Company
P. O. Box 270
Hartford, Connecticut 06101

U. S. Environmental Protection Agency
Region I Office
ATTN: Regional Radiation Representative
JFK Federal Building
Boston, Massachusetts 02203

SAFETY EVALUATION REPORT BY THE
OFFICE OF NUCLEAR REACTOR REGULATION
EQUIPMENT QUALIFICATION BRANCH
FOR NORTHEAST NUCLEAR ENERGY COMPANY
MILLSTONE 1
DOCKET NO. 50-245

ENVIRONMENTAL QUALIFICATION OF SAFETY-RELATED ELECTRIC EQUIPMENT

INTRODUCTION

General Design Criteria 1 and 4 specify that safety-related electrical equipment in nuclear facilities must be capable of performing its safety-related function under environmental conditions associated with all normal, abnormal, and accident plant operation. In order to ensure compliance with the criteria, the NRC staff required all licensees of operating reactors to submit a re-evaluation of the qualification of safety-related electrical equipment which may be exposed to a harsh environment.

BACKGROUND

On February 8, 1979, the NRC Office of Inspection and Enforcement (IE) issued to all licensees of operating plants (except those included in the systematic evaluation program (SEP)) IE Bulletin (IEB) 79-01, "Environmental Qualification of Class IE Equipment." This Bulletin, together with IE Circular 78-08 (issued on May 31, 1978), required the licensees to perform reviews to assess the adequacy of their environmental qualification programs.

On January 14, 1980, NRC issued IE Bulletin 79-01B which included the DOR guidelines and NUREG-0588 as attachments 4 and 5, respectively. Subsequently, on May 23, 1980, Commission Memorandum and Order CLI-80-21 was issued and stated the DOR guidelines and portions of NUREG-0588 form the requirements that licensees must meet regarding environmental

qualification of safety-related electrical equipment in order to satisfy those aspects of 10 CFR 50, Appendix A, General Design Criterion (GDC) 4. Supplements to IEB 79-01B were issued for further clarification and definition of the staff's needs. These supplements were issued on February 29, September 30, and October 24, 1980.

In addition, the staff issued orders dated August 29, 1980 (amended in September 1980) and October 24, 1980 to all licensees. The August order required that the licensees provide a report, by November 1, 1980, documenting the qualification of safety-related electrical equipment. The October order required the establishment of a central file location for the maintenance of all equipment qualification records. The central file was mandated to be established by December 1, 1980. The staff subsequently issued Safety Evaluation Reports (SERs) on environmental qualification of safety-related electrical equipment to licensees of all operating plants in mid-1981. These SERs directed licensees to "either provide documentation of the missing qualification information which demonstrates that safety-related equipment meets the DOR Guidelines or NUREG-0588 requirements or commit to a corrective action (re-qualification, replacement (etc.))." Licensees were required to respond to NRC within 90 days of receipt of the SER. In response to the staff SER issued June 10, 1981, the licensee submitted additional information regarding the qualification of safety-related electrical equipment.

EVALUATION

The acceptability of the licensee's equipment environmental qualification program was reviewed for the Division of Engineering by the Franklin Research Center (FRC) as part of the NRR Technical Assistance Program in support of NRC operating reactor licensing actions. The consultant's review is documented in the report "Review of Licensees' Resolutions of Outstanding Issues from NRC Equipment Environmental Qualification Safety Evaluation Reports," which is attached.

We have reviewed the evaluation performed by our consultant contained in the enclosed Technical Evaluation Report (TER) and concur with its bases and findings. Our review has also revealed certain discrepancies in the TER which are being corrected by this SER as follows:

- o Delete the third paragraph on page 1-9 of the TER.
- o Delete the second paragraph on page 1-10 of the TER.

The staff has also reviewed the licensee's justification for continued operation regarding each item of safety-related electrical equipment identified by the licensee as not being capable of meeting environmental qualification requirements for the service conditions intended.

CONCLUSIONS

Based on the staff's review of the enclosed Technical Evaluation Report and the licensee's justification for continued operation, the following conclusions are made regarding the qualification of safety-related electrical equipment.

Continued operation until completion of the licensee's environmental qualification program will not present undue risk to the public health and safety. Furthermore, the staff is continuing to review the licensee's environmental qualification program. If any additional qualification deficiencies are identified during the course of this review, the licensee will be required to reverify the justification for continued operation. The staff will review this information to ensure that continued operation until completion of the licensee's environmental qualification program will not present undue risk to the public health and safety. In this regard, it is requested that the licensee do the following:

- o Resolve any deficiencies identified in Appendix D of the FRC TER regarding justification for continued operation. If as a result of resolving these deficiencies, the previous justification for continued operation is changed, provide within thirty (30) days of receipt of this SER the new justification for continued operation regarding each affected item.

The major qualification deficiencies that have been identified in the enclosed FRC TER (Tables 4-1, 4-2, 4-3, and 4-4) must be resolved by the licensee. Items requiring special attention by the licensee are summarized below:

- o Submission of information within thirty (30) days for items in NRC categories 1B, 2A and 2B for which justification for continued operation was not previously submitted to NRC or FRC,

- o Resolution of the concern regarding HVAC equipment and enclosures which protect safety-related equipment in a harsh environment (Section 4.3.2 of the FRC TER),
- o Resolution of incontainment environmental service conditions.

The staff has reviewed this concern and concludes that the drywell temperature profile for the 0.1 ft.² MSLB should either be extrapolated at a temperature of 320°F out to 6-hours and then reduced to follow the generic curve in Figure C-1 of NUREG-0588, out to 24-hours, or provide a plant specific analysis (See Figures 10 and 11, attached).

The licensee must provide the plans for qualification or replacement of the unqualified equipment and the schedule for accomplishing its proposed correction action.

PROPRIETARY REVIEW

Enclosed in the FRC Technical Evaluation Report (TER) are certain identified pages on which the information is claimed to be proprietary.

During the preparation of the enclosed TER, FRC used test reports and other documents supplied by the licensee that included material claimed to be proprietary by their owners and originators. NRC is now preparing to publicly release the FRC TER and it is incumbent on the agency to seek review of all claimed proprietary material. As such, the licensee is requested to review the enclosed TER with their owner or originator and notify NRR within seven (7) days of receipt of this SER whether any portions of the identified pages still require proprietary protection. If so, the licensee must clearly identify this information

and the specific rationale and justification for the protection from public disclosure, detailed in a written response within twenty (20) days of receipt of this SER. The level of specificity necessary for such continued protection should be consistent with the criteria enumerated in 10 CFR 2.790(b) of the Commission's regulations.

HILLSTONE 1 CONTAINMENT, .10 SQ FT MSLB
CONTEMP-LT/028 02/18/82 19:38:35 UIRI JVI:

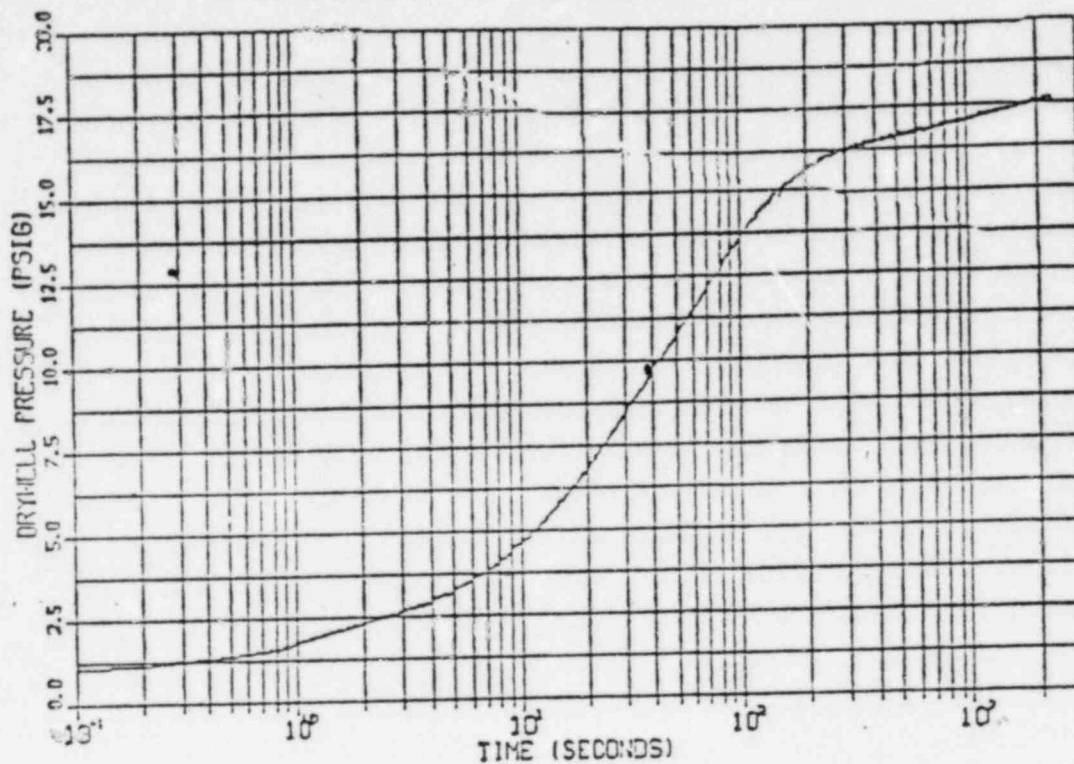


Figure 10. Drywell Pressure
Response to a 0.10 ft² MSLB

MILLSTONE 1 CONTAINMENT, 0.10 SQ FT MSLB
CONTENPT-LT/028 02/18/62 19:38:35 UIRLWN:

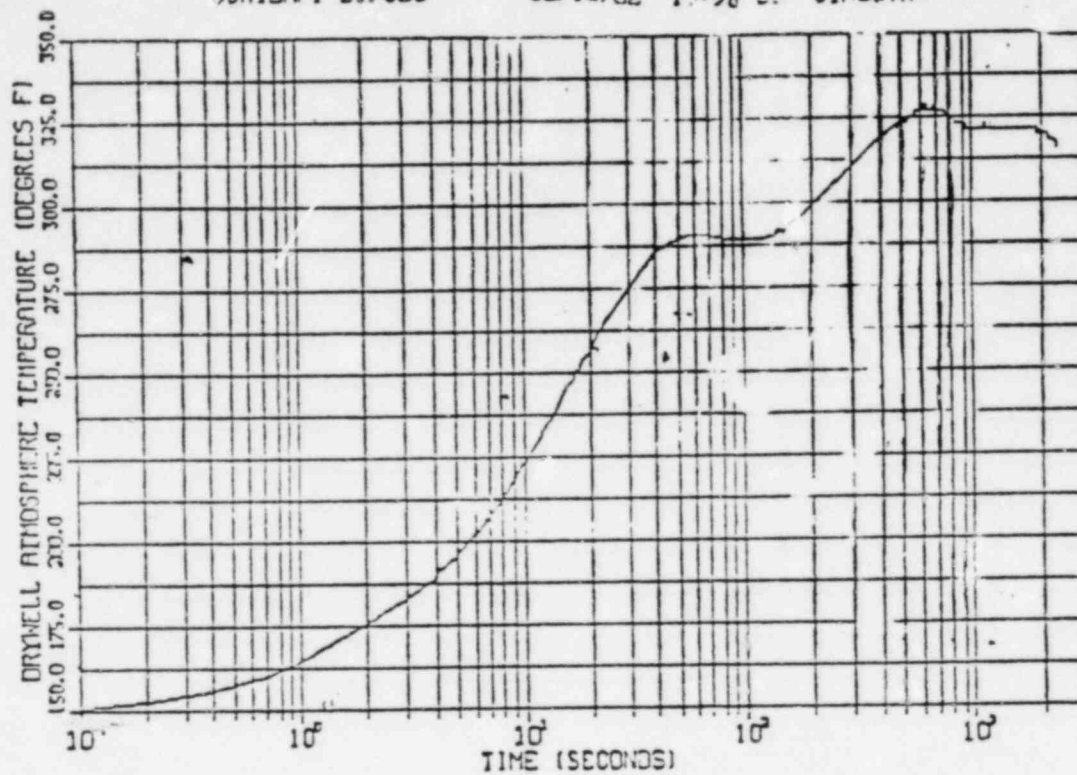


Figure 11. Drywell Atmosphere
Temperature Response to a
0.10 ft² MSLB



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

December 13, 1982

Docket No. 50-245
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Nuclear Engineering and Operations
Northeast Nuclear Energy Company
Post Office Box 270
Hartford, Connecticut 06101

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Millstone Station Unit 1

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The reporting and/or recordkeeping requirements contained in this letter affect fewer than ten respondents; therefore, OMB clearance is not required under P.L. 96-511.

Sincerely,

Walter A. Paulsen

for Dennis M. Crutchfield, Chief
Operating Reactors Branch #5
Division of Licensing

Enclosures:

1. Safety Evaluation Report
2. Technical Evaluation Report- Vols. 1 and 2
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cc w/o Technical Evaluation Report:
See next page

Mr. W. G. Council

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HILLSTONE I CONTAINMENT, .10 SQ FT MSLB
CONCEPT-LT/028 02/16/82 19:39.35 UIRJAH

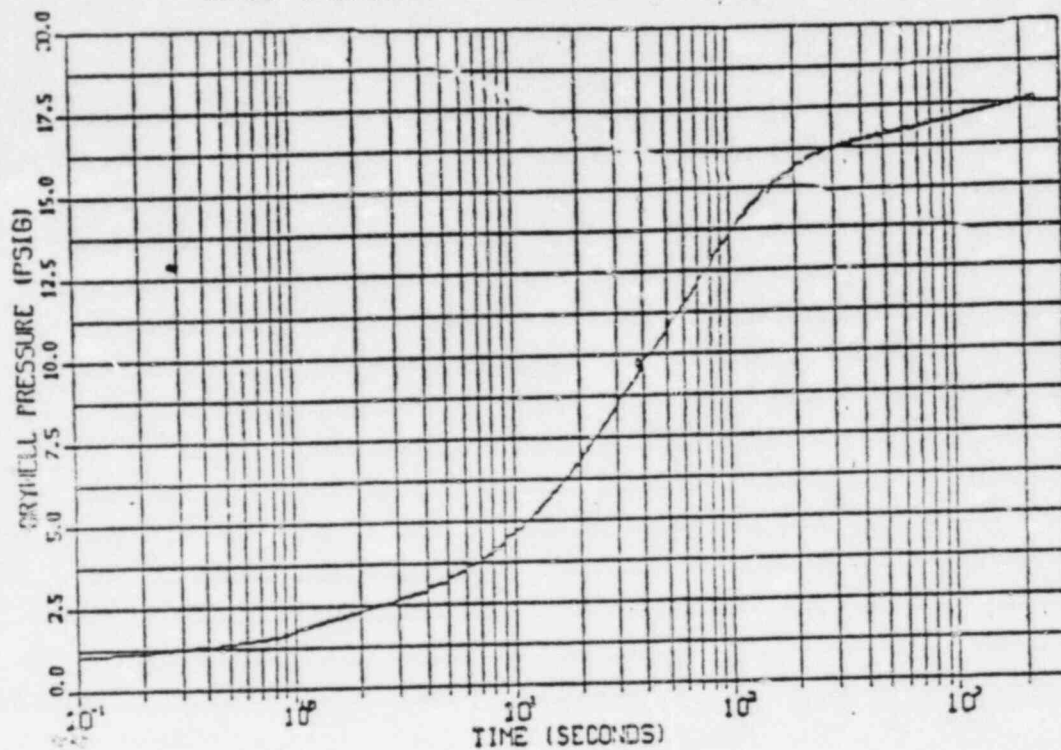


Figure 10. Drywell Pressure
Response to a 0.10 ft² MSLB

MILLSTONE-1-CONTAINMENT, .10 SQ FT MSLB
CONTENPT-LT/029 02/16/62 19:38:35 UIRLJMI:

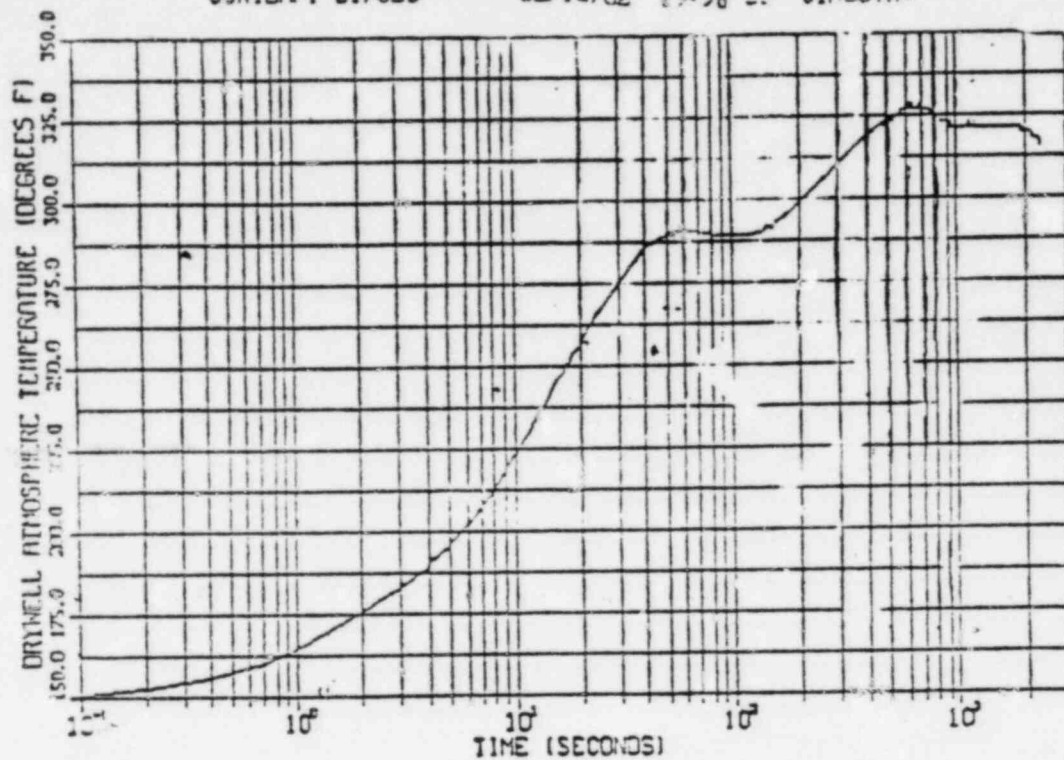


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