

November 12, 1985

Docket No. 50-309
(10 CFR 2.206)

Mr. Paul Stern
Assistant Attorney General
State of Maine
State House Station 6
Augusta, Maine 04333

Docket File

NRC PDR w/cy of incoming GLainas/DNottingham
L PDR w/cy incoming HThompson/MJambor
EDO# **750** PSears w/incoming
EDO Rdg PMKreutzer
HDenton/DEisenhut Green Ticket File
ORB#3 Rdg (w/cy of incoming)
OELD
OCA (3)
SECY
WDirks

Drossburg
K Bowman (EDO# 750)

Dear Mr. Stern:

On January 4, 1985, I informed you that the Office of Nuclear Reactor Regulation would consider pursuant to 10 CFR 2.206 alleged equipment qualification deficiencies at the Maine Yankee Atomic Power Station identified in the comments of the State of Maine filed with the Nuclear Regulatory Commission on June 26, 1984. For the reasons stated in the enclosed "Director's Decision Under 10 CFR 2.206" (DD-85-17), I have determined that the alleged deficiencies have been satisfactorily addressed.

A copy of the Decision will be filed with the Office of the Secretary of the Commission for review in accordance with 10 CFR 2.206(c) of the Commission's regulations. As provided by this regulation, the Decision will constitute the final action of the Commission 25 days after the date of issuance of the Decision unless the Commission, on its own motion, institutes a review of the decision within that time.

A copy of a notice, which is being filed with the Office of the Federal Register for publication, is also enclosed.

Sincerely,

Original signed by
Darrell G. Eisenhut
Darrell G. Eisenhut, Acting Director
Office of Nuclear Reactor Regulation

Enclosures:
As stated

cc w/enclosures:
See next page

NRC
HDenton
10/8/85

ORB#3:DL*
PKreutzer
10/21/85

ORB#3:DL*
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ORB#3:DL*
EJButcher
10/23/85

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JLieberman GLainas
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HThompson
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November 12, 1985

Docket No. 50-309
(10 CFR 2.206)

Mr. Paul Stern
Assistant Attorney General
State of Maine
State House Station 6
Augusta, Maine 04333

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NRC PDR w/cy of incoming ^{DMassburg} ~~KBorman~~ (EDO# 750)
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Sincerely,

Harold R. Denton, Director
Office of Nuclear Reactor Regulation

Enclosures:
As stated

cc w/enclosures:
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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF NUCLEAR REACTOR REGULATION
Harold R. Denton, Director

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|-------------------------------------|---|-------------------|
| In the Matter of | } | |
| MAINE YANKEE ATOMIC POWER COMPANY | } | Docket No. 50-309 |
| (Maine Yankee Atomic Power Station) | } | (10 CFR 2.206) |

DIRECTOR'S DECISION UNDER 10 CFR 2.206

INTRODUCTION

On November 19, 1984, the Nuclear Regulatory Commission (NRC) promulgated its final rule on environmental qualification of electric equipment (49 Fed. Reg. 45571). The rule requires licensees of operating power plants to meet the schedule for environmental qualification set out in the rule, specifically in 10 CFR 50.49(g). In adopting the final rule, the Commission directed the Director of the Office of Nuclear Reactor Regulation to consider, pursuant to 10 CFR 2.206, four comments filed in response to the Notice of Proposed Rule-making issued on March 7, 1984 (49 Fed. Reg. 8445). Each of the four comments alleged equipment qualification deficiencies at specific plants. The Commission's action had the effect of requiring the Director of the Office of Nuclear Reactor Regulation to issue a formal decision pursuant to 10 CFR 2.206 considering the plant-specific comments filed in the rulemaking noted above. The comments filed by the State of Maine through its Attorney General (hereinafter referred to as Petitioner) dated June 26, 1984 were among those identified by the Commission for consideration. On January 4, 1985, I advised

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the Petitioner by letter that I would issue a formal decision regarding the Petitioner's comments concerning the Maine Yankee Atomic Power Station in the reasonably near future. My decision in this matter follows.

DISCUSSION

Petitioner's comments mainly relate to alleged inadequacies in a number of equipment qualification items identified by the Franklin Research Center (FRC) and set out in its Technical Evaluation Report (TER) for the Maine Yankee Atomic Power Station of the Maine Yankee Atomic Power Company (Licensee). It is important to recognize that the FRC study to which the Petitioner refers was one initiated by the Nuclear Regulatory Commission itself to assist it in assessing the adequacy of the Licensee's equipment qualification program for the Maine Yankee Station. The TER provided by FRC has been available to the NRC staff since February 23, 1983 and has been specifically addressed by both the Licensee and the NRC staff. 1/

On February 8, 1979, the NRC Office of Inspection and Enforcement issued IE Bulletin 79-01, "Environmental Qualification of Class IE Equipment." This Bulletin, together with IE Circular 78-08 (issued on May 31, 1978) requested affected licensees to perform reviews to assess the adequacy of their environmental qualification programs. The NRC staff's review of this area is discussed in a Safety Evaluation (SE) dated June 1, 1981 and resulted in further

1/ The background associated with the NRC staff's review of the Licensee's equipment qualification program for the Maine Yankee Station is provided in Attachment 1, Safety Evaluation By The Office of Nuclear Reactor Regulation, Maine Yankee Atomic Power Company, Maine Yankee Atomic Power Station, Docket No. 50-309, issued December 13, 1984 (hereinafter referred to as the Maine Yankee SE).

requests for information from the Licensee. Following submittal by the the Licensee of additional information on September 2, 1981, March 5, 1982, February 11, 1982, June 24, 1982 and October 18, 1982, the NRC staff asked FRC to evaluate that information in order to (1) identify all cases where the Licensee's response did not resolve the significant qualification issues, (2) evaluate the Licensee's qualification documentation in accordance with established criteria to determine which equipment had adequate documentation and which did not, and (3) evaluate the Licensee's qualification documentation for safety-related electrical equipment located in harsh environments consistent with TMI "Lessons Learned" implementation. A TER was issued by FRC on February 23, 1983 to document its evaluation. It is this document to which the Petitioner makes reference. A second SE was subsequently prepared by the NRC staff and issued to the Licensee April 8, 1983 with the FRC TER as an attachment. ^{2/} This TER identified a number of electrical equipment environmental qualification deficiencies and the SE concurred with the bases and findings of the TER. Based on these findings, the staff requested the Licensee to provide its plans for qualification or replacement of certain items and justification for continued operation in the near term.

^{2/} Safety Evaluation for Environmental Qualification of Safety-Related Electrical Equipment, Docket No. 50-309, April 8, 1983, with Technical Evaluation Report entitled Review of Licensee's Resolution of Outstanding Issues from NRC Equipment Environmental Qualification Safety Evaluation Reports (F-11 and B-60), Maine Yankee Atomic Power Company, Maine Yankee Atomic Power Station, Franklin Research Center, February 23, 1983.

A meeting was held with the Licensee on April 4, 1984 in order to discuss the Licensee's proposed method of resolving the environmental qualification deficiencies identified in the 1983 SE and FRC TER. During this meeting with the Licensee, a proposed resolution for each of these deficiencies was discussed and the NRC staff found the Licensee's approach for resolving them acceptable. The approach described by the Licensee for addressing and resolving the identified deficiencies included replacing equipment, performing additional analyses, utilizing additional qualification documentation beyond that reviewed by FRC, obtaining additional qualification documentation, or determining that some equipment was outside the scope of 10 CFR 50.49 and therefore not required to be environmentally qualified. The discussions also included the Licensee's general methodology for compliance with 10 CFR 50.49 and justification for continued operation with those equipment items for which environmental qualification was not yet complete. ^{3/}

Subsequent to the April 4, 1984 meeting, the Licensee provided further information for resolution of the identified deficiencies by its letter dated May 31, 1984. With its review of this submittal, the NRC staff completed its evaluation of the acceptability of the Licensee's electrical equipment environmental qualification program, including the type of documentation

^{3/} A final rule on environmental qualification of electric equipment important to safety became effective on February 22, 1983 (48 FR 2729). This rule, 10 CFR 50.49, specifies the requirements of electrical equipment important to safety located in a harsh environment. Effective November 19, 1984, this rule was amended to remove the June 30, 1982 deadline for environmental qualification of electric equipment imposed by previous Commission order and established a new date for final environmental qualification of electric equipment (49 FR 45571). Accordingly, March 31, 1985 was established as the new deadline for the Maine Yankee Atomic Power Station. All open items were resolved by the Licensee prior to March 31, 1985.

the Licensee indicated it has retained. The staff's findings are found in the attached Maine Yankee SE dated December 13, 1984 (Attachment 1).

The resolution of Petitioner's comments for specific items of equipment identified by FRC and discussed in the TER is contained in Attachment 2. Resolution is complete for all items identified in the FRC TER; therefore, justifications for continued operation are not required.

In addition to specific items raised in the TER prepared by FRC, Petitioner identifies two other general concerns regarding environmental qualification of equipment at the Maine Yankee Station. First, the Petitioner asserts that information in the record was incomplete and cursory, thereby making it extremely difficult to conduct any meaningful analyses. Petitioner argues that this failing made it difficult to comment on the adequacy of the qualification review. The Petitioner further claims that the Licensee's responses to the TER are inadequate, unsubstantiated, or non-existent and, consequently, neither the Petitioner nor the NRC is in a position to ascertain whether the concerns raised in the TER have been adequately addressed. The Petitioner was not present at the meetings at which the Licensee and the NRC staff discussed resolutions of the items identified in the TER and also apparently did not have Maine Yankee's letter to the NRC of May 31, 1984 wherein the Licensee responded to each concern raised in the TER. Thus, in fact, adequate information was available to the staff to permit it to assess the adequacy of the resolutions proposed for items identified in the TER.

Second, Petitioner claims that the scope of review by the NRC was limited. Specifically, the Petitioner alleges that there was no independent NRC analysis or determination that the Licensee's responses to the TER warrant a finding of environmental qualification. The approaches described by the Licensee for addressing and resolving the identified deficiencies included replacing equipment, performing additional analyses, utilizing additional qualification documentation beyond that reviewed by FRC, and determining that some equipment is outside the scope of 10 CFR 50.49 and therefore is not required to be environmentally qualified. Equipment located in a mild environment is an example of this latter category. The NRC staff discussed the proposed resolutions in detail on an item by item basis with the Licensee during the meeting of April 4, 1984. Replacing or exempting equipment, for an acceptable reason, is clearly an acceptable method for resolving environmental qualification deficiencies. The more lengthy discussions with the Licensee concerned the use of additional analyses or documentation. In the attached Maine Yankee SE, the NRC staff has documented its review and evaluation of the Licensee's electrical equipment environmental qualification program. The result of that evaluation was that the staff found the Licensee's qualification program acceptable.

Clearly, the staff has conducted an independent view of the Licensee's environmental qualification program and has documented that review. Prior to reaching such a conclusion with respect to the environmental qualification programs at several other plants, the staff has performed audits of the licensee's documentation. This action was taken because the staff had concerns regarding the acceptability of the programs being implemented by the associated licensees.

However, the staff does not have a similar concern for the Maine Yankee facility and believes it is reasonable to conclude that the considerable efforts expended by the Maine Yankee Atomic Power Company have substantially enhanced the status of environmental qualification of the electrical equipment at the Maine Yankee Atomic Power Station.

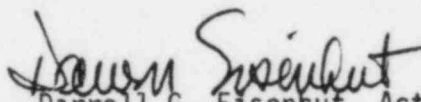
Nonetheless, a follow-on implementation review will be performed by personnel in NRC Region I as part of the staff's overall effort to monitor implementation of all licensees' environmental qualification programs. A schedule has not yet been established for the Maine Yankee implementation review. The primary objective of this review will be to verify that the Licensee's files contain the appropriate analyses and other necessary documentation to support the Licensee's conclusion that the equipment is properly qualified. The inspections will also provide reasonable assurance that the Licensee's program for surveillance and maintenance of environmentally qualified equipment is adequate to assure that this equipment is maintained in the as-analyzed or as-tested condition. The method used for tracking periodic replacement parts, and implementation of the Licensee's commitments and actions, e.g., regarding replacement of equipment, will also be verified.

CONCLUSION

In summary, the NRC staff has reviewed each of the items relied upon by the Petitioner. The FRC TER dated February 23, 1983 and NRC's letter to the Licensee dated April 8, 1983, do indicate various environmental qualification deficiencies. Those deficiencies were identified by the FRC and the NRC staff in reviewing the information available at that time.

Thus, the Petitioner has not raised any environmental qualification issues of which the staff was unaware.

Since the TER was issued, the Licensee has provided considerable additional information regarding the identified electrical equipment deficiencies and has proposed a resolution of each of them that has been found acceptable by the staff. The attached Maine Yankee SE dated December 13, 1984 documents the staff's review which concludes that the Licensee's electrical equipment qualification program complies with the requirements of 10 CFR 50.49, and that the proposed resolutions for each of the environmental qualification deficiencies identified in the FRC TER are acceptable. The staff will continue to monitor the Licensee's progress in implementing its environmental qualification program. Consequently, I conclude that the overall state of equipment qualification of the Maine Yankee facility is adequate to assure the public health and safety.


Darrell G. Eisenhut, Acting Director
Office of Nuclear Reactor Regulation

Dated in Bethesda, Maryland
this 12th day of November 1985



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

December 13, 1984

Attachment 1

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

MAINE YANKEE ATOMIC POWER COMPANY

MAINE YANKEE ATOMIC POWER STATION

DOCKET NO. 50-309

ENVIRONMENTAL QUALIFICATION OF ELECTRIC EQUIPMENT IMPORTANT TO SAFETY

INTRODUCTION

Equipment which is used to perform a necessary safety function must be demonstrated to be capable of maintaining functional operability under all service conditions postulated to occur during its installed life for the time it is required to operate. This requirement, which is embodied in General Design Criteria 1 and 4 of Appendix A and Sections III, XI, and XVII of Appendix B to 10 CFR 50, is applicable to equipment located inside as well as outside containment. More detailed requirements and guidance relating to the methods and procedures for demonstrating this capability for electrical equipment have been set forth in 10 CFR 50.49, "Environmental Qualification of Electric Equipment Important to Safety for Nuclear Power Plants," NUREG-0588, "Interim Staff Position on Environmental Qualification of Safety-Related Electrical Equipment" (which supplements IEEE standard 323 and various NRC Regulatory Guides and industry standards), and "Guidelines for Evaluating Environmental Qualification of Class IE Electrical Equipment in Operating Reactors" (DOR Guidelines).

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.

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On January 14, 1980, NRC issued IEB 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 that 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 a Safety Evaluation Report (SER) on environmental qualification of safety-related electrical equipment to the licensee on September 2, 1981. This SER directed the licensee 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 (requalification, replacement (etc.))." The licensee was required to respond to NRC within 90 days of receipt of the SER. In response to the staff SER issued in 1981, the licensee submitted additional information regarding the qualification of safety-related electrical equipment. This information was evaluated for the staff by the Franklin Research Center (FRC) in order to: 1) identify all cases where the licensee's response did not resolve the significant qualification issues, 2) evaluate the licensee's qualification documentation in accordance with established criteria to determine which equipment had adequate documentation and which did not, and 3) evaluate the licensee's qualification documentation for safety-related electrical equipment located in harsh environments required for TMI Lessons Learned Implementation. A Technical Evaluation Report (TER) was issued by FRC on February 23, 1983. A Safety Evaluation Report was subsequently issued to the Maine Yankee Atomic Power Company on April 8, 1983, with the FRC TER as an attachment.

A final rule on environmental qualification of electric equipment important to safety for nuclear power plants became effective on February 22, 1983. This rule, Section 50.49 of 10 CFR 50, specifies the requirements of electrical equipment important to safety located in a harsh environment. In accordance with this rule, equipment for Maine Yankee may be qualified to the criteria specified in either the DOR Guidelines or NUREG-0588, except for replacement equipment. Replacement equipment installed subsequent to February 22, 1983 must be qualified in accordance with the provisions of 10 CFR 50.49, using the guidance of Regulatory Guide 1.89, unless there are sound reasons to the contrary.

A meeting was held with each licensee of plants for which a TER had been prepared for the staff by FRC in order to discuss all remaining open issues regarding environmental qualification, including acceptability of the environmental conditions for equipment qualification purposes, if this issue had not yet been resolved. On April 4, 1984 a meeting was held to discuss Maine Yankee's proposed method to resolve the environmental qualification deficiencies identified in the April 8, 1983 SER and February 23, 1983 FRC TER. Discussions also included Maine Yankee's general methodology for compliance with 10 CFR 50.49, and justification for continued operation for those equipment items for which environmental qualification is not yet completed. The minutes of the meeting and proposed method of resolution for each of the environmental qualification deficiencies are documented in a May 31, 1984 submittal from the licensee.

EVALUATION

The evaluation of the acceptability of the licensee's electrical equipment environmental qualification program is based on the results of an audit review performed by the staff: (1) the licensee's proposed resolutions of the environmental qualification deficiencies identified in the April 8, 1983 SER and February 23, 1983 FRC TER; (2) compliance with the requirements of 10 CFR 50.49; and (3) justification for continued operation (JCO) for those equipment items for which the environmental qualification is not yet completed.

Proposed Resolutions of Identified Deficiencies

The proposed resolutions for the equipment environmental qualification deficiencies, identified in the April 8, 1983 SER, and the FRC TER enclosed with it, are described in the licensee's May 31, 1984 submittal. During the April 4, 1984 meeting with the licensee, the staff discussed the proposed resolution of each deficiency for each equipment item identified in the FRC TER and found the licensee's approach for resolving the identified environmental qualification deficiencies acceptable. The majority of deficiencies identified were documentation, similarity, aging, qualified life and replacement schedule. All open items identified in the SER dated April 8, 1983 were also discussed and the resolution of these items has been found acceptable by the staff.

The approach described by the licensee for addressing and resolving the identified deficiencies includes replacing equipment, performing additional analyses, utilizing additional qualification documentation beyond that reviewed by FRC, obtaining additional qualification documentation and determining that some equipment is outside the scope of 10 CFR 50.49, and therefore not required to be environmentally qualified, e.g., located in a mild environment. We discussed the proposed resolutions in detail on an item by item basis with the licensee during the April 4, 1984 meeting. Replacing or exempting equipment, for an acceptable reason, are clearly acceptable methods for resolving environmental qualification deficiencies. The more lengthy discussions with the licensee concerned the use of additional analyses or documentation. Although we did not review the additional analyses or documentation, we discussed how analysis was being used to resolve deficiencies identified in the FRC TER, and the content of the additional documentation in order to determine the acceptability of these methods. The licensee's equipment environmental qualification files will be audited by the staff during follow-up inspections to be performed by Region 1, with assistance from IE Headquarters and NRR staff as necessary. Since a significant amount of documentation has already been reviewed by the staff and Franklin Research Center, the primary objective of the file audit will be to verify that they contain the appropriate analyses and other necessary

documentation to support the licensee's conclusion that the equipment is qualified. The inspections will verify that the licensee's program for surveillance and maintenance of environmental qualified equipment is adequate to assure that this equipment is maintained in the as analyzed or tested condition. The method used for tracking periodic replacement parts, and implementation of the licensee's commitments and actions, e.g., regarding replacement of equipment, will also be verified.

The licensee states the Maine Yankee EQ Master List contains the safety-related electrical equipment defined in Paragraph (b)(1) of 10 CFR 50.49. The list is limited to equipment required to remain functional in the harsh environment to electrical equipment required for safe shutdown or accident mitigation. The Master List was prepared from reviews of the Maine Yankee Final Safety Analysis Report (FSAR), Technical Specifications, emergency operating procedures, and applicable piping, instrumentation, and electrical drawings. Maine Yankee also included flooding outside containment in the list of design basis events which could result in a potentially harsh environment. Therefore, all design basis events at Maine Yankee were considered within the scope of Paragraph (b)(1) of 10 CFR 50.49.

The licensee's approach for identifying equipment within the scope of paragraph (b)(1) is in accordance with the requirements of that paragraph, and therefore acceptable.

The method used by the licensee for identification of electrical equipment within the scope of paragraph (b)(2) of 10 CFR 50.49, nonsafety-related electric equipment whose failure under postulated environmental conditions could prevent satisfactory accomplishment of safety functions, is summarized below:

1. The elementary wiring diagrams of the Master List equipment were reviewed to identify any non-safety related devices with a direct electrical connection into the control or power circuitry of that equipment (e.g., automatic trips or interlocks). Any equipment identified during this review was evaluated to determine if its failure, due to postulated harsh environmental conditions, could prevent the required operation of the associated safety-related equipment.

2. The operation of the safety-related systems and equipment were reviewed to identify any non-safety-related auxiliary equipment with electrical components which are necessary for the required operation of the safety-related equipment (e.g., cooling water or lubricating equipment). This involved the review of plant drawings, technical manuals, and systems descriptions in the FSAR.
3. Non-Safety-related electrical circuits indirectly associated with the electrical equipment identified in the Master List by common power supply were considered by a review of the original Maine Yankee electrical design including the use of properly coordinated protective relays, circuit breakers, and fuses for electrical fault protection.

The licensee states that no additional equipment at Maine Yankee was identified during the above review that was not previously included in the Master List.

We find the methodology being used by the licensee is acceptable since it provides reasonable assurance that equipment within the scope of paragraph (b)(2) of 10 CFR 50.49 has been identified.

With regard to paragraph (b)(3) of 10 CFR 50.49, the licensee states that its Regulatory Guide 1.97 equipment was addressed during Maine Yankee's study of NUREG-0737, Supplement 1. A schedule for completion of the NUREG-0737, Supplement 1 activities has been submitted to NRC. Upon completion of those activities, Maine Yankee will add Regulatory Guide 1.97, Category 1 and 2 items to the Master List.

We find the licensee's approach to identifying equipment within the scope of paragraph (b)(3) of 10 CFR 50.49 acceptable since it is in accordance with the requirements of that paragraph.

Justification for Continued Operation

Mainee Yankee stated equipment replacements will be completed during its current refueling outage therefore, JCO's are not required.

CONCLUSIONS

Based on the above evaluation, we conclude the following with regard to the qualification of electric equipment important to safety within the scope of 10 CFR 50.49.

- ° Maine Yankee's electrical equipment environmental qualification program complies with the requirements of 10 CFR 50.49.
- ° The proposed resolutions for each of the environmental qualification deficiencies identified in the April 8, 1983 SER and FRC TER are acceptable.
- ° Continued operation will not present undue risk to the public health and safety.

Date: December 13, 1984

ATTACHMENT 2

RESOLUTION OF PETITIONER'S COMMENTS

REGARDING THE FRANKLIN RESEARCH CENTER'S TECHNICAL EVALUATION REPORT

Petitioner's specific comments regarding items identified in the February 23, 1983 FRC TER and Maine Yankee's resolutions for each of those items are listed below. Those resolutions have been reviewed by the staff and found to be acceptable.

1. Item 3: FRC found that Maine Yankee had not adequately evaluated the aging degradation of a limit switch in the primary auxiliary building. In its May 20, 1983 response to the April 8, 1983 SE, Maine Yankee still listed the limit switch as unqualified.

In its resolution of the TER items, Maine Yankee, by letter dated May 31, 1984, stated that the limit switch had been replaced with a qualified limit switch, with appropriate documentation on file.

2. Item 6: FRC found that Maine Yankee had not established that the terminal block located in the primary auxiliary building at elevation 11'-0" was environmentally qualified.

In its resolution of TER items, Maine Yankee, in its May 31, 1984 letter, stated that qualification documentation, not previously available, had been obtained and was on file at Maine Yankee to establish qualification for this item.

3. Item 8: FRC found that Maine Yankee had not established that electrical cable for power located in the containment spray pump area had been qualified for steam exposure.

Maine Yankee stated, in its May 31, 1984 letter, that qualified documentation not previously available had been obtained and was on file at Maine Yankee to support qualification of this equipment.

4. Item 9: FRC found that Maine Yankee had not provided sufficient information to establish that installed cables located in the containment spray pump area were identical to the tested cables.

Maine Yankee stated, in its May 31, 1984 letter, that the cable used at Maine Yankee has insulation of a sufficiently similar type as that qualified by Okonite Report No. NQRN-3. Thus, applicable portions of that report had been used to qualify the cable used at Maine Yankee.

5. Item 12: FRC found that Maine Yankee had not established that certain power cables located in the reactor containment were sufficiently similar to those used in qualification tests.

Maine Yankee stated, in its May 31, 1984 letter, that the original documentation reviewed by FRC had been superseded by documentation traceable to IEEE 383-1974 testing of the above mentioned cables, thus establishing qualification.

6. Item 14: FRC found that Maine Yankee had not established that electrical cables installed in the reactor containment at elevation 3'-0" which provides electrical power to control valves were sufficiently similar to those used in qualification tests.

Maine Yankee stated, in its May 31, 1984 letter, that the cable manufacturer had verified, by letter dated March 16, 1984, that the cable tested is identical to the purchased cable.

7. Item 15: FRC found for electrical cable for instruments at elevation 20'-0" of the reactor containment that, although Maine Yankee had provided results for tests enveloping the accident conditions of the Surry plant, the testing did not envelope the Maine Yankee accident profile, nor radiation requirements. Thus, qualification had not been established.

Maine Yankee, in its May 31, 1984 letter, stated that additional qualification documentation not previously available to FRC was obtained and is on file at Maine Yankee. The new documentation establishes qualification.

8. Item 16: FRC found that Maine Yankee had not provided a schedule for the replacement of an unqualified motorized valve actuator located in the primary auxiliary building.

Maine Yankee has replaced the actuator and, in its May 31, 1984 letter, stated that their Documentation Review Package is now adequate to show full qualification for the new piece of equipment.

9. Item 18: FRC found that, for a motorized valve actuator located in the containment, the aging degradation had not been evaluated adequately and the criteria regarding duration had not been adequately established.

Maine Yankee stated, in its May 31, 1984 letter, that the equipment reviewed by FRC has been replaced by new equipment for which it has adequate equipment qualification documentation on file.

10. Item 23: FRC found that Maine Yankee had not provided a schedule for the replacement of an environmentally unqualified motorized valve actuator located in the containment.

Maine Yankee has replaced the actuator and, in its May 31, 1984 letter, stated that their Documentation Review Package is now adequate to show full qualification for the new piece of equipment.

11. Item 37: FRC found that Maine Yankee had not established qualification for electrical penetration located in the reactor containment elevation 46'-0".

In its May 31, 1984 letter, Maine Yankee stated that their Qualification Documentation Review Package now contains sufficient new documentation to establish environmental qualification for the electrical penetration.

12. Item 38: FRC found that electrical cable installed at elevation 46'-0: of the reactor containment was not properly qualified.

This equipment is not in the scope of 10 CFR 50.49 and has been deleted from the Master List because it has no required Design Basis Accident usage. The distribution cabinets are used for power distribution to pressurizer heaters which are not required for accident mitigation.

13. Item 39: FRC found that qualification had not been established for the hydrogen analyzer located at elevation 11'-0" in the primary auxiliary building.

Maine Yankee stated, in its May 31, 1984 letter, that this equipment is not in the scope of 10 CFR 50.49 because it has been relocated to a mild environment. This hydrogen analyzer has been relocated to an area in the Primary Auxiliary Building which is removed from the radiation levels due to the charging pumps and recirculation piping and is accessible to personnel. A qualified hydrogen analyzer (Item 43) has been installed and is available as an alternate indication. Also, in its May 31, 1984 letter, Maine Yankee stated the following concerning qualification of the backup hydrogen analyzer (Item 43):

Qualification of this installed equipment has been demonstrated by type testing. The qualification documentation has been obtained and is on file at MYAPCo (QDR-5436-038-1816).

14. Item 44: FRC found that qualification had not been established for a motor control center located at elevation 30'-0" in the containment spray pump area.

Maine Yankee, in its May 31, 1984 letter, stated that this equipment is not in the scope of 10 CFR 50.49 and has been deleted from the Master List because it is located in a mild environment. Since the submittal of the documentation for the TER, a calculation of the post-accident radiation dose has been performed for the specific location of the motor control center. The revised calculation demonstrates that the actual radiation dose is less than $1 \times 10^4 R$. This is not considered to be a harsh environment.

15. Item 45: FRC found that Maine Yankee had not established qualification for a radiation detector located in the reactor containment at the top of the crane wall.

In its May 31, 1984 letter, Maine Yankee stated that sufficient documentation which addresses similarity, aging and radiation criteria is now on file to demonstrate qualification for this equipment.

16. Item 47: FRC found that qualification had not been established for a solenoid valve located in the reactor containment at elevation 51'-7".

Maine Yankee, in its May 31, 1984 letter, stated that a more comprehensive test report has been obtained which establishes qualification.

17. Item 51: FRC found that qualification had not been established for a solenoid valve located at elevation 11'-0" in the primary auxiliary building.

Maine Yankee, in its May 31, 1984 letter, stated, as in Item 47, that a more comprehensive report has been obtained which demonstrates qualification for the specified Maine Yankee normal service and accident environment.

18. Item 64: FRC found that qualification had not been established for an electric motor located in the containment spray pumps area at elevation 20'-0" because qualification documentation was not adequate.

Maine Yankee, in its May 31, 1984 letter, stated the following:

Additional qualification documentation, not previously available to FRC, has been obtained and is on file at MYAPCo (QDR-5436-038-0303). The qualification has been established by engineering evaluation of the data provided in: 1) Siemens-Allis Test Report No. NQ7304852, "Equipment Qualification for Class 1E Safety-Related Service in Power Generation Station", dated February 13, 1981 (FRC Reference: PGR #19), and 2) Acton Test Report No. 15564-22, "Analysis of Class 1E Qualification of Siemens-Allis Form Wound Containment Spray Pump Motors for Maine Yankee Atomic Power Station", dated April 7, 1981.

The qualification documentation provides parameter by parameter analysis to demonstrate that the equipment is qualified for the specified Maine Yankee normal service and accident environmental conditions.

19. Items 65 and 66: FRC found that equipment qualification had not been established for an electric motor located in the primary auxiliary building at elevation 21'-0 and another electric motor located in containment spray pump area at elevation 14'6" because similarity had not been established between the tested insulation systems and the installed equipment insulation systems.

Maine Yankee, in its May 31, 1984 letter, stated the following:

The motors at Maine Yankee are manufactured by the Westinghouse Large Motor Division for Class 1E applications as specified by the NSSS vendor Combustion Engineering. The qualification is based on Westinghouse Report, WCAP-8754, "Environmental Qualification of Class 1E Motors for Nuclear Out-of-Containment Use" (FRC Reference: PGR #604). This report and Revision 1 to the report clearly demonstrate traceability to Maine Yankee plant. Section 2 of the WCAP Report states the following: "The same insulating system (Thermalastic Epoxy) and only two different types of bearing are used on all nuclear Class 1E motors manufactured by Westinghouse Large Motor Division. Therefore, a generic qualification can be done to qualify all such motors to the requirements of IEEE 323-1974." Therefore, the Maine Yankee equipment is traceable to the WCAP Report.

20. Item 67: FRC found that, for an electric motor located in the reactor containment at elevation 24'-0", qualification had not been established because similarity between installed equipment and test specimens had not been adequately established.

In its May 31, 1984 letter, Maine Yankee stated the following:

Similarity between Maine Yankee and tested equipment has been established in Qualification Documentation Review package QDR-5436-038-0341. The QDR groups all the previous data reviewed by FRC into a concise and auditable package that demonstrates qualification. In addition to the previously submitted data, the QDR provides traceability between materials of construction of the motor (nomex, kapton, ML polyimide enamel magnet wires, DC997 silicone varnish) to motors tested to IEEE 334-1974, IEEE 323-1974. The vendor (Reliance) has certified that the Maine Yankee motors are of the same construction as the tested motor.

UNITED STATES NUCLEAR REGULATORY COMMISSIONMAINE YANKEE ATOMIC POWER COMPANY(MAINE YANKEE ATOMIC POWER STATION)DOCKET NO. 50-309ISSUANCE OF DIRECTOR'S DECISION UNDER 10 CFR 2.206

The Office of Nuclear Reactor Regulation has considered pursuant to 10 CFR 2.206 alleged equipment qualification deficiencies at the Maine Yankee Atomic Power Station identified in the "Comments on Rule Regarding Environmental Qualification of Electrical Equipment: Removal of June 30, 1982 Deadline" filed with the Commission by the State of Maine (Petitioner) on June 26, 1984. The Petitioner included as a concern that specific items of electrical equipment for certain facilities had not been found environmentally qualified in a Technical Evaluation Report prepared by the Franklin Research Center for the NRC in 1983.

Upon review of information pertaining to these items and the information provided by the Petitioner, the Director of the Office of Nuclear Reactor Regulation has determined that the concerns identified by the Petitioner have been adequately addressed. The reasons for the Director's conclusions are contained in the "Director's Decision Under 10 CFR 2.206" (DD-85- 17) which is available for public inspection in the Commission's Public Document Room, 1717 H Street, N.W., Washington, D.C. and the Local Public Document Room for the Maine Yankee Atomic Power Station, located at the Wiscasset Public Library, High Street, Wiscasset, Maine 04578.

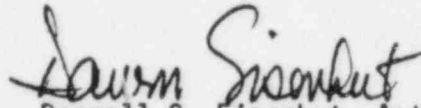
A copy of the Decision will be filed with the Office of the Secretary of the Commission for Commission review in accordance with 10 CFR 2.206(c).

DUPC 8511180389

As provided in this regulation, the Decision will become the final action of the Commission twenty-five (25) days after issuance, unless the Commission on its own motion institutes review of the Decision within that time.

Dated at Bethesda, Maryland, this 12th day of November, 1985.

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in dark ink, appearing to read "Darrell G. Eisenhut". The signature is written in a cursive style with a large, stylized "D" and "E".

Darrell G. Eisenhut, Acting Director
Office of Nuclear Reactor Regulation



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

EDO PRINCIPAL CORRESPONDENCE CONTROL

DE
Good
for approp
follow-up
action.

FROM:

DUE: 9 30
07/31/85

EDO CONTROL: 000750
DOC DT: 06/26/84
FINAL REPLY:

PAUL STERN
ASSISTANT ATTORNEY GENERAL
STATE OF MAINE

TO:

SECRETARY

FOR SIGNATURE OF:

** GREEN **

SECY NO:

DESC:

ECFR

2.206 - COMMENTS ON PROPOSED RUEL RE
ENVIRONMENTAL QUALIFICATION OF ELECTRICAL
EQUIPMENT: REMOVAL OF 6/30/82 DEADLINE -
MAINE YANKEE

ROUTING:

DENTON
TAYLOR
KERR, SP

DATE: 06/21/85
ASSIGNED TO: ELD

CONTACT: CUNNINGHAM
27308

Bill
OLMSTEAD
2/8488

SPECIAL INSTRUCTIONS OR REMARKS:

EDO-Denton
Draft letter
acknowledged
11/29/84 Memo
under

Paul Leech
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Draft like
Pilgrim

R. Karach

Jim
Lieberman
27496

Dick
Hoeffling
27013

(Steve Burns
Case Attorney)

JAMES E. TIERNEY
ATTORNEY GENERAL



DOCKET NUMBER
PROPOSED RULE PR-50 (20)
(49 FR 8445)

DOCKETED

84-2-22114

STATE OF MAINE
DEPARTMENT OF THE ATTORNEY GENERAL
STATE HOUSE STATION 6
AUGUSTA, MAINE 04333

June 26, 1984

Secretary
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555
Attn: Docketing and Service Branch

Re: Comments on Rule Regarding Environmental Qualification
of Electrical Equipment: Removal of June 30, 1982 Deadline

To Whom It May Concern:

Enclosed please find an original and two copies of the State of Maine's comments on the proposed rule regarding environmental qualification of electrical equipment which intends to remove the June 30, 1982 deadline, 49 FR 8445 (March 7, 1984). Thank you for your consideration on this matter.

Sincerely,

PAUL STERN
Assistant Attorney General

PS/g

Enclosures

EDO --- 000750

7/3/84

pd

84-2-22114-1p

JAMES E. TIERNEY
ATTORNEY GENERAL



DOCKETED
JUL 1 1983

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STATE OF MAINE
DEPARTMENT OF THE ATTORNEY GENERAL
STATE HOUSE STATION 6
AUGUSTA, MAINE 04333

June 26, 1983

Secretary
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555
Attn: Docketing and Service Branch

Re: Comments on Rule Regarding Environmental Qualification of
Electrical Equipment; Removal of June 30, 1982 Deadline

Dear Chairman Palladino, and Commissioners Ahearne, Roberts and
Asselstine:

On March 7, 1984, the Nuclear Regulatory Commission (NRC) published a notice of proposed rulemaking seeking to delete the June 30, 1982 deadline for completion of environmental qualification for safety-related equipment. 49 FR 8445 (March 7, 1984). This proposed rulemaking is in response to a decision by the United States Court of Appeals for the District of Columbia Circuit which held that NRC's prior attempt to delete this deadline was fatally defective. UCS v. NRC, 711 F.2d 370 (D.C. Circuit, 1983). The proposed rule intends to amend the licenses of all nuclear power plants by deleting a qualification deadline from such licenses.

The Maine Yankee Atomic Power Station is located in the State of Maine. Therefore, the State has a very real and clear interest in the promulgation of rules which amend Maine Yankee's operating license. The Technical Evaluation Report, dated February 23, 1983, prepared by the Franklin Research Center identifies problems with numerous safety-related items of equipment in use at the Maine Yankee plant, as discussed in

~~200-15007~~ 14pp

Secretary
U.S. Nuclear Regulatory Commission
Page 2.
June 26, 1984

Attachment A hereto. The proposed rule intends to amend the operating license of Maine Yankee by deleting the deadline for environmental qualification without considering the plant specific characteristics and recognized problems at Maine Yankee.

The proposed rule comports with neither the intent nor the clear statutory language of the Atomic Energy Act. Indeed, rather than dealing with the environmental qualification issues, the rule seeks only to avoid such issues by amending each plant's license without any plant-specific justification. The operators of the plant have not shown and NRC cannot find that continued operation without environmental qualification of safety-related equipment will not pose a risk to the public health and safety.^{1/}

**The Proposed Rule Violates the Atomic Energy Act and the
NRC's Regulations.**

In its notice of proposed rulemaking, the NRC indicates that comments which challenge the safety of continued operation at particular plants are not relevant to this generic rulemaking because the latter is concerned with an industry-wide deadline. We find this assertion incredible, as well as in direct contravention of the Atomic Energy Act and the NRC's own regulations.

The United States Court of Appeals for the District of Columbia Circuit clearly found that deleting the June 30, 1982 deadline constitutes amending of operating licenses within the meaning of the Atomic Energy Act. UCS v. NRC, supra at 380. It is well-established that an amendment to an operating license is only permissible where it is shown that such amendment does not pose a risk to the public health and safety. The NRC presents no analyses and has no record to support the conclusion that deleting the deadline, and thereby permitting continued operation of the plants despite lack of qualification of all safety-related equipment, does not pose a risk to public health and safety. Rather, the NRC attempts to circumvent the issue by now asserting that the manner in which it deals with safety issues is by means of enforcement actions,

^{1/} The notice to propose rulemaking did state that the comments period expires May 1, 1984, and that comments received after that date will be considered if it is practical to do so. It is our understanding that the comment period deadline has been extended to an uncertain date.

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U.S. Nuclear Regulatory Commission
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and not by assuring the license and its amendments do not pose a risk to the public. This is an incredible line of illogic and clearly contravenes the regulatory scheme established by the Atomic Energy Act.

In particular, the Atomic Energy Act (42 USC § 2133(d)) and the NRC's own regulations (10 CFR §§ 50.57(a) and 50.92(a)) contemplate that assuring the public health and safety will not be endangered is an "up front" prerequisite to any amendment to an operating license. Indeed, the fundamental precept of the nuclear energy regulatory process is that no operating license or amendment thereto is permissible unless it is affirmatively shown that the public health and safety will not be endangered. In one cut, the NRC is proposing to amend all operating licenses without this fundamental precept being honored for any of the plants. There are problems with safety-related equipment in all nuclear power plants, as discussed in each plant's TER. The NRC is aware of these problems. The NRC also knows that each plant has peculiar characteristics and particular problems regarding safety-related equipment. These "individual plant" characteristics and problems are being disregarded in the proposed rule. There is no consideration of the endangerment to the public health and safety which arises from each plant's problems. The NRC has the ability to deal with each operating license in order to deal with the environmental qualification problems, and should do so rather than taking a "convenient" course of action which in no way protects the public health and safety.

The NRC proposal drifts even further from the intent of the Atomic Energy Act by implying that the burden of assuring public health and safety is not on the plant operators but rather on the public. The proposal does so by transforming comments which identify a particular plant's failure to have its safety-related equipment environmentally qualified, into a request for action under 10 CFR § 2.206. By doing so, the NRC is concluding that the proposed amendment to all operating licenses will be permitted unless the public successfully carries the burden of proving a risk to itself. The NRC's own regulations and statutes, however, place the burden on the operator to show that an amendment to its license will not pose a risk to public health and safety. The NRC is ignoring, indeed reversing, that requirement here. Simply put, all safety-related equipment must be environmentally qualified; NRC proposes to delete any deadline for such qualification without

Secretary
U.S. Nuclear Regulatory Commission
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a justification for continued operation of any particular plant and further turns around and requires the public to prove the risk.

The approach taken by the NRC is even more incredible in light of the fact that numerous plants, including Maine Yankee, contain and use safety-related equipment which is not environmentally qualified. Indeed, there are numerous items of equipment for which environmental qualification has not been adequately established, and for which justification for continued operation has not been presented, as discussed below.

**The Proposed Rule Will Permit Operation Without
Safety-Related Equipment Being Qualified and Without
Justification for Continued Operation.**

The NRC proposes to waive the environmental qualification deadline without considering the failure of plants, such as Maine Yankee, to qualify all of their safety-related equipment or to present justification for continued operation pending full qualification. Even a cursory review of the Technical Evaluation Report ("TER") prepared by the Franklin Research Center ("FRC") reveals numerous items of safety-related equipment for which adequate documentation of environmental qualification has not been presented. We note that our attempt to evaluate the status of safety-related equipment has been hampered by Maine Yankee's incomplete and conclusory responses to the TER, as set forth in Maine Yankee's May 12 and 20, 1983 letters. Indeed, it appears to be Maine Yankee's strategy not to present justification for continued operation but rather to baldly assert that all equipment was qualified even though the FRC found such to be lacking documentation of environmental qualification. Moreover, certainly, there is no independent NRC analysis or determination that Maine Yankee's responses to the TER warrant a finding of environmental qualification.

As far as our search has uncovered, the safety-related equipment for which environmental qualification has not been documented includes those items listed and discussed in Attachment A hereto. It has been extremely difficult to conduct any analysis of Maine Yankee's safety-related equipment because of the incomplete and cursory nature of the record. Some of the deficiencies are so egregious, however, that we cannot believe that the NRC can seriously consider deleting the environmental qualification deadline. For example, FRC Item 23 is a motorized valve actuator for which qualification was not

Secretary
U.S. Nuclear Regulatory Commission
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June 26, 1984

established. Maine Yankee, apparently conceding this item is not qualified, indicated it would replace the motor. However, we have found no indication that the motor has been replaced or, if it has been replaced, that the new motor is qualified. Indeed, in its May 20, 1983 letter, even Maine Yankee fails to indicate this item is qualified. This is just one of many examples.

Maine Yankee has not adequately addressed the deficiencies noted by the Franklin Research Center with respect to numerous safety-related items of equipment. In spite of this, the NRC proposes to delete the deadline by which Maine Yankee must qualify its safety-related equipment, and to permit continued operation unless the public brings an action pursuant to 10 CFR 2.206 and proves a risk to the public. By deleting the deadline, the NRC is amending Maine Yankee's license and must make a determination, supported by the record, that such amendment does not endanger the public health and safety. The intent, spirit and letter of the Atomic Energy Act make clear that it is the operator of the plant that must show its safety-related equipment is qualified in order to operate, and that operation is not permissible without such. Permitting plants such as Maine Yankee to continue operation without qualification of safety-related equipment poses a serious risk to the public safety and this State. It is for these reasons that we request that the Commission not adopt the proposed rule. The NRC should not sweep these problems under a rug. They will not just go away. Rather, the Commission and its staff should focus in on the multitude of deficiencies at all plants including Maine Yankee which pose a serious risk, and should not permit these plants to continue operation until those risks have been obviated by qualification of the safety-related equipment.

Respectfully submitted,

PAUL STERN
Assistant Attorney General
State House Station 6
Augusta, Maine 04333
(207) 289-3051

STATE OF MAINE COMMENTS ON RULE REGARDING
ENVIRONMENTAL QUALIFICATION

ATTACHMENT A

The Technical Evaluation Report, dated February 23, 1983, on Maine Yankee (hereinafter referred to as the "TER") prepared by the Franklin Research Center (hereinafter referred to as the "FRC") identifies and discusses the status of safety-related equipment. The status report is based upon Maine Yankee's own responses to the Safety Evaluation Report.

The FRC categorized the equipment, generally, as being "equipment qualified," "equipment not qualified," or "equipment qualification not established." The discussion below deals with the last category, "equipment qualification not established." With respect to this category, Maine Yankee submitted brief responses on May 12 and 20, 1983. In these responses, Maine Yankee did not present adequate documentation to warrant a conclusion that the safety-related items of equipment in this category were environmentally qualified, and did not present any justification for continued operation.

As more fully discussed below, Maine Yankee's responses to the TER's conclusion that particular equipment was not environmentally qualified fall within several categories. For certain items of safety-related equipment, we have found no response from Maine Yankee (FRC Items 3, 45 and 47). With respect to some items, the FRC concluded that further testing was needed; Maine Yankee's response consisted of bald, unsubstantiated assertions that unidentified test information had been obtained (FRC Items 8, 15, 44 and 64). Because the purported information is not identified or discussed by Maine Yankee, neither the NRC nor we can ascertain whether such information adequately addresses the concerns raised in the TER. For several other items of equipment, the FRC found that adequate similarity between the test specimen and the in-plant equipment had to be established (FRC Items 9, 12, 14, 37, 65 and 67); Maine Yankee responded with brief, unsubstantiated statements that such similarity had been shown. Maine Yankee indicated that several items of safety-related equipment for which environmental qualification was not established would be replaced with environmentally-qualified equipment (FRC Items 16, 23 and 51) but we have found no verification that such replacements have occurred or that the new equipment is environmentally qualified. With respect to at least three items, Maine Yankee submitted unsubstantiated responses arguing the FRC was simply wrong (FRC Items 6, 18, 38 and 39). Thus, Maine Yankee's responses to the concerns raised in the TER are inadequate, unsubstantiated, and/or non-existent. Environmental qualification for numerous items of safety-related equipment at Maine Yankee is not now established, and there is no justification for continued operation.

20 items

The individual items of safety-related equipment at Maine Yankee for which environmental qualification is not established include the following:

FRC Equipment Item #3 is a limit switch in the primary auxiliary building (NAMCO MODEL EA740), and Maine Yankee had not established that this equipment was qualified at the time of the TER. The FRC found that Maine Yankee had not adequately evaluated the aging degradation of this piece of equipment, had not established the qualified life for the replacement schedule for this equipment, and had not established that it met the criteria regarding steam exposure adequately. It should be noted that this provides an active, long term safety function, and no evaluation of the testing for this piece of equipment was provided. In Attachment A to its May 20, 1983 response, Maine Yankee still listed Item #3 as not qualified.

FRC Equipment Item #6 is the terminal block located in the primary auxiliary building at elevation 11' 0" (Square D Model 1829319), and provides electrical connections. FRC determined that the environmental qualification for this terminal block was not established even though Maine Yankee had specifically stated that the equipment is qualified and will function when exposed to the applicable environmental service conditions. Indeed, the FRC noted that Maine Yankee stated that the qualification was established by analysis, although no analysis was provided. The FRC indicated that the equipment should be tested. Maine Yankee responded on May 12, 1983. First, Maine Yankee asserted that it believed that these terminal blocks will not be exposed to the steam environment because it is outside the containment and the pressure transient from the line break is "only 1 psi for about 30 seconds and the release is terminated in a matter of minutes." However, Maine Yankee presents no support that the pressure transient will be limited to the conditions it sets for it, and, further, fails to provide an analysis, as requested by FRC, that the terminal block is qualified even to withstand those conditions. Second, Maine Yankee asserts that it has reviewed each circuit to evaluate the significance of failure of the terminal block, apparently concluding that for these circuits the mitigating function will occur despite the failure of the circuit, the circuit is not relevant to mitigating functions, the failure of the valves relating to these circuits will not affect the mitigating function, or the function can be accomplished by alternative equipment. We note that the response is, at best, confusing since there is no designation of which circuits are covering which particular mitigating function, and, therefore, not only is it virtually impossible to evaluate this response,

but the response has to be deemed unacceptable. Maine Yankee does not identify the mitigating functions which will occur despite the failure of the particular solenoid valve circuits; Maine Yankee fails to identify those valves that do not affect mitigating functions; Maine Yankee fails to indicate that the alternative instrumentation is environmentally qualified; and Maine Yankee fails to provide support for its conclusion that the failure of these components will not degrade the mitigation function or cause the operator to be misled.

FRC Equipment Item #8 is electric cable for power located in the containment spray pump area (Anaconda Wire and Cable Model XLP/Neoprene), and provides electrical power for various valves. Maine Yankee previously stated that the equipment is qualified and would function when exposed to the applicable environmental conditions. However, the FRC found that qualification was not established with respect to, in particular, steam exposure. The FRC concluded that the equipment should either be tested for steam exposure or be replaced with qualified equipment. Maine Yankee, in its May 12, 1983, response, simply stated that since the submittal of documentation for the TER, "additional test information has been obtained to address the concerns on the TER relative to these cables." This bald assertion does not provide adequate information or analysis to establish that the electrical cable is actually qualified. There are no references documenting Maine Yankee's conclusory assertion.

FRC Equipment Item #9 is electrical cable for power located in the containment spray pump area (Okonite Model EPR/Amor/PDC) which provides electrical power for various pumps. Maine Yankee specifically stated that the equipment is qualified but the FRC found that it was not qualified because Maine Yankee had not established that there was adequate similarity between this equipment and the test specimen. The FRC concluded that in lieu of the detailed description normally acceptable, it would be acceptable for Maine Yankee to obtain certification from the manufacturer identifying what test report applies to the cables furnished for installation. In response, on May 12, 1983, Maine Yankee stated that since its submittal of the test report for TER review, "our consultant has compared the insulation systems of the test specimen and the cable specified for these items and determined that the report is applicable for establishing qualification of the cables." In doing so, Maine Yankee failed to provide any analysis for its conclusion that the report is applicable for establishing qualification of this cable, and, clearly, did not provide a manufacturer's certification.

FRC Equipment Item #12 is electrical cable for power located in the reactor containment (Okonite Model Okonite/Okoprene) which provides electrical power for various equipment. Although Maine Yankee stated that the equipment is qualified, the FRC found that qualification had not been established. In particular, the FRC had found that Maine Yankee had not established adequate similarity between this equipment and the test specimen. In response, on May 12, 1983, Maine Yankee asserted, as it did with Item #9 discussed above, that its consultant had compared the insulation systems of the test specimen in the cables specified for these items and determined that the report is applicable for establishing qualification of the cables. As noted with respect to Item #9, there is no information provided in this response from which one could conclude that there is any basis for determining that the equipment is qualified.

FRC Equipment Item #14 is electrical cable in the reactor containment at the elevation of three feet (Anaconda Wire and Cable Model EPR Hypalon) and provides electrical power to control valves. Although Maine Yankee stated that the equipment is qualified, the FRC found that the qualification had not been established because Maine Yankee had failed to establish adequate similarity between this equipment and the test specimen. In response, on May 12, 1983, Maine Yankee simply stated that the manufacturer has informed Maine Yankee that the cable is identical to the cable tested. However, there is no manufacturer certification provided. Therefore, the pertinent information is missing and there is no basis for determining that this equipment is qualified until this certification is provided and an analysis of that certification is made.

FRC Equipment Item #15 is electrical cable for instruments located in the reactor containment at elevation of 20 feet (Continental Wire Model XLP/Hypalon). Maine Yankee specifically stated that the equipment is qualified. However, FRC found that it was not because Maine Yankee had not adequately met the required profile envelope regarding radiation. In particular, Maine Yankee provided extensive documentation which established that the cable installed was the same as that installed at Surry (VEPCO); however, the testing done does not envelope the Maine Yankee accident profile and radiation requirements. Maine Yankee's response on May 12, 1983, is a bald conclusion that "additional test information has been obtained to address the concerns of the TER relative to these cables." There are no references, analyses or documentation for this assertion. In view of this, there is no basis for determining that the equipment here is qualified.

FRC Equipment Item #16 is a motorized valve actuator located in the primary auxiliary building (Limitorque Model SMB1) which provides valve operations. Maine Yankee proposed corrective action by replacing the motor but did not provide a schedule for the proposed corrective action. We have not been able to uncover documentation indicating when the motor was replaced and whether the replacement motor was environmentally qualified. In view of this missing information, there appears to be no basis for determining that this piece of equipment is qualified.

FRC Equipment Item #18 is a motorized valve actuator located in the containment (Limitorque Model SMB00), and operates a pressurizer relief isolation valve. Maine Yankee stated that the equipment was qualified but the FRC found that it was not. In particular, the FRC found that the aging degradation had not been evaluated adequately, and the criteria regarding duration had not been adequately established. Indeed, there had been no documentation to support the forty-year qualified life claimed by Maine Yankee or with respect to radiation aging. The FRC noted that the licensee should, inter alia, address both thermal aging and radiation qualification of the motor lead insulation of the actuator. In response, on May 12, 1983, Maine Yankee did not attempt to deal with the concerns raised by the FRC in the TER. Rather, Maine Yankee set forth the bald argument that there will be no significant degradation of safety function or misleading information to the operator as a result of failure of this equipment under the accident and environment resulting from a DBA event. Therefore, it appears that Maine Yankee has abandoned any attempt to qualify this equipment and seeks now only to have it deemed to be exempt. Maine Yankee's arguments in support of this position simply boil down to an empty assertion that this equipment's function may be unnecessary because the harsh conditions may not be present and the problem it is supposed to deal with (operation of a pressurizer power-operated relief valve) may not be necessary. Maine Yankee's response provides no basis for this conclusion.

FRC Equipment Item #23 is a motorized valve actuator located in the containment (Limitorque Model SMB1) which actuates low pressure safety injection isolation valves. The FRC found that qualification had not been established for this piece of equipment, and Maine Yankee had indicated that its corrective action would be to replace the motor although it did not provide a schedule for the proposed corrective action. We have been unable to find any indication that the motor has been replaced or the replacement motor is qualified. Indeed, in its

May 20, 1983 letter, Maine Yankee, in Attachment A, fails to indicate that this piece of equipment is qualified.

FRC Equipment Item #37 is electrical penetration located in the reactor containment at elevation of 46 feet (D. G. O'Brian Model per Maine Yankee specification). The FRC found that qualification had not been established for this equipment item although Maine Yankee specifically stated that the equipment is qualified. In particular, the FRC found that the evidence of qualification presented by Maine Yankee describes a test for cable which does not represent the cable installed in the plant. The testing, further, failed to use the environmental specification for pressure integrity testing. In response, on May 12, 1983, Maine Yankee stated that test data is available and that the manufacturer has analyzed the penetration types to evaluate the applicability of the additional testing. There is no statement, let alone analysis, that there is a valid correlation between this new testing and the penetration of this equipment item. Maine Yankee merely asserts it "believes" that this additional information will satisfactorily address the concerns in the TER. In view of this vague, conclusory response, there is no basis for any determination that this item is qualified.

FRC Equipment Item #38 is electrical cable located in the reactor containment at elevation of 46 feet (Westinghouse Model FHB3070) which provides power for the pressurizer heater. This is one of the TMI action items as listed in WVREG 0737 in response to the accident at Three Mile Island, and the FRC found that the documented evidence of qualification was not adequate. In response, on May 12, 1983, Maine Yankee reiterated its prior position that it believes these items should be deleted from the master list. Thus, Maine Yankee has not responded in a positive way but has merely reiterated its previously rejected position.

FRC Equipment Item #39 is the hydrogen analyzer located in the primary auxiliary building at an elevation of 11 feet (Bendix Model H2AI1001) which has the function of containment hydrogen monitor. The FRC found that qualification had not been established for this item. In particular, the FRC noted:

"The licensee has not cited any qualification or test reports for this item, nor has the licensee proposed any resolution to the qualification deficiencies. Many of the environmental conditions specified by the licensee are mild. Accident

- temperature, however, peaks at 160°F and remains above 120°F for more than 30 hours. There is no evidence that the equipment item will survive this environment. Furthermore, the duration of the accident condition is unclear and aging degradation has not been addressed."

In response, on May 12, 1983, Maine Yankee indicated that this hydrogen analyzer has been relocated to an area in the Primary Auxiliary Building "which is further removed from the radiation levels" and "is accessible to personnel." Maine Yankee additionally indicated that in the event this analyzer should fail, "the qualified analyzer (in Item #43) has been installed and will be available as an alternate indication." Thus, Maine Yankee apparently argues that this equipment will not be subjected to a harsh environment as a result of the postulated accident, and its safety related function can be accomplished by some other designated equipment. However, Maine Yankee presents no analyses to show that even at this location it will not be subject to a harsh environment. Without knowing its exact location, the equipment may be located near a mainstream line and, thus, could be subjected to high pressure, heat and water. In addition, the backup equipment has not been fully environmentally qualified. Indeed, in its May 20, 1983 submittal, in Attachment A, Maine Yankee did not even indicate that the backup item (Item #43) is qualified.

FRC Equipment Item #44 is a motor control center located in the containment spray pump area at elevation of 30 feet (Westinghouse Model Type W) which provides the function of electrical power distribution. The FRC found this item was not established to be qualified because Maine Yankee had failed to show none of the materials of construction will degrade in the harsh environment. In response, on May 12, 1984, Maine Yankee argues that the post-accident radiation dose for the specific location of the motor control center is not considered to be a harsh environment. Maine Yankee, however, failed to deal with the thermal aging issue noted by the FRC. Therefore, even assuming Maine Yankee's radiation assertions are correct, Maine Yankee still has not responded in any way to the thermal aging issue.

FRC Equipment Item #45 is a radiation detector located in the reactor containment at the top of the crane wall (General Atomic Model RD23). The FRC found that equipment qualification for this item had not been established. In particular, FRC noted that adequate similarity between the presently installed

equipment and the test specimen had not been established, the entire detector assembly had not been exposed to radiation testing or analysis, and no aging analysis was performed on the connector to the detector. We have found no response to these deficiencies in either the May 12 or the May 20, 1983 Maine Yankee response. Indeed, in Attachment A to the May 20 response, Item 45 is not listed to be qualified.

FRC Equipment Item #47 is a solenoid valve located in the reactor containment at the elevation of 51 feet 7 inches (ASCO Model 20638126) and functions as a pilot valve for carbon dioxide isolation. The FRC found that qualification for this item had not been established. Maine Yankee had not even provided a response to the concern raised in the Safety Evaluation Report that similarity between the test specimen and the valve in the plant had not been shown. In particular, the FRC concluded that Maine Yankee had not established similarity between the installed and tested equipment. Maine Yankee did not respond to the FRC finding in its May 13, 1983 response. We have found no response to the TER; therefore, we cannot determine whether and how it has been addressed. Therefore, the record does not support a finding that this component is qualified.

FRC Equipment Item #51 is a solenoid valve located in the primary auxiliary building at the elevation of 11 feet (ASCO Model 8320A184E) and has the function of a pilot valve. As is the case with Item #47, the FRC found that qualification for this valve had not been established because Maine Yankee had not established the similarity between the installed and tested equipment. In its May 12, 1983 response, Maine Yankee states in a conclusory fashion that the solenoid valve has been replaced with qualified units and the similarity of the installed units to the tested units has been established. However, there is no identification of these new units or analysis of the similarity between the new units and those that were tested. Therefore, there is nothing in the record to support a finding that this component is qualified.

FRC Equipment Item #64 is an electric motor located in the containment spray pump area at elevation of 20 feet (Allis Chalmers Model 507UP) and drive a containment spray pump. The FRC found that qualification for this item had not been established because no information or analysis was presented which established qualification for this item to the plant's specific environments. In its May 12, 1983 response to the TER, Maine Yankee asserts in a conclusory fashion that: "Additional information is available to demonstrate the

documentation submitted for the TER review is applicable to the motors at Maine Yankee...." This statement, unsupported by any analysis, in no way establishes that this component is qualified. At the very least, it makes it impossible for the NRC to determine whether and how it has been addressed.

FRC Equipment Item #65 is an electrical motor located in the primary auxiliary building at elevation of 21 feet (Westinghouse Model 5089S) and drives the high pressure safety injection system pumps. FRC Equipment Item #66 is the electric motor located in the containment spray pump area at elevation of 14 feet 6 inches (Westinghouse Model 5885P24) which drives an LPSI pump. The FRC found that the equipment qualification for these items had not been shown because the similarity had not been established between the tested insulation systems and the installed equipment. In response, on May 12, 1983, Maine Yankee asserted that additional information is available to establish the similarity but presented no analysis for this conclusion. In view of this, the record does not support a determination that these motors are qualified.

FRC Equipment Item #67 is an electrical motor located in the reactor containment at elevation of 24 feet (Reliant Electrical Model 3243081X/3243082X) and drives containment air recirculation fans. The FRC found that qualification had not been established for this item because Maine Yankee had not established the similarity between the tested and installed equipment. In response, on May 12, 1983, Maine Yankee merely asserted that the manufacturer has provided verification that the installed motors are similar to the tested motor. However, there is no documentation to support this assertion. Therefore, the record does not support any determination that this equipment is qualified.