

DEC 23 1977

Yankee Atomic Electric Company
ATTN: Mr. Robert H. Groce
Licensing Engineer
20 Turnpike Road
Westboro, Massachusetts 01581

Gentlemen:

RE: YANKEE-ROWE ATOMIC POWER STATION

Our letter of December 1, 1977, discussed your participation in the Systematic Evaluation Program (SEP) for operating reactors and provided a report describing the program. The program includes the topic "Environmental Qualification of Safety-Related Equipment" as one of the topics of safety significance. The program further provides that topics considered to be of special safety significance would continue to be evaluated on a case-by-case basis in advance of completing the overall program. The staff has determined that it is appropriate to complete its review of this subject as the first topic of the SEP.

The enclosed "Staff Report on the Environmental Qualification of Safety-Related Electrical Equipment" (NUREG 413) supports the staff position that no immediate action for your facility is required, but that it is appropriate to initiate the review of this topic. This document was prepared as part of the NRC staff's response of December 15, 1977 to a Union of Concerned Scientists petition dated November 4, 1977. The report also provides the staff review procedure, a discussion of the historical evolution of regulatory criteria, current generic staff effort, a summary of relevant operating experience and other information relevant to this topic.

Therefore, pursuant to 50.54(f), please deliver to the Office of Nuclear Reactor Regulation, Nuclear Regulatory Commission within 60 days from the date of this letter three signed originals and 40 copies of the following information:

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1. Identification of safety-related electrical equipment located both inside and outside containment which are required to perform a safety function under the environmental condition resulting from each Design Basis Event (DBE) for your facility. The DBE is defined as any single event which could potentially result in greater than routine release of radioactivity from the site. Briefly describe the safety function provided by each item of the equipment identified. Describe the location of the equipment. Identify any non-safety system, equipment or components, which, if subjected to the environmental conditions associated with a DBE, could affect the safety function of any safety-related system. Identify non-safety systems which could perform the function of a safety system by ameliorating the consequences of a DBE and specify electrical equipment required to assure function of such non-safety systems.
2. Definition of the limiting service environmental conditions for operating of the equipment and components identified above. The environmental parameters should include pressure, temperature, humidity, submergence, steam, radiation, chemicals, vibration or any combination of the above (seismic conditions are not to be included but will be considered elsewhere in the SEP). These environmental conditions should be presented as a function of time and the DBE producing the conditions should be identified. The time period during which each item of equipment would be required to operate in a DBE environment should also be identified.
3. Determination of the current status of environmental qualification for safety-related electrical equipment and identification of the supporting documentation. Any evidence by tests and analyses of environmental qualification for any environmental condition should be considered and provided.

Any information previously provided to the NRC that is still appropriate may be provided by reference.

We will be contacting you shortly to arrange a meeting to provide you with additional background information. In addition, a visit of your facility will be scheduled in the near future to obtain information on safety-related electrical equipment through direct onsite observation of these systems.

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Our safety assessment of this review topic will consider: (1) ability of the facility to adequately respond to all design basis events, (2) importance of the safety function and alternate ways of performing the safety function such as the possible use of non-safety system, (3) all available testing and qualification data, (4) any existing protection of the equipment from the environment, or (5) any other basis for acceptability that you might identify.

Sincerely, Original Signed By
Victor Stello

Victor Stello, Jr., Director
Division of Operating Reactors
Office of Nuclear Reactor Regulation

Enclosure:
Staff Report

(See SD-10 Same
Tr. for enclosure)

cc w/enclosure:
See next page

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Yankee Atomic Electric Company

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December 23, 1977

cc w/enclosure:

Mr. Donald G. Allen, President
• Yankee Atomic Electric Company
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Westboro, Massachusetts 01581

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