



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

TERA

May 6, 1980

Docket No. 50-309

Mr. Robert M. Groce  
Senior Engineer - Licensing  
Maine Yankee Atomic Power Company  
25 Research Drive  
Westboro, Massachusetts 01581

Dear Mr. Groce:

RE: MAINE YANKEE ATOMIC POWER STATION

We have reviewed your submittal of February 29, 1980, "Adequacy of Station Electric Distribution System Voltages," and find that additional information is required in order to complete our review. The attachment provides questions developed during our review.

Please respond to these questions within 45 days after receipt of this letter.

Sincerely,

A handwritten signature in cursive script that reads "Robert A. Clark".

Robert A. Clark, Chief  
Operating Reactors Branch #3  
Division of Licensing

Enclosure:  
As stated

cc: See next page

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cc w/enclosure(s):  
E. W. Thurlow, President  
Maine Yankee Atomic Power Company  
Edison Drive  
Augusta, Maine 04336

Mr. Donald E. Vandenburg  
Vice President - Engineering  
Yankee Atomic Electric Company  
20 Turnpike Road  
Westboro, Massachusetts 01581

John A. Ritsher, Esquire  
Ropes & Gray  
225 Franklin Street  
Boston, Massachusetts 02110

Mr. John M. R. Paterson  
Assistant Attorney General  
State of Maine  
Augusta, Maine 04330

Mr. Nicholas Barth  
Executive Director  
Sheepscot Valley Conservation  
Association, Inc.  
P. O. Box 125  
Alan, Maine 04535

Wiscasset Public Library Association  
High Street  
Wiscasset, Maine 04578

Mr. Robert R. Radcliffe  
Office of Energy Resources  
55 Capitol Street  
Augusta, Maine 04330

Robert M. Lazo, Esq., Chairman  
Atomic Safety and Licensing Board  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

Dr. Cadet H. Hand, Jr., Director  
Bodega Marine Laboratory  
University of California  
Bodega Bay, California 94923

Mr. Gustave A. Linenberger  
Atomic Safety and Licensing Board  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

Mrs. L. Patricia Doyle, President  
SAFE POWER FOR MAINE  
Post Office Box 774  
Camden, Maine 04843

First Selectman of Wiscasset  
Municipal Building  
U. S. Route 1  
Wiscasset, Maine 04578

Director, Technical Assessment  
Division  
Office of Radiation Programs  
(AW-459)  
U. S. Environmental Protection Agency  
Crystal Mall #2  
Arlington, Virginia 20460

U. S. Environmental Protection Agency  
Region I Office  
ATTN: EIS COORDINATOR  
JFK Federal Building  
Boston, Massachusetts 02203

Stanley R. Tupper, Esq.  
Tupper and Bradley  
102 Townsend Avenue  
Boothbay Harbor, Maine 04538

David Santee Miller, Esq.  
213 Morgan Street, N. W.  
Washington, D. C. 20001

State Planning Officer  
Executive Department  
State of Maine  
189 State Street  
Augusta, Maine 04330

MAINE YANKEE (DOCKET NO. 50-309)  
REQUEST FOR ADDITIONAL INFORMATION  
ON ADEQUACY OF STATION ELECTRIC  
DISTRIBUTION SYSTEM VOLTAGES

References

- a. Maine Yankee Atomic Power Company (MYAPC) letter (Robert H. Groce) to NRC, "Adequacy of Station Electric Distribution System Voltages," dated February 29, 1980.
- b. NRC generic letter to all Power Reactor Licensees, "Adequacy of Station Electric Distribution System Voltage," dated August 8, 1979.
- c. Report, attachment<sup>a</sup>, YAEC #1204, "Auxiliary Power System Voltage Study for Maine Yankee Atomic Power Station."
- d. MYAPC letter (Robert H. Groce) to NRC, dated September 16, 1976.

Questions

1. Reference(a) states that the computer program analysis was compared to the model of the station auxiliary power system. Comparing a computer analysis to a system model does not verify that the analysis correctly indicates the actual plant bus and load voltages. MYAPC should submit test procedures and verify the accuracy of the analyses per the NRC requirements (page 2, paragraph 3<sup>b</sup>).
2. Supply the calculated voltages for all low voltage AC (less than 480 V) class 1E buses (including alternate sources) for each analyzed case. Do these systems supply any instruments or control circuits as required by GDC 13? If so, is all the equipment capable of sustaining the analyzed voltages without blowing of fuses, overheating, etc., and without affecting the equipment's ability to perform the required function?
3. The assumption that the reactor coolant pumps can be manually tripped (section 3.3.2.f<sup>c</sup>) is not permitted per NRC guideline 4<sup>b</sup>. Therefore, MYAPC should provide a new analysis.
4. Assumptions that the maximum and minimum grid voltages (sections 3.3.3.b and 3.3.2.g<sup>c</sup>) are both 120 kV is not consistent with items 1.b, 1.f, and 4.<sup>d</sup> This letter states that 117 kV has been the minimum voltage on the grid and that 124kV has been the maximum. Per NRC guideline 6<sup>b</sup>, the reference d grid voltage values should be used in the MYAPC analysis.

5. NRC guideline requires a separate analysis for each source of offsite power, including unit auxiliary transformer, to the class 1E buses. The analysis<sup>c</sup> should include the following sources of power:
  - (a) 22 kV source through transformer x24; and
  - (b) 115 kV source through tertiary winding of transformer X16 unless there is an LCO for this source in the technical specifications.
6. Per NRC guideline 3<sup>b</sup>, the study should include starting of a large non-safety load when all class 1E loads are operating.
7. What are the 480 V and lower equipment terminal voltages when starting the largest 480 V class 1E load while all other class 1E equipment are operating?