

50-309



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

November 21, 1996

Mr. Charles D. Frizzle, President
Maine Yankee Atomic Power Company
329 Bath Road
Brunswick, ME 04011

SUBJECT: ADEQUACY OF THE OFFSITE POWER SYSTEM AT MAINE YANKEE ATOMIC POWER
STATION (TAC NO. M96589)

Dear Mr. Frizzle:

By letter dated October 7, 1996, the NRC issued the report of the Independent Safety Assessment (ISA) of Maine Yankee Atomic Power Company (MYAPCo) conducted by the NRC staff during the summer of 1996. The ISA examined the offsite power system and identified concerns regarding the adequacy of Section 69 of the 115 kV offsite power system (referred to as the Suroweic line.) Specifically, as a result of a voltage study of the grid conducted by Central Maine Power, MYAPCo identified that its electrical system analyses failed to consider the effect of a motor-driven feedwater pump (MDFWP) automatic start following fast transfer of plant loads to the reserve 115 kV offsite power system.

MYAPCo informed the ISA that a back-feed from the main transformer through the normal station service transformers would serve as an alternate source of reserve power. The ISA did not consider the back-feed an acceptable basis for compliance with the plant Final Safety Analysis Report (FSAR) and Maine Yankee Design Criterion 39. However, the ISA team considered this situation to be of low safety significance considering the historical stability of the grid, the existence of two independent reserve power transformers, and the limited conditions under which the Suroweic line would be unavailable.

On November 9, 1996, with the Suroweic line unavailable due to breaker maintenance, a fault in the grid end of Section 207 of the 115 kV system (the Mason line) caused a failure of a lightning arrestor at the Maine Yankee site and loss of all 115 kV offsite power to the site. The Suroweic line was restored approximately 5 hours into the event. The event was terminated when the Mason line was restored 10 hours and 23 minutes into the event. The plant operated throughout the event, providing power to plant loads from the main generator through the normal station service transformers.

By letter dated February 29, 1980 (WMY 80-32), MYAPCo submitted a voltage study, "Auxiliary Power System Voltage Study for Maine Yankee Atomic Power Station," that was conducted to determine "if the offsite power system and onsite electric distribution system is of sufficient capacity with capability to automatically start and operate all safety loads if all onsite power sources are not available." In that letter, MYAPCo stated that, "We have also reviewed the electric power systems at Maine Yankee and found total compliance with [General Design Criterion (GDC)] 17."

NRC FILE CENTER COPY

9611250218 961121
PDR ADOCK 05000309
P PDR

0701
1/0

On November 15, 1996, the NRC staff conducted a telephone conference call with members of your staff regarding the event of November 9 and the adequacy of the offsite power system at Maine Yankee. The NRC staff understands that Suroweic is no longer capable of sustaining required voltage while receiving a fast transfer of plant loads as the second (delayed) offsite power source. It appears that MYAPCo has changed the licensing basis from GDC 17 to Criterion 39 and has now chosen the 345 kV back-feed as the delayed offsite power source. During the conference call, the NRC staff tried to convey the following understanding:

- 1) Based on the 1980 adequacy study, MYAPCo took a position of total compliance with GDC 17 for the offsite power system. It has been the NRC staff's understanding during subsequent discussions regarding the offsite power system that MYAPCo was working toward satisfying that requirement. The NRC staff was not aware of MYAPCo's new position.
- 2) Criterion 39 requires that the onsite and offsite power systems be independent and each system be single failure proof. Therefore, Criterion 39 is more stringent than GDC 17. Because a single failure proof offsite power system is not attainable, GDC 17 does not require the offsite power system design to be single failure proof.

In view of MYAPCo's position, the staff requests MYPACo to respond to the following questions within seven days of the date of this letter.

- 1) Provide the assumptions and results of any analyses (i.e., systems and voltages) that demonstrate the ability to maintain safe shutdown (i.e., not exceeding fuel design limits, maintaining reactor coolant pressure boundary, etc.) of the plant during the period required (i.e., 6 hours) to establish the back-feed.
- 2) Identify MYAPCo's intention regarding the licensing basis (i.e., GDC 17 or Criterion 39) for the offsite power system and state any plans to amend the plant technical specifications to reflect the licensing basis. In addition, submit a copy of your safety evaluation that provided the bases for your determination that the change in the design criterion for the offsite power system did not involve an unreviewed safety question.
- 3) Provide MYAPCo's plans and schedule to restore the adequacy of the Suroweic line and/or to reduce the required time to establish the back-feed.

Mr. Charles D. Frizzle

- 3 -

November 21, 1996

If you have any questions regarding this matter, please call me at
(301)415-1429.

Sincerely,

Original signed by:

Daniel H. Dorman, Project Manager
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket No. 50-309

cc: See next page

DISTRIBUTION:

Docket File
PUBLIC
PD1-3 Reading
SVarga
JZwolinski
JCalvo

EPeyton
DDorman
OGC
ACRS
RConte, RI

DOCUMENT NAME: G:\DORMAN\M96589.LTR

To receive a copy of this document, indicate in the box: "C" = Copy without attachment/enclosure "E" = Copy with attachment/enclosure "N" = No copy

OFFICE	DRPE:PM	PD4-2:LA	NRR:DE	DRPE:DD	
NAME	DDorman:dt <i>dt</i>	EPeyton <i>ep</i>	JCalvo <i>mc</i>	JZwolinski	
DATE	11/21/96	11/21/96	11/21/96	11/21/96	11/ /96

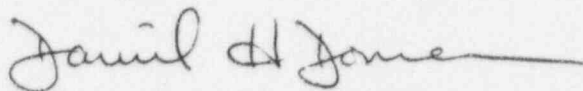
OFFICIAL RECORD COPY

Mr. Charles D. Frizzle

- 3 -

If you have any questions regarding this matter, please call me at
(301)415-1429.

Sincerely,

A handwritten signature in cursive script, appearing to read "Daniel H. Dorman", followed by a long horizontal flourish.

Daniel H. Dorman, Project Manager
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket No. 50-309

cc: See next page

Maine Yankee Atomic Power Station

cc:

Mr. Charles B. Brinkman
Manager - Washington Nuclear
Operations
ABB Combustion Engineering
12300 Twinbrook Parkway, Suite 330
Rockville, MD 20852

Thomas G. Dignan, Jr., Esquire
Ropes & Gray
One International Place
Boston, MA 02110-2624

Mr. Uldis Vanags
State Nuclear Safety Advisor
State Planning Office
State House Station #38
Augusta, ME 04333

Mr. P. L. Anderson, Project Manager
Yankee Atomic Electric Company
580 Main Street
Bolton, MA 01740-1398

Regional Administrator, Region I
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

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

Mr. J. T. Yerokun
Senior Resident Inspector
Maine Yankee Atomic Power Station
U.S. Nuclear Regulatory Commission
P.O. Box E
Wiscasset, ME 04578

Mr. James R. Hebert, Manager
Nuclear Engineering and Licensing
Maine Yankee Atomic Power Company
329 Bath Road
Brunswick, ME 04011

Friends of the Coast
P.O. Box 98
Edgecomb, ME 04556

Maine Yankee Atomic Power Company

Mr. Robert W. Blackmore
Plant Manager
Maine Yankee Atomic Power Station
P.O. Box 408
Wiscasset, ME 04578

Mr. G. D. Whittier, Vice President
Licensing and Engineering
Maine Yankee Atomic Power Company
329 Bath Road
Brunswick, ME 04011

Mr. Patrick J. Dostie
State of Maine Nuclear Safety
Inspector
Maine Yankee Atomic Power Station
P.O. Box 408
Wiscasset, ME 04578

Mr. Graham M. Leitch
Vice President, Operations
Maine Yankee Atomic Power Station
P.O. Box 408
Wiscasset, ME 04578

Mary Ann Lynch, Esquire
Maine Yankee Atomic Power Company
329 Bath Road
Brunswick, ME 04578

Mr. Jonathan M. Block
Attorney at Law
P.O. Box 566
Putney, VT 05346-0566