



ATOMIC POWER COMPANY •

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August 7, 1985  
MN-85-148

GDW-85-218

Director of Nuclear Reactor Regulation  
United States Nuclear Regulatory Commission  
Washington, D. C. 20555

Attention: Mr. Edward J. Butcher, Jr.  
Acting Branch Chief  
Operating Reactors Branch No. 3  
Division of Licensing

- References:
- (a) License No. DPR-36 (Docket No. 50-309)
  - (b) YAEC-1479, Maine Yankee Cycle 9 Core Performance Analysis, April 1985
  - (c) MYAPCo letter to USNRC dated November 29, 1984 (MN-84-204) RETRAN 02 Maine Steam Line Break Model Application for Maine Yankee
  - (d) MYAPCo letter to USNRC dated January 14, 1985 (MN-85-09) Modified Method for CEA Ejection Analysis.
  - (e) USNRC letter to MYAPCo, NMY 85-115, dated July 1, 1985
  - (f) USNRC letter to YAEC, NYR 84-117, dated June 5, 1984

Subject: Cycle 9 Reload

Gentlemen:

The Maine Yankee Cycle 9 design is fully described and evaluated in the Maine Yankee Cycle 9 Core Performance Analysis, Reference (b), which was submitted to the NRC in support of proposed technical specification changes for Cycle 9. Maine Yankee has evaluated the Cycle 9 reload and has concluded that it does not involve a significant hazards consideration. A summary of our evaluation follows:

As discussed in Reference (b) (Section 3.2.1) the fresh fuel assemblies used in the Cycle 9 design are being manufactured by Combustion Engineering and are not significantly different than those previously used at Maine Yankee. This fuel design has been found acceptable to the NRC in previous reload cores at Maine Yankee and other facilities. The acceptance criteria for the technical specifications associated with the Cycle 9 design are the same as the acceptance criteria for the current Technical Specifications. The analytical methods used to demonstrate conformance of the Cycle 9 design have

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been previously found acceptable by the NRC except for minor modifications in methods employed for CEA ejection and steam line break analyses. The approach taken to analyze these events were detailed in References c and d. The NRC has recently approved the use of the modified method for CEA ejection analysis in Reference (e). The review of our steam line break methods changes, to the best of our knowledge, is near completion. Through discussions with the NRC staff it appears that these methods will be acceptable. The same methods have been previously applied by Yankee Atomic Electric Company on the Yankee plant in Rowe, Massachusetts. This application was approved by the NRC in Reference (f).

Additional changes for Cycle 9 include the replacement of part-strength CEA's with full strength CEA's in the non-scrammable locations in CEA Bank 5 (subgroup 5B) and an increase in the maximum allowable core inlet temperature from 550°F to 552°F. Both of these changes are evaluated in detail in the Maine Yankee Cycle 9 core performance analysis, Reference (b).

As shown in the analysis, the changes associated with Cycle 9 do not affect the probability of an accident previously evaluated in the Maine Yankee FSAR. The effect of Cycle 9 operation on the consequences of accidents previously evaluated in the Maine Yankee FSAR is presented in Section 5 of Reference (b). As shown on Table 5.3 of Reference (b) the consequences of accidents previously evaluated have not significantly increased and continue to be well within applicable acceptance criteria.

The changes associated with Cycle 9 have been evaluated and we have concluded that they do not create the possibility of a new or different kind of accident from any previously evaluated.

The margin of safety of the Cycle 9 design is evaluated in Sections 3 and 4 of Reference (b). The thermal, thermal-hydraulic and physics characteristics of Cycle 9 are not significantly different from previous reload cores and thus the Cycle 9 design does not involve a significant reduction in margin of safety.

In summary, the Maine Yankee Cycle 9 Core Performance Analysis demonstrates that the Cycle 9 design does not:

- (1) Involve a significant increase in the probability or consequences of an accident previously evaluated; or
- (2) Create the possibility of a new or different kind of accident from any accident previously evaluated; or
- (3) Involve a significant reduction in a margin of safety.

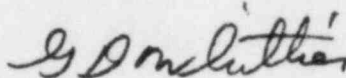
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Therefore, we have concluded that the Cycle 9 design does not involve a significant hazards consideration.

Very truly yours,

MAINE YANKEE ATOMIC POWER COMPANY



G. D. Whittier, Manager  
Nuclear Engineering & Licensing

GDW/plb

cc: Dr. Thomas E. Murley  
Mr. Cornelius F. Holden