

Maine Yankee

RELIABLE ELECTRICITY FOR MAINE SINCE 1972

EDISON DRIVE • AUGUSTA, MAINE 04330 • (207) 622-4868

October 31, 1989

MN-89-126

CDF-89-143

UNITED STATES NUCLEAR REGULATORY COMMISSION
Attention: Document Control Desk
Washington, D. C. 20555

References: (a) License No. DPR-36 (Docket No. 50-309)

Subject: Initial IPE (Generic Letter 88-20) Response

Gentlemen:

This letter provides Maine Yankee's initial response to Generic Letter 88-20, Individual Plant Examination for Severe Accident Vulnerabilities - 10 CFR 50.54(f).

Maine Yankee began a formal Probabilistic Risk Assessment (PRA) program early in 1987 with the final intended product being a full scope, Level III, plant specific PRA. The program involves a "phased" approach which will yield several useful intermediate products. One of these products will be the Individual Plant Examination (IPE) as described in the Generic Letter 88-20. The Maine Yankee PRA program, however, recognizes the benefits of additional analysis in the severe accident area and, as such, extends beyond the requirements as defined by the NRC at this time.

Phase I, which was completed in April of 1989, represents a Level I internal events PRA. Phase II, which is in progress with a late 1991 scheduled completion, will extend Phase I to both a Level II and Level III internal events analysis. Phase III, scheduled for completion in 1994, will include analysis of external events as covered by Levels I, II, and III.

The Maine Yankee PRA is being developed "in-house" by Yankee Atomic Electric Company engineers with reviews being conducted by both Yankee Atomic and Maine Yankee Atomic Power Company.

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Existing documentation of the Phase I PRA effort includes a single volume summary report and more extensive calculation notebooks. Attachment A provides the Table of Contents of our Phase I report. Phase II documentation will be similar as it will largely extend the Phase I results. The completion of Phase II of our PRA development effort will generally provide the information requested in Generic Letter 88-20; our summary report and calculation files/notebooks provide the "two-tier approach" to IPE documentation discussed in the generic letter. The content of this documentation meets the intent of Generic Letter 88-20 and NUREG 1335 reporting guidelines.

In order to levelize our use of internal resources, and since it will be most efficient to perform all external event related analyses together, our present Phase II work plan does not include internal flooding analysis. We plan to include an analysis of potential internal flooding events with our Phase III work which is scheduled to begin in 1992.

Maine Yankee believes that the maximum benefit of a PRA (or other IPE type analysis) lies in the insights gained and in appropriately applying that information to the design and operation of the plant. While our Phase I analysis did not identify any significant risk "out-liers" or "vulnerabilities", it did, of course, identify certain key sequences representing the top contributors to core damage risk. Maine Yankee is currently pursuing possible options to reduce the likelihood of occurrence of these events. Various means of integrating PRA use into daily plant operations have been and are being implemented. We intend to continue this effort in conjunction with Phase II.

In response to Generic Letter 88-20, Maine Yankee will submit a plant specific Level II internal events PRA by December 31, 1991. We propose to submit the requested internal flooding analysis on a later schedule to be coordinated with Phase III of our program. Our December, 1991 submittal will include a single volume Phase II summary report as well as a discussion of PRA application at Maine Yankee. More detailed calculation files and notebooks supporting our PRA efforts will be maintained by Maine Yankee/Yankee Atomic Electric Company and available for NRC inspection or audit.

We believe a meeting with the NRC staff to discuss our PRA program further would be to our mutual benefit. We will be contacting the NRC Project Manager for Maine Yankee in the near future to arrange such a meeting.

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We trust the preceding provides the information you requested in Generic Letter 88-20 regarding Maine Yankee's method, approach and schedule for performing an IPE.

Very truly yours,

MAINE YANKEE

Charles D. Frizzle
Charles D. Frizzle
President

GDW:SJJ

Enclosure

c: Mr. Richard H. Wessman
Mr. William T. Russell
Mr. Eric J. Leeds
Mr. Cornelius F. Holden
Mr. Clough Toppan

STATE OF MAINE

Then personally appeared before me, Charles D. Frizzle, who being duly sworn did state that he is President of Maine Yankee Atomic Power Company, that he is duly authorized to execute and file the foregoing response in the name and on behalf of Maine Yankee Atomic Power Company, and that the statements therein are true to the best of his knowledge and belief.

Brenda F. Castonguay
Notary Public

BRENDA F. CASTONGUAY
NOTARY PUBLIC, MAINE
MY COMMISSION EXPIRES APRIL 21, 1990

ATTACHMENT A

MAINE YANKEE PROBABILISTIC RISK ASSESSMENT

PHASE I

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MAINE YANKEE PRA

- PHASE I REPORT -

Prepared for
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ABSTRACT

To the extent that this report describes Phase I of a multiphase PRA development for Maine Yankee, it is an intermediate report. To the extent that Phase I is a complete, reasonably detailed, limited scope Level I Plus Probabilistic Risk Assessment, this report summarizes a final and useful product.

Phase I results demonstrate that, in terms of calculated core damage frequency induced by "internal" initiating events from normal at-power operation, Maine Yankee is not a "risk outlier." The analysis did identify certain key contributors to calculated core damage frequency as well as related uncertainties which should be pursued in latter phases of this PRA development.

Perhaps the most useful Phase I result is a capability and an improved understanding of risk. Phase I produced workable, useful, and readily expandable risk models as well as a strong "in-house" PRA capability for Maine Yankee. It provides considerable insights to risks at Maine Yankee.

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