

YANKEE ATOMIC ELECTRIC COMPANY



20 Turnpike Road Westborough, Massachusetts 01581

January 2, 1975.



United States Atomic Energy Commission
Washington, D. C. 20545

Attention: Directorate of Licensing

Subject: Revised ECCS Analysis

- Reference:
- 1) License No. DPR-3 (Docket No. 50-29)
 - 2) Proposed Change No. 117, "Revised ECCS Analysis", submitted to DOL/AEC on July 31, 1974.
 - 3) Buterbaugh, T. L., Johnson, W. J., and Kopelic, S. D., "Westinghouse ECCS-Plant Sensitivity Studies", WCAP-8356, July 1974.

Dear Sir:

Pursuant to 10 CFR 50.46, a revised ECCS analysis⁽²⁾, performed in accordance with Appendix K to 10 CFR 50 was submitted to the Directorate of Licensing. The following additional information is hereby forwarded to you as verbally requested by members of your staff on December 23, 1974.

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Table 411-1 of Reference 2 shows the results of the four large breaks that were analyzed. It is concluded that the double-ended cold leg guillotine break with a discharge coefficient of 0.6 is the worst break. Additional large breaks were not analyzed on the following basis:

- (1) Westinghouse has reported sensitivity studies on a four loop plant (Yankee Rowe has four loops) in WCAP-8340 (Proprietary Class 2) and WCAP-8356⁽³⁾ (Proprietary Class 3). In these studies, values of 1.0, 0.8, 0.6, and 0.4 were used for the break discharge coefficient. It was shown that the worst rupture is the double-ended cold leg guillotine break with a discharge coefficient of 0.6;
- (2) In performing Appendix K analyses for their customers, Westinghouse customarily provided analyses with discharge coefficients of 1.0, 0.6, and 0.4, confirming the results of the above sensitivity study;

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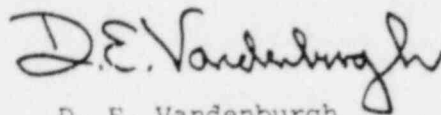
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- (3) Results shown in Table 411-1 show only a slight sensitivity to the value of the break discharge coefficient;
- (4) The flow area for a double-ended cold leg guillotine break is only 2.84 ft.² compared to 8.25 ft.² for current design PWRs. Thus, a much finer mesh in break sizes is involved for Yankee Rowe.

Respectfully submitted,

YANKEE ATOMIC ELECTRIC COMPANY



D. E. Vandenburg
Vice President

AEL/kg

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DESCRIPTION: Ltr furnishing addl info re
ECCS submittal re Proposed Change No. 117 on -
7-31-74.....

ENCLOSURES:

PLANT NAME: Yankee Rowe

FOR ACTION/INFORMATION

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