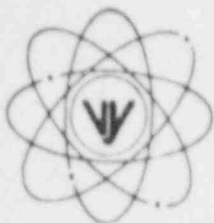


VERMONT YANKEE NUCLEAR POWER CORPORATION



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FVY 88-16

REPLY TO:

ENGINEERING OFFICE

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TELEPHONE 617-872-8100

March 1, 1988

United States Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555

References: (a) License No. DPR-28 (Docket No. 50-271)
(b) Letter, VYNPC to USNRC, FVY 87-68, dated June 25, 1987
(c) Letter, USNRC to VYNPC, NYY 87-132, dated August 14, 1987
(d) Federal Register, Volume 52, No. 251, Page 49538, dated
Thursday, December 31, 1987, Notice of Workshop on Mark I
Reactor Containment

Subject: Vermont Yankee Containment Safety Initiatives - Status Update

Dear Sir:

In our letter of June 25, 1987 [Reference (b)], Vermont Yankee provided a status report and summary of design engineering information regarding the implementation of modifications at Vermont Yankee involving containment spray and containment vent capabilities associated with postulated severe accident scenarios.

As discussed in that correspondence Vermont Yankee is now preparing a design change to install a modification which will enhance the flexibility of the Containment Spray System for severe accident scenarios. We plan to install this new capability in our 1989 refueling outage. Our studies show that this modification will clearly improve overall plant safety. The enhanced Containment Spray System has definite benefits for a variety of accident scenarios and will not adversely impact our capabilities with regard to design basis events. Recent work by NRC and industry, discussed at a joint workshop on Mark I Containment Issues [Reference (d)], has confirmed that the ability to inject water into the reactor vessel precore melt and/or the ability to put water into the containment following a severe core melt provides a very powerful prevention/mitigation strategy for dealing with a wide range of severe accident scenarios. The modifications being implemented by Vermont Yankee satisfy these objectives.

By letter dated August 14, 1987, [Reference (c)] you provided Vermont Yankee with a list of containment venting considerations which expanded upon the concerns identified by Vermont Yankee involving the uncertainties associated with the consequences of the use of containment venting. The questions raised in that letter highlighted the complexity of the issue of containment venting in severe accident scenarios. In accordance with our June 25, 1987 commitment, Vermont Yankee herein provides you with the results of our continuing efforts in this area and our current position and plans with respect to the future of this issue for Vermont Yankee.

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Vermont Yankee has participated in the development of a BWR Owner's Group draft report which has attempted to address the concerns raised in Reference (c) and is now in the process of being reviewed by individual utilities. From our preliminary review of this draft report, the predominant findings are that:

- o A containment vent capability may aid in preserving containment integrity for some (not all) low probability severe accident scenarios;
- o Projected dose rates for the operators on-site may make containment venting an unacceptable option;
- o There are many plant-specific factors which would need to be resolved before a decision to provide a containment vent for a specific plant could be justified.

The Owner's Group report is still under review by the participating utilities, and is expected to be finalized later in 1988.

Vermont Yankee has also performed its own scoping calculations with regard to the radiological conditions that could exist due to venting the containment in a postulated severe accident scenario. The on-site dose rates are very dependent upon the length of time actual venting occurs, the interval between ventings, and plant meteorology. In general, these calculations have shown us that for Vermont Yankee, venting into the Reactor Building, or venting up the side of the Reactor Building, may be an unacceptable option in terms of habitability for the operators in the Control Room. Another option which may be viable from an on-site radiological standpoint is venting to the plant stack. However, this modification would be much more complicated and would require substantial plant modifications to the plant Primary Containment and Atmospheric Control, and Standby Gas Treatment Systems. Vermont Yankee is not convinced that the small uncertain gain realized by a venting capability for a small number of very low probability severe accident scenarios is offset by resulting changes or reductions in existing plant capabilities for design bases events.

Our studies, and those of the BWR Owners' Group, show that there are many uncertainties associated with the limited benefits of a containment vent option, and there could be even more significant drawbacks, which vary widely on a plant-specific basis. This recent work again points to the conclusion that any decrease (or increase) in overall plant risk attributable to a containment vent cannot be determined for a single plant with generic studies and analyses. A similar sentiment is echoed by Dr. Thomas E. Murley in a letter

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to the State of Vermont on October 23, 1987 where he stated, "After a good deal of study and peer review, they (NRC management) concluded last April that, "On the one hand the industry analysts say that changes are not justified. On the other hand the research scientists indicate that the changes are not effective." In other words the technical consensus on the proposed improvements evaporated, even among the NRC staff."

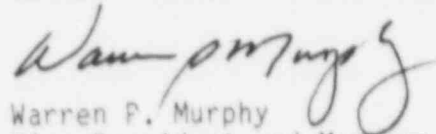
As a result of the above, Vermont Yankee has concluded that no further efforts relative to venting should be undertaken until the NRC firmly establishes a method to resolve all the outstanding Severe Accident issues. Vermont Yankee believes that by waiting for the NRC to provide those resolution methods, a more orderly framework and basis will be established to allow further consideration of each plant's unique capabilities and inherent safety features that are found in all the Mark I Containment Designs.

We will continue to work with the NRC and the BWR Owner's Group in anticipation of specific guidance from NRC regarding the method to resolve all severe accident issues. Further, a final decision by Vermont Yankee regarding implementation of additional plant-specific modifications will be integrated with the final NRC resolution program to ensure that public safety and plant safety are optimized and that resources are applied prudently.

Should you have any questions or require additional information concerning these matters, please contact us.

Very truly yours,

VERMONT YANKEE NUCLEAR POWER CORPORATION



Warren P. Murphy
Vice President and Manager of Operations

WPM/ss

cc: Director, Div. Reactor Proj. I/II
Mr. S.A. Varga

USNRC
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Mr. V.L. Rooney

USNRC Region I
USNRC Resident Inspector, VYNPS