

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
UNITED STATES ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

June 12, 1974

Honorable Dixy Lee Ray
Chairman
U. S. Atomic Energy Commission
Washington, D. C. 20545

Subject: REPORT ON VERMONT YANKEE NUCLEAR POWER STATION

Dear Dr. Ray:

At its 169th and 170th meetings, May 9-11 and June 6-8, 1974, the Advisory Committee on Reactor Safeguards reviewed the question of whether the Vermont Yankee Nuclear Power Station operating license should be amended to permit operation without inerting of the containment. During its review, the Committee had the benefit of discussions with representatives and consultants of Vermont Yankee Nuclear Power Corporation, General Electric Company, and the AEC Regulatory Staff, and of the documents listed. The results of the Committee's review of this project at the operating license stage were given in a report dated March 9, 1971.

The Vermont Yankee reactor has been operated at power for some time, but has not yet completed its startup program or completed its "warranty run" at full power. The Technical Specifications now in effect require inerting of containment for power operation subsequent to completion of the startup program and warranty run.

The present review of the need for inerting has been conducted at the request of the Director of Licensing, and stems from the Memorandum and Order, April 16, 1974 (ALAB-194) of the Atomic Safety and Licensing Appeal Board which directs that the requirement for inerting be deleted from the Technical Specifications for Vermont Yankee. The Regulatory Staff, however, believes that operation with an inerted containment is necessary to provide reasonable assurance that Vermont Yankee can be operated without undue risk to the health and safety of the public.

June 12, 1974

In its March 9, 1971 report on this plant, the Committee indicated that:

"The Committee believes the containment should be inerted during operation of the reactor. The Committee recognizes that inerting makes inspection and repair of the primary system more difficult, and believes it acceptable to de-inert during operation just prior to a shutdown and to re-inert during startup and operation following a shutdown. It is recommended that the need for inerting be reviewed periodically as operating experience and further knowledge from current development work are obtained, and as other means of coping with the hazards from accident-generated hydrogen are found."

At this time, the Committee believes that there is insufficient new information to warrant relaxation of its earlier recommendation that inerting be employed. With the current core loading and mode of operation, high core thermal performance is demanded and peak clad temperature during a postulated LOCA calculated in accordance with the Interim Acceptance Criteria provisions would be close to 2300°F. For such calculated clad temperature, the Committee considers it prudent to assume a very conservative margin on possible magnitude of hydrogen generation by fuel clad-water reaction and, therefore, on the necessity of inerting. Accordingly, the Committee recommends that the Vermont Yankee operating license not be amended at this time to permit operation without inerting of containment.

It should be noted that revisions to Regulatory Guide 1.7 are being considered and that these, together with a major change in core loading involving use of 8x8 fuel being proposed by the applicant, may provide a basis for reconsidering the need for inerting of the Vermont Yankee containment. In this connection, the Committee has provided comments on the proposed Guide revisions, and a copy is attached.

Sincerely yours,,



W. R. Stratton
Chairman

References Attached.

References

1. AEC (DL) letter dated April 30, 1974 to ACRS regarding Operation of the Vermont Yankee Nuclear Power Station Without Inerting of the Primary Containment
2. Memorandum and Order, April 16, 1974, (ALAB-194) Atomic Safety and Licensing Appeal Board Initial Decision
3. DL memo dated May 1, 1974 to R. F. Fraley regarding Responses of the Regulatory Staff to the Board's Memorandum and Order, April 16, 1974, (ALAB-194) concerning the inerting issue on the Vermont Yankee Nuclear Power Station
4. AEC (DL) letter dated May 2, 1974 to Vermont Yankee Nuclear Power Corporation regarding Operation of the Vermont Yankee Nuclear Power Station without inerting of the primary containment
5. Letter from Berlin, Roisman and Kessler dated May 6, 1974 regarding the Inerting Issue submitted by the New England Coalition of Nuclear Pollution