Docket No. 50-271

February 5, 1990

Mr. L. A. Tremblay
Licensing Engineering
Vermont Yankee Nuclear Power Corporation
Engineering Office
580 Main Street
Bolton, Massachusetts 01740-1398

Dear Mr. Tremblay:

SUBJECT: ISSUANCE OF AMENDMENT NO. 119 TO FACILITY OPERATING LICENSE NO. DPR-28 - VERMONT YANKEE NUCLEAR POWER STATION (TAC NO. 72826)

The Commission has issued the enclosed Amendment No. 119 to Facility Operating License No. DPR-28 for the Vermont Yankee Nuclear Power Station. This amendment is in response to your application dated August 26, 1986 and as supplemented January 16, 1990.

This amendment modifies Technical Specifications (TS) 3.7.A.5.b. and its related Bases. Specifically, it removes the part of the Limiting Condition for Operation (LCO) requirement that the vacuum breaker shall be locked closed when one of the Pressure Suppression Chamber - Reactor Building Vacuum Breaker Systems is inoperable. The revised TS conforms to the wording of the Standard TS, GE-STS (BWR/4), but retains the original seven day limit to restore the inoperable vacuum breaker to operable status.

A copy of our Safety Evaluation is also enclosed. Notice of Issuance will be included in the Commission's biweekly Federal Register Notice.

This completes action under TAC 72826.

Sincerely,

/s/

Morton B. Fairtile, Project Manager
Project Directorate I-3
Division of Reactor Projects I/II
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No.119 to License No. DPR-28
2. Safety Evaluation

cc w/enclosures:
See next page

*See previous concurrence

[VY AMEND.PKG. TAC72826]

CP-1

| PDI-3/PM* | PDI-3/PE* | PDI-3/LA* | OGC* | SPLB* | PDI-3/D |
|---|---|---|---|---|---|
| MBFairtile | AChu | MRushbrook | | CMcCraclem | RWessman |
| 08/21/89 | 08/17/89 | 08/17/89 | 08/23/89 | :09/12/89 | 09/ /89 |

MBF 1/25/90 2/5/90 1/19/90 2/5/90

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1/1

3. This license amendment is effective within 30 days of its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/S/

Richard H. Wessman, Director
Project Directorate I-3
Division of Reactor Projects I/II
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: February 5, 1990

*See previous concurrence

| PDI-3/PM* | PDI-3/PE* | PDI-3/LA* | OGC* | SPLB* | PDI-3/D |
|---|---|---|---|---|---|
| MBFairtile | AChu | MRushbrook | | CMcCracken | RHWessman |
| 08/21/89 | 08/17/89 | 08/17/89 | 08/23/89 | 09/12/89 | 2/5/90 |

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AMENDMENT NO. 119 TO DPR-28 VERMONT YANKEE NUCLEAR POWER STATION DATED February 5, 1990

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

February 5, 1990

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This amendment modifies Technical Specifications (TS) 3.7.A.5.b. and its related Bases. Specifically, it removes the part of the Limiting Condition for Operation (LCO) requirement that the vacuum breaker shall be locked closed when one of the Pressure Suppression Chamber - Reactor Building Vacuum Breaker Systems is inoperable. The revised TS conforms to the wording of the Standard TS, GE-STS (BWR/4), but retains the original seven day limit to restore the inoperable vacuum breaker to operable status.

A copy of our Safety Evaluation is also enclosed. Notice of Issuance will be included in the Commission's biweekly Federal Register Notice.

This completes action under TAC 72826.

Sincerely,

Morton B. Fairtile

Morton B. Fairtile, Project Manager
Project Directorate I-3
Division of Reactor Projects I/II
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 119 to License No. DPR-28
2. Safety Evaluation

cc w/enclosures:
See next page

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Mr. L. A. Tremblay

cc:
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Adjudicatory File (2)
Atomic Safety and Licensing Board
Panel Docket
U.S. Nuclear Regulatory Commission
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

VERMONT YANKEE NUCLEAR POWER CORPORATION

DOCKET NO. 50-271

VERMONT YANKEE NUCLEAR POWER STATION

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 119
License No. DPR-28

1. The Nuclear Regulatory Commission (the Commission or the NRC) has found that:

   A. The application for amendment filed by the Vermont Yankee Nuclear Power Corporation (the licensee) dated August 26, 1986 and as supplemented January 16, 1990 complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations set forth in 10 CFR Chapter I;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B of Facility Operating License No. DPR-28 is hereby amended to read as follows:

   Technical Specifications

   The Technical Specifications contained in Appendix A, as revised through Amendment No. 119 , are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

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3. This license amendment is effective within 30 days of its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Richard H. Wessman, Director
Project Directorate I-3
Division of Reactor Projects I/II
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: February 5, 1990

ATTACHMENT TO LICENSE AMENDMENT NO. 119

FACILITY OPERATING LICENSE NO. DPR-28

DOCKET NO. 50-271

Replace the following pages of the Appendix A Technical Specifications with the attached pages. The revised pages are identified by Amendment number and contain vertical lines indicating the area of change.

| Remove | Insert |
|---|---|
| 127 | 127 |
| 139a | 139a |

## 3.7 LIMITING CONDITIONS FOR OPERATION

3. Whenever primary containment is required, the total primary containment leakage rate shall not exceed 0.8 weight percent per day ($L_a$) at a pressure of 44 psig ($P_a$).

4. Whenever primary containment is required, the leakage from any one isolation valve shall not exceed 5 percent of the maximum allowable leak rate ($L_a$) at peak accident pressure ($P_a$) and the leakage from any one main steam line isolation valve shall not exceed 15.5 scf/hr at 44 psig ($P_a$).

5. <u>Pressure Suppression Chamber - Reactor Building Vacuum Breakers</u>

   a. Two of two pressure suppression chamber-reactor building vacuum breaker systems shall be operable at all times when the primary containment integrity is required. The setpoint of the differential pressure instrumentation which actuates the pressure suppression chamber-reactor building air-operated vacuum breakers shall be $\leq$0.5 psid. The self actuating vacuum breakers shall open fully when subjected to a force equivalent to or less than 0.5 psid acting on the valve disk.

   b. With one Reactor Building - suppression chamber vacuum breaker inoperable for opening but known to be closed, restore the inoperable vacuum breaker to OPERABLE status within seven (7) days or then be in cold shutdown within the following 24 hours.

   c. With one Reactor Building - suppression chamber vacuum breaker failed open - power operation may continue provided the other vacuum breaker in that line is verified to be closed and conditions required by 3.7.D.2 are met.

## 4.7 SURVEILLANCE REQUIREMENTS

3. Prior to violating the integrity of a system outside the primary containment, which is connected to any valve listed in Table 4.7.2b, the isolation valves bounding the opening shall have Type C tests performed. If the opening cannot be isolated from the containment by two isolation valves which meet the acceptance criteria of Appendix J (10CFR Part 50), a blank flange shall be installed on the opening.

4. The leakage from any one isolation valve shall not exceed 5% of Ltm. The leakage from any one main steam line isolation valve shall not exceed 11.5 scf/hr at 24 psig (Pt). Repair and retest shall be conducted to insure compliance.

5. <u>Pressure Suppression Chamber - Reactor Building Vacuum Breakers</u>

   a. The pressure suppression chamber-reactor building vacuum breaker systems and associated instrumentation including setpoint shall be checked for proper operation every three months.

   b. During each refueling outage, each vacuum breaker shall be tested to determine that the force required to open the vacuum breaker does not exceed the force specified in Specification 3.7.A.5.a and each vacuum breaker shall be inspected and verified to meet design requirements.

3.7.A (Cont'd)

The purpose of the vacuum relief valves is to equalize the pressure between the drywell and suppression chamber and suppression chamber and reactor building so that the structural integrity of the containment is maintained.

Technical Specification 3.7.A.9.c is based on the assumption that the operability testing of the pressure suppression chamber-reactor building vacuum breaker, when required, will normally be performed during the same four hour testing interval as the pressure suppression chamber-drywell vacuum breakers in order to minimize operation with <1.7 psi, differential pressure.

The vacuum relief system from the pressure suppression chamber to Reactor Building consists of two 100% vacuum relief breakers (2 parallel sets of 2 valves in series). Operation of either system will maintain the pressure differential less than 2 psig; the external design pressure is 2 psig. With one vacuum breaker out of service there is no immediate threat to accident mitigation or primary containment and, therefore, reactor operation can be continued for 7 days while repairs are being made.

The capacity of the ten (10) drywell vacuum relief valves is sized to limit the pressure differential between the suppression chamber and drywell during post-accident drywell cooling operations to the design limit of 2 psig. They are sized on the basis of the Bodega Bay pressure suppression tests. The ASME Boiler and Pressure Vessel Code, Section III, Subsection B, for this vessel allows eight (8) operable valves, therefore, with two (2) valves secured, containment integrity is not impaired.

Each drywell-suppression chamber vacuum breaker is fitted with a redundant pair of limit switches to provide fail-safe signals to panel mounted indicators in the Reactor Building and alarms in the Control Room when the disks are open more than 0.050" at all points along the seal surface of the disk. These switches are capable of transmitting the disk closed to open signal with 0.01" movement of the switch plunger. Continued reactor operation with failed components is justified because of the redundance of components and circuits and, most importantly, the accessability of the valve lever arm and position reference external to the valve. The fail safe feature of the alarm circuits assures operator attention if a line fault occurs.

---

(1) Robbins, C.H., "Tests on a Full Scale 1/48 Segment of the Humbolt Bay Pressure Suppression Containment", GEAP-3596, November 17, 1960.

(2) Bodega Bay Preliminary Hazards Summary Report, Appendix 1, Docket 50-205, December 28, 1962.

(3) Code Allowable peak accident pressure is 62 psig.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

# SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

## RELATED TO AMENDMENT NO.119

## TO FACILITY OPERATING LICENSE NO. DPR-28

## VERMONT YANKEE NUCLEAR POWER CORPORATION

## VERMONT YANKEE NUCLEAR POWER STATION

## DOCKET NO. 50-271

## 1.0 INTRODUCTION

By letter dated August 26, 1986, and as supplemented January 16, 1990, Vermont Yankee Nuclear Power Corporation requested an amendment to Appendix A, Technical Specification (TS), of Facility Operating License No. DPR-28. This amendment consists of four proposed changes to the TS. Items 1, 2, and 3 regarding changes related to calibration, surveillance requirements, and trip settings associated with the use of analog instrumentation were reviewed and evaluated by the staff in a License Amendment dated March 29, 1989. The remaining item, 4, regarding the licensee's request for revision of the Pressure Suppression Chamber - Reactor Building Vacuum Breaker System operability requirements is the subject of this review and safety evaluation. Specifically, the proposed changes under item 4 are on pages 127 and 139a of Vermont Yankee's TS and would revise the Limiting Condition for Operation (LCO) and Bases for operation with one of the Pressure Suppression Chamber - Reactor Building Vacuum Breaker Systems out of service.

### Proposed Changes

The licensee proposed to change the above LCO under TS 3.7.A.5.b and its related Bases. The proposed wording removes the existing requirements that the vacuum breaker shall be locked closed and that the procedure not violate containment integrity. Instead, the licensee proposed to change this TS by adding that at least one valve in the line is verified to be in the isolated condition, as required by Section 3.7.D.2. Also, the licensee proposed additional wording in the Bases to better reflect the proposed new TS.

### Review Criteria/Requirements

Standard Technical Specifications for General Electric Boiling Water Reactors, "GE-STS (BWR/4)".



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## 2.0 DISCUSSION AND EVALUATION

The licensee states that the current TS 3.7.5.b requires the vacuum breaker to be locked closed when one of the Pressure Suppression Chamber - Reactor Building Vacuum Breaker Systems is inoperable. The licensee considers that this is inconsistent with the other containment isolation requirement (Section 3.7.D) and defeats the vacuum breaker function of the system; the licensee believes that it is not desirable to operate in this condition for an extended period of time.

The licensee's proposed LCO specifies that a valve in the failed line must be verified to be in the isolated condition, allowing greater flexibility in meeting the intent of the TS requirements. The staff review finds that, in accordance with the guideline of Standard Technical Specifications for General Electric Boiling Reactor, "GE-STS (BWR/4)," the vacuum breaker is not required to be locked closed when one of the Pressure Suppression Chamber - Reactor Building Vacuum Breaker Systems is inoperable. The staff agrees that to lock the valve closed defeats the vacuum breaker function and that it is not desirable to operate in this condition for an extended period of time.

However, the staff found that the proposed TS change would still deviate from the guidelines of GE-STS (BWR/4). The staff recommended that it would be more beneficial to conform to the wording of the standard TS. Therefore, in subsequent discussions with the licensee, they agreed to revise the proposed TS change to conform to the standard TS wording except to retain the original seven day limit to restore the inoperable vacuum breaker to operable status. The staff finds this acceptable. The staff also finds that the proposed change in TS Bases better reflects the proposed new TS 3.7.5.b and is, therefore, acceptable.

## 3.0 ENVIRONMENTAL CONSIDERATION

This amendment involves a change in the Limiting Condition for Operation requirements of facility components located within the restricted area, as defined in 10 CFR Part 20. The staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released off site, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that this amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, this amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR Section 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of this amendment.

## 4.0 CONCLUSION

We have concluded, based on the considerations discussed above, that: 1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner; 2) such activities will be conducted in compliance with the Commission's regulations; and 3) the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

PRINCIPAL CONTRIBUTOR: Angela T. Chu

DATE: February 5, 1990