

February 12, 1999

Mr. Grégory A. Maret
Director of Operations
Vermont Yankee Nuclear Power Corporation
185 Old Ferry Road
Brattleboro, VT 05301

SUBJECT: ISSUANCE OF AMENDMENT NO. 166 TO FACILITY OPERATING LICENSE NO.
DPR-28, VERMONT YANKEE NUCLEAR POWER STATION (TAC NO. MA4357)

Dear Mr. Maret:

The Commission has issued the enclosed Amendment No. 166 to Facility Operating License No. DPR-28, for the Vermont Yankee Nuclear Power Station in response to your application dated December 10, 1998. In your submittal, you proposed correcting the Technical Specifications involving calibration of the augmented off-gas system hydrogen monitors.

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

Sincerely,

Original signed by:
Richard P. Croteau, Project Manager
Project Directorate I-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket No. 50-271

Enclosures: 1. Amendment No. 166 to License No. DPR-28
2. Safety Evaluation

cc w/encls: See next page

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

February 12, 1999

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Director of Operations
Vermont Yankee Nuclear Power Corporation
185 Old Ferry Road
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Sincerely,

A handwritten signature in black ink, appearing to read "R. Croteau", is positioned below the word "Sincerely,".

Richard P. Croteau, Project Manager
Project Directorate I-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket No. 50-271

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DATED: February 12, 1999

AMENDMENT NO. 166 TO FACILITY OPERATING LICENSE NO. DPR-28 VERMONT
YANKEE NUCLEAR POWER STATION

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Docket File

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

VERMONT YANKEE NUCLEAR POWER CORPORATION

DOCKET NO. 50-271

VERMONT YANKEE NUCLEAR POWER STATION

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 166
License No. DPR-28

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment filed by the Vermont Yankee Nuclear Power Corporation (the licensee) dated December 10, 1998, 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;
 - 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.

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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:

(B) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 166, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance, to be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in black ink, appearing to read "William M. Dean", with a long horizontal flourish extending to the right.

William M. Dean, Director
Project Directorate I-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications

Date of Issuance: February 12, 1999

ATTACHMENT TO LICENSE AMENDMENT NO.166

FACILITY OPERATING LICENSE NO. DPR-28

DOCKET NO. 50-271

Replace the following page of Appendix A Technical Specifications with the attached page.
The revised page is identified by amendment number and contains a vertical line indicating the area of change.

Remove

206

Insert

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TABLE 4.9.2 NOTATION

- (1) The Instrument Functional Test shall also demonstrate that automatic isolation of this pathway and the Control Room alarm annunciation occurs if any of the following conditions exists:
 - (a) Instrument indicates measured levels above the alarm setpoint.
 - (b) Circuit failure.
 - (c) Instrument indicates a downscale failure.
 - (d) Instrument controls not set in operate mode.
- (2) The Instrument Functional Test shall also demonstrate that Control Room alarm annunciation occurs when any of the following conditions exist:
 - (a) Instrument indicates measured levels above the alarm setpoint.
 - (b) Circuit failure.
 - (c) Instrument indicates a downscale failure.
 - (d) Instrument controls are not set in operate mode.
- (3) The Instrument Calibration for radioactivity measurement instrumentation shall include the use of a known (traceable to National Institute for Standards and Technology) radioactive source positioned in a reproducible geometry with respect to the sensor. These standards should permit calibrating the system over its normal operating range of rate capabilities.
- (4) The Instrument Calibration shall include the use of standard gas samples (high range and low range) containing suitable concentrations, hydrogen balance air, for the detection range of interest per Specification 3.8.J.1.



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 166 TO FACILITY OPERATING LICENSE NO. DPR-28
VERMONT YANKEE NUCLEAR POWER CORPORATION
VERMONT YANKEE NUCLEAR POWER STATION
DOCKET NO. 50-271

1.0 INTRODUCTION

The Vermont Yankee Nuclear Power Station is a boiling water reactor (BWR), model BWR-4, with a Mark I containment. By letter dated December 10, 1998, the Vermont Yankee Nuclear Power Corporation, the licensee for the Vermont Yankee Nuclear Power Station, submitted for Nuclear Regulatory Commission (NRC) staff review a proposed change to the technical specifications (TS). The licensee proposed a correction involving the calibration of the augmented off-gas system hydrogen monitors. The existing TS states that "hydrogen balance nitrogen" shall be used as a gas mixture for the calibration of these monitors and the TS should require the use of "hydrogen balance air".

2.0 EVALUATION

The gaseous radiological waste system collects, processes, and discharges radioactive gaseous waste to the atmosphere through the plant stack during normal operation. The system is designed to prevent the release of significant quantities of gaseous and particulate radioactive material from the site under design basis accident conditions. The system design basis also states that adequate safeguards shall be provided against the possible explosion hazard of the hydrogen and oxygen present due to radiolytic decomposition of reactor water.

The off-gas system's hydrogen monitoring instrumentation provides for indication and control of potentially explosive concentrations of hydrogen in the waste gas holdup system. This instrumentation is designed to detect the presence of elevated hydrogen concentration and prevent operation with a potentially explosive mixture. The proper calibration of the hydrogen monitors assures the ability to detect and control potentially explosive concentrations of hydrogen gas.

TS Table 4.9.2 requires that the augmented off-gas system's hydrogen monitor be calibrated once each quarter and references note 4 of this table. Note 4 currently states that "The Instrument Calibration shall include the use of standard gas samples (high range and low range) containing suitable concentrations, hydrogen balance nitrogen, for the detection range of the interest per Specification 3.8.J.1."

The licensee stated that the hydrogen monitors used in the Vermont Yankee Nuclear Power Station off-gas system cannot be properly calibrated with a "hydrogen balance nitrogen" gas mixture. Calibration of the off-gas hydrogen monitors requires a suitable concentration of hydrogen in air, since the presence of oxygen is required in the sample gas to support a catalytic reaction and air is present during normal operation of the system. Therefore, the licensee proposed to change the TS to read "hydrogen balance air".

The staff has reviewed the proposed change and agrees with the licensee's statement that air is required rather than nitrogen to support the catalytic reaction necessary for the calibration of the off-gas hydrogen monitors. The proposed change is therefore acceptable.

3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Vermont State official was notified of the proposed issuance of the amendment. The State official had no comments.

4.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes surveillance requirements. The NRC 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 offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding (63 FR 71975). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 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 the amendment.

5.0 CONCLUSION

The Commission has 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 the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: Richard Croteau

Date: February 12, 1999