

# VERMONT YANKEE NUCLEAR POWER CORPORATION

185 OLD FERRY ROAD, PO BOX 7002, BRATTLEBORO, VT 05302-7002  
(802) 257-5271

January 23, 2002  
BVY 02-05

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555

**Subject: Vermont Yankee Nuclear Power Corporation,  
Entergy Nuclear Vermont Yankee, LLC, and  
Entergy Nuclear Operations, Inc.  
Vermont Yankee Nuclear Power Station  
License No. DPR-28 (Docket No. 50-271)  
Transfer of Facility Operating License Supplement – Revised Pages**

Our October 5, 2001 proposed license transfer letter (BVY 01-76) contained a marked-up and re-typed copy of our Facility Operating License and Technical Specification (TS) pages in Enclosure 1, Attachments A and B of that submittal. Since that time Vermont Yankee has received License Amendment 206, which revised several of these same pages.

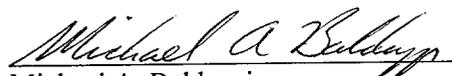
This submittal provides a complete revised copy of marked-up license and TS pages to reflect incorporation of Amendment 206 as well as a re-typed copy of these pages. This is intended to replace the previously submitted mark-up and re-typed versions (Enclosure 1, Attachments A & B) in their entirety.

Changes are being made from what was previously submitted, to incorporate Amendment 206 and include minor formatting changes for consistency and readability. Thus, no new technical changes are proposed and the original no significant hazards consideration is still valid and does not require revision.

If you have any questions concerning this transmittal, please contact Mr. Jeffrey T. Meyer at (802) 258-4105.

Sincerely,

VERMONT YANKEE NUCLEAR POWER CORPORATION

  
\_\_\_\_\_  
Michael A. Balduzzi  
Senior Vice President and Chief Nuclear Officer

Enclosures

cc: USNRC Region 1 Administrator  
USNRC Resident Inspector – VYNPS  
USNRC Project Manager – VYNPS  
Vermont Department of Public Service

A001



For Entergy Nuclear Vermont Yankee, LLC and Entergy Nuclear Operations:

*[Handwritten Signature]*  
\_\_\_\_\_  
Michael R. Kansler Date 1/22/02

State of \_\_\_\_\_ )  
(County of \_\_\_\_\_ )

Then personally appeared before me, Michael R. Kansler, who being duly sworn, did state that he is Senior Vice President and Chief Operating Officer of Entergy Nuclear Vermont Yankee, LLC and Entergy Nuclear Operations, Inc., that he is duly authorized to execute and file the submittal contained herein in the name and on behalf of Entergy Nuclear Vermont Yankee, LLC and Entergy Nuclear Operations, Inc., and that the statements attributable to Entergy Nuclear Vermont Yankee, LLC and Entergy Nuclear Operations, Inc. are true to the best of his knowledge and belief.

My commission expires: Jan. 27, 2006

Jan. 22, '02  
Date

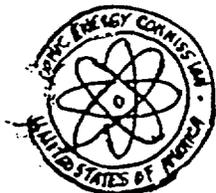
*[Handwritten Signature]*  
\_\_\_\_\_  
Notary Public

**PATRICIA L. TERRY**  
Notary Public, State of New York  
No. 4991258  
Qualified in Westchester County  
Commission Expires Jan. 27, 2006

Enclosure 1

Attachment A

UNITED STATES  
ATOMIC ENERGY COMMISSION  
WASHINGTON, D.C. 20545



Entergy Nuclear Vermont Yankee, LLC and Entergy Nuclear Operations, Inc.

Vermont Yankee Nuclear Power Corporation

(Vermont Yankee Nuclear Power Station)

Docket No. 50-271

Facility Operating License

License No. DPR-28  
Amendment No. 5

The Atomic Energy Commission (the Commission) having found that:

a. Construction of the Vermont Yankee Nuclear Power Station (the facility) has been substantially completed in conformity with the application, as amended, the Provisional Construction Permit No. CPPR-36, the provisions of the Atomic Energy Act of 1954, as amended (the Act), and the rules and regulations of the Commission as set forth in Title 10, Chapter 1, CFR; and

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

c. There is reasonable assurance (i) that the activities authorized by this amended operating license can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the rules and regulations of the Commission; and

Entergy Nuclear  
d. The Vermont Yankee, LLC and Entergy Nuclear Operations, Inc. are Nuclear Power Corporation (Vermont Yankee) is technically and financially qualified to engage in the activities authorized by this amended operating license, in accordance with the rules and regulations of the Commission; and

Entergy Nuclear  
e. Vermont Yankee, LLC and Entergy Nuclear Operations, Inc. have satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements" of the Commission's regulations; and

f. The issuance of this amended operating license will not be inimical to the common defense and security or to the health and safety of the public; and

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g. After weighing the environmental, economic, technical and other benefits of the facility against environmental costs and considering available alternatives, the issuance of this amended operating license (subject to the conditions for protection of the environment set forth herein) is in accordance with 10 CFR Part 50, Appendix D, of the Commission's regulations and all applicable requirements of said Appendix D have been satisfied.

Entergy Nuclear

Accordingly, Facility Operating License No. DPR-28, as amended, issued to Vermont Yankee, ~~Nuclear Power Corporation (Vermont Yankee)~~, is hereby amended in its entirety to read: ~~LLC and Entergy Nuclear Operations, Inc. (the licensee)~~

1. This license applies to the Vermont Yankee Nuclear Power Station (the facility), a single cycle, boiling water, light water moderated and cooled reactor, and associated electric generating equipment. The facility is located on ~~Vermont Yankee's~~ site, in the Town of Vernon, Windham County, Vermont, and is ~~as described in the application~~ as amended. ~~the licensee's~~

2. Subject to the Conditions and requirements incorporated herein, the Commission hereby licenses ~~the applicant~~:

A. ~~Entergy Nuclear Operations, Inc.,~~ Pursuant to Sections 104b of the Atomic Energy Act of 1954, as amended (the Act), and 10 CFR Part 50, "Licensing of Production and Utilization Facilities," to possess, use, and operate the facility as a utilization facility at the designated location on the ~~Vermont Yankee~~ site. ~~licensee's~~

C. ~~Entergy Nuclear Operations, Inc.,~~ Pursuant to the Act and 10 CFR Part 70, to receive, possess, and use at any time special nuclear material as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation as described in the Final Safety Analysis Report, as supplemented and amended.

D. ~~Entergy Nuclear Operations, Inc.,~~ Pursuant to the Act and 10 CFR Parts 30, 40 and 70 to receive, possess, and use at any time any byproduct, source, and special nuclear material as sealed neutron sources for reactor startup, sealed sources for calibration of reactor instrumentation and radiation monitoring equipment, and as fission detectors in amounts as required.

E. ~~Entergy Nuclear Operations, Inc.,~~ Pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess, and use in amounts as required any byproduct, source, or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components.

B. Entergy Nuclear Vermont Yankee, LLC, pursuant to Sections 104b of the Atomic Energy Act of 1954, as amended (the Act), and 10 CFR Part 50, "Licensing of Production and Utilization Facilities," to possess the facility as a utilization facility at the designated location on the licensee's site.

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F. Entergy Nuclear Operations, Inc.,

ⓧ Pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not to separate, such byproduct and special nuclear material as may be produced by operation of the facility.

3. This license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations: 10 CFR Part 20, Section 30.34 of 10 CFR Part 30, Section 40.41 of 10 CFR Part 40, Section 50.54 and 50.59 of 10 CFR Part 50, and Section 70.32 of 10 CFR Part 70; and is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified below:

A. Maximum Power Level

The licensee

Vermont Yankee is authorized to operate the facility at reactor core power levels not to exceed 1593 megawatts thermal in accordance with the Technical Specifications (Appendix A) appended hereto.

B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment 205, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

C. Reports

The licensee

Vermont Yankee shall make reports in accordance with the requirements of the Technical Specifications.

D. Records

The licensee

Vermont Yankee shall keep facility operating records in accordance with the requirements of the Technical Specifications.

E. Environmental Conditions

Pursuant to the Initial Decision of the presiding Atomic Safety and Licensing Board issued February 27, 1973, the following conditions for the protection of the environment are incorporated herein:

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1. This paragraph deleted by Amendment No. 206, October 22, 2001.
  
2. This paragraph deleted by Amendment No. 131, 10/7/91.
  
3. This paragraph deleted by Amendment No. 206, October 22, 2001.
  
4. If harmful effects or evidence of irreversible damage in land or water ecosystems as a result of facility operation are detected by the licensee's environmental monitoring program, Vermont Yankee shall provide an analysis of the problem to the Commission and to the advisory group for the Technical Specifications, and Vermont Yankee thereafter will provide, subject to the review by the aforesaid advisory group, a course of action to be taken immediately to alleviate the problem.
  
5. Vermont Yankee will grant authorized representatives of the Massachusetts Department of Public Health (MDPH) and Metropolitan District Commission (MDC) access to records and charts related to discharge of radioactive materials to the Connecticut River.
  
6. This paragraph deleted by Amendment No. 206, October 22, 2001.

The licensee

The licensee

7. This paragraph deleted by Amendment No. 206 , October 22, 2001.

8. Vermont Yankee will permit authorized representatives of the MDPH and MDC to examine the chemical and radioactivity analyses performed by Vermont Yankee. ← the licensee

9. Vermont Yankee shall immediately notify MDPH, or an agency designated by MDPH, in the event concentrations of radioactive materials in liquid effluents, measured at the point of release from Vermont Yankee, exceed the limit set forth in the facility Offsite Dose Calculation Manual. <sup>the facility</sup>  
The licensee → Vermont Yankee will also notify MDPH in writing within 30 days following the release of radioactive materials in liquid effluents in excess of 10 percent of the limit set forth in the facility Offsite Dose Calculation Manual.

10. A report shall be submitted to MDPH and MDC by May 15 of each year of plant operation, specifying the total quantities of radioactive materials released to the Connecticut River during the previous calendar year. The report shall contain the following information:

- (a) Total curie activity discharged other than tritium and dissolved gases.
- (b) Total curie alpha activity discharged.
- (c) Total curies of tritium discharged.
- (d) Total curies of dissolved radio-gases discharged.
- (e) Total volume (in gallons) of liquid waste discharged.

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previous page



- (f) Total volume (in gallons) of dilution water.
- (g) Average concentration at discharge outfall.
- (h) This paragraph deleted by Amendment No. 206 , October 22, 2001.
- (i) Total radioactivity (in curies) released by nuclide including dissolved radio-gases.
- (j) Percent of the facility Offsite Dose Calculation Manual limit for total activity released.

11. This paragraph deleted by Amendment No. 206 , October 22, 2001.

12. This paragraph deleted by Amendment No. 206 , October 22, 2001.

The licensee



13. Vermont Yankee shall establish and maintain a system of emergency notification to the states of Vermont and New Hampshire, and the Commonwealth of Massachusetts, satisfactory to the appropriate public health and public safety officials of those states and the Commonwealth, which provides for:
- a. Notice of site emergencies as well as general emergencies.
  - b. Direct microwave communication with the state police headquarters of the respective states and the Commonwealth when the transmission facilities of the respective states and the Commonwealth so permit, at the expense of Vermont Yankee.

the licensee

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c. A verification or coding system for emergency messages between Vermont Yankee and the state police headquarters of the respective states and the Commonwealth.

The licensee

14. Vermont Yankee shall furnish advance notification to MDPH, or to another Commonwealth agency designated by MDPH, of the time, method and proposed route through the Commonwealth of any shipments of nuclear fuel and wastes to and from the Vermont Yankee facility which will utilize railways or roadways in the Commonwealth.

The licensee

F. Vermont Yankee shall implement and maintain in effect all provisions of the approved Fire Protection Program as described in the Final Safety Analysis Report for the facility and as approved in the SER dated January 13, 1978, and supplemental SERs, dated 9/12/79, 2/20/80, 4/15/80, 7/3/80, 10/24/80, 11/10/81, 1/13/83, 7/24/84, 3/25/86, 12/1/86, 12/8/89, 11/29/90, 8/30/95, 3/23/97, 6/9/97, 8/12/97, 3/6/98, 3/31/98, 9/2/98, and 2/24/99, subject to the following provisions:

A-168  
2/24/99

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The licensee

Vermont Yankee may make changes to the approved Fire Protection Program without prior approval of the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

G. Security Plan

The licensee shall fully implement and maintain in effect all provisions of the Commission-approved physical security, guard training and qualification, and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10CFR73.55 (51FR27817 and 27822) and to the authority of 10CFR50.90 and 10CFR50.54(p). The plans, which contain Safeguards Information protected under 10CFR73.21, are entitled: "Vermont Yankee Nuclear Power Station Physical Security Plan," with revisions submitted through March 16, 1988; "Vermont Yankee Nuclear Power Station Training and Qualification Plan," with revisions submitted through November 10, 1982; and "Vermont Yankee Nuclear Power Station Safeguards Contingency Plan," with revisions submitted through December 30, 1985. Changes made in accordance with 10CFR73.55 shall be implemented in accordance with the schedule set forth therein.

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8/25/88  
10/20/88

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H. This paragraph deleted by Amendment No. 107, 8/25/88.

I. This paragraph deleted by Amendment No. 131, 10/7/91.

4. This license is effective as of the date of issuance and shall expire at midnight on March 21, 2012.

A-127  
12/17/90

FOR THE ATOMIC ENERGY COMMISSION

Original Signed By  
Roger S. Boyd /f/

A. Giambusso, Deputy Director  
for Reactor Projects  
Directorate of Licensing

Enclosures:  
Appendix A Technical Specifications

Date of Issuance:  
Feb. 28, 1973

UNITED STATES  
ATOMIC ENERGY COMMISSION  
WASHINGTON, D. C. 20545

Entergy Nuclear Vermont Yankee, LLC and Entergy Nuclear Operations, Inc.

(Vermont Yankee Nuclear Power Station)

Docket No. 50-271

Facility Operating License

License No. DPR-28  
Amendment No. 5

The Atomic Energy Commission (the Commission) having found that:

- a. Construction of the Vermont Yankee Nuclear Power Station (the facility) has been substantially completed in conformity with the application, as amended, the Provisional Construction Permit No. CPPR-36, the provisions of the Atomic Energy Act of 1954, as amended (the Act), and the rules and regulations of the Commission as set forth in Title 10, Chapter 1, CFR; and
- b. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission; and
- c. There is reasonable assurance (i) that the activities authorized by this amended operating license can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the rules and regulations of the Commission; and
- d. Entergy Nuclear Vermont Yankee, LLC and Entergy Nuclear Operations, Inc. are technically and financially qualified to engage in the activities authorized by this amended operating license, in accordance with the rules and regulations of the Commission; and
- e. Entergy Nuclear Vermont Yankee, LLC and Entergy Nuclear Operations, Inc. have satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements" of the Commission's regulations; and
- f. The issuance of this amended operating license will not be inimical to the common defense and security or to the health and safety of the public; and
- g. After weighing the environmental, economic, technical and other benefits of the facility against environmental costs and considering available alternatives, the issuance of this amended operating license (subject to the conditions for protection of the environment set forth herein) is in accordance with 10 CFR Part 50, Appendix D, of the Commission's regulations and all applicable requirements of said Appendix D have been satisfied.

Accordingly, Facility Operating License No. DPR-28, as amended, issued to Entergy Nuclear Vermont Yankee, LLC and Entergy Nuclear Operations, Inc. (the licensee) is hereby amended in its entirety to read:

1. This license applies to the Vermont Yankee Nuclear Power Station (the facility), a single cycle, boiling water, light water moderated and cooled reactor, and associated electric generating equipment. The facility is located on the licensee's site, in the Town of Vernon, Windham County, Vermont, and is described in the application as amended.

2. Subject to the Conditions and requirements incorporated herein, the Commission hereby licenses:

A. Entergy Nuclear Operations, Inc., pursuant to Sections 104b of the Atomic Energy Act of 1954, as amended (the Act), and 10 CFR Part 50, "Licensing of Production and Utilization Facilities," to possess, use, and operate the facility as a utilization facility at the designated location on the licensee's site.

B. Entergy Nuclear Vermont Yankee, LLC, pursuant to Sections 104b of the Atomic Energy Act of 1954, as amended (the Act), and 10 CFR Part 50, "Licensing of Production and Utilization Facilities," to possess the facility as a utilization facility at the designated location on the licensee's site.

C. Entergy Nuclear Operations, Inc., pursuant to the Act and 10 CFR Part 70, to receive, possess, and use at any time special nuclear material as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation as described in the Final Safety Analysis Report, as supplemented and amended.

D. Entergy Nuclear Operations Inc., pursuant to the Act and 10 CFR Parts 30, 40 and 70 to receive, possess, and use at any time any byproduct, source, and special nuclear material as sealed neutron sources for reactor startup, sealed sources for calibration of reactor instrumentation and radiation monitoring equipment, and as fission detectors in amounts as required.

E. Entergy Nuclear Operations Inc., pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess, and use in amounts as required any byproduct, source, or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components.

F. Entergy Nuclear Operations Inc., pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not to separate, such byproduct and special nuclear material as may be produced by operation of the facility.

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3. This license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations: 10 CFR Part 20, Section 30.34 of 10 CFR Part 30, Section 40.41 of 10 CFR Part 40, Section 50.54 and 50.59 of 10 CFR Part 50, and Section 70.32 of 10 CFR Part 70; and is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified below:

A. Maximum Power Level

The licensee is authorized to operate the facility at reactor core power levels not to exceed 1593 megawatts thermal in accordance with the Technical Specifications (Appendix A) appended hereto.

B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment 205, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

C. Reports

The licensee shall make reports in accordance with the requirements of the Technical Specifications.

D. Records

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10. A report shall be submitted to MDPH and MDC by May 15 of each year of plant operation, specifying the total quantities of radioactive materials released to the Connecticut River during the previous calendar year. The report shall contain the following information:
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a. Notice of site emergencies as well as general emergencies.

b. Direct microwave communication with the state police headquarters as of the respective states and the Commonwealth when the transmission facilities of the respective states and the Commonwealth so permit, at the expense of the licensee.

c. A verification or coding system for emergency messages between the licensee and the state police headquarters of the respective states and the Commonwealth.

14. The licensee shall furnish advance notification to MDPH, or to another Commonwealth agency designated by MDPH, of the time, method and proposed route through the Commonwealth of any shipments of nuclear fuel and wastes to and from the facility which will utilize railways or roadways in the Commonwealth.

F. The licensee shall implement and maintain in effect all provisions of the approved Fire Protection Program as described in the Final Safety Analysis Report for the facility and as approved in the SER dated January 13, 1978, and supplemental SERs, dated 9/12/79, 2/20/80, 4/15/80, 7/3/80, 10/24/80, 11/10/81, 1/13/83, 7/24/84, 3/25/86, 12/1/86, 12/8/89, 11/29/90, 8/30/95, 3/23/97, 6/9/97, 8/12/97, 3/6/98, 3/31/98, 9/2/98, and 2/24/99, subject to the following provisions:

A-168  
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A-107  
8/25/88  
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A-127 12/17/90
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FOR THE ATOMIC ENERGY COMMISSION

Original Signed By  
Roger S. Boyd /f/

A. Giambusso, Deputy Director  
for Reactor Projects  
Directorate of Licensing

Enclosures:  
Appendix A Technical Specifications

Date of Issuance:  
Feb. 28, 1973

Enclosure 1

Attachment B

APPENDIX A

TO

OPERATING LICENSE DPR-28

TECHNICAL SPECIFICATIONS

AND BASES

FOR

VERMONT YANKEE NUCLEAR POWER STATION

VERNON, VERMONT

VERMONT YANKEE NUCLEAR POWER CORPORATION

DOCKET NO. 50-271

Entergy Nuclear Vermont Yankee, LLC

Reissued by  
Change Nos. 13, 15, and 17  
Dated 1/17/74, 1/28/74, and 4/10/74

5.0 DESIGN FEATURES5.1 Site

The station is located on the property on the west bank of the Connecticut River in the Town of Vernon, Vermont, which the Vermont Yankee Nuclear Power Corporation either owns or to which it has perpetual rights and easements. The site plan showing the exclusion area boundary, boundary for gaseous effluents, boundary for liquid effluents, as well as areas defined per 10CFR20 as "controlled areas" and "unrestricted areas" are on plant drawing 5920-6245. The minimum distance to the boundary of the exclusion area as defined in 10CFR100.3 is 910 feet.

No part of the site shall be sold or leased and no structure shall be located on the site except structures owned by the Vermont Yankee Nuclear Power Corporation or related utility companies and used in conjunction with normal utility operations.

5.2 Reactor

- A. The core shall consist of not more than 368 fuel assemblies.
- B. The reactor core shall contain 89 cruciform-shaped control rods. The control material shall be boron carbide powder ( $B_4C$ ) or hafnium, or a combination of the two.

5.3 Reactor Vessel

The reactor vessel shall be as described in Table 4.2-3 of the FSAR. The applicable design codes shall be as described in subsection 4.2 of the FSAR.

5.4 Containment

- A. The principal design parameters and applicable design codes for the primary containment shall be as given in Table 5.2.1 of the FSAR.
- B. The secondary containment shall be as described in subsection 5.3 of the FSAR and the applicable codes shall be as described in Section 12.0 of the FSAR.
- C. Penetrations to the primary containment and piping passing through such penetrations shall be designed in accordance with standards set forth in subsection 5.2 of the FSAR.

5.5 Spent and New Fuel Storage

- A. The new fuel storage facility shall be such that the effective multiplication factor ( $K_{eff}$ ) of the fuel when dry is less than 0.90 and when flooded is less than 0.95.
- B. The  $K_{eff}$  of the fuel in the spent fuel storage pool shall be less than or equal to 0.95.
- C. Spent fuel storage racks may be moved (only) in accordance with written procedures which ensure that no rack modules are moved over fuel assemblies.

APPENDIX A  
TO  
OPERATING LICENSE DPR-28  
TECHNICAL SPECIFICATIONS  
AND BASES  
FOR  
VERMONT YANKEE NUCLEAR POWER STATION  
VERNON, VERMONT  
ENTERGY NUCLEAR VERMONT YANKEE, LLC  
DOCKET NO. 50-271

Reissued by  
Change Nos. 13, 15, and 17  
Dated 1/17/74, 1/28/74, and 4/10/74

## VYNPS

### 5.0 DESIGN FEATURES

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- A. The new fuel storage facility shall be such that the effective multiplication factor ( $K_{eff}$ ) of the fuel when dry is less than 0.90 and when flooded is less than 0.95.
- B. The  $K_{eff}$  of the fuel in the spent fuel storage pool shall be less than or equal to 0.95.
- C. Spent fuel storage racks may be moved (only) in accordance with written procedures which ensure that no rack modules are moved over fuel assemblies.