

OCT 9 1974

Docket No. 50-271

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Yankee Atomic Electric Company  
 ATTN: Mr. G. Carl Andognini  
 Assistant to the Vice President  
 20 Turnpike Road  
 Westboro, Massachusetts 01581

Gentlemen:

The Commission has issued the enclosed Amendment No. 10 to Facility License No. DPR-28. This amendment includes Change No. 21 to the Technical Specifications and is in response to Vermont Yankee's request dated September 25, 1974.

This amendment incorporates a design feature change that specifies the maximum number of fuel assemblies without reference to the fuel rod array in a fuel assembly and a license change that allows loading but not operation with 8 x 8 reload fuel.

Copies of our Safety Evaluation and the Federal Register Notice relating to this action are also enclosed.

Sincerely,

Orig

Den

- SVarga
- CHebron
- RSchemel
- ACRS (16)
- HJMcAlduff, ORO
- JRBuchanan, ORNL

Dennis L. Ziemann, Chief  
 Operating Reactors Branch #2  
 Directorate of Licensing

TBAbernathy, DTIE

Enclosures:

1. Amendment No. 10  
w/Change No. 21
2. Safety Evaluation
3. Federal Register Notice

cc w/encls:  
 See attached

CB

OFFICE →	L:ORB #2	L:ORB #2	L:ORB #2	OGC	L:OR	
SURNAME →	FAnderson;aw	RMDiggs	DLZiemann		KRGoller	
DATE →	10/ /74	10/ /74	10/ /74	10/ /74	10/ /74	

Docket No. 50-271

Yankee Atomic Electric Company  
ATTN: Mr. G. Carl Andognini  
Assistant to the Vice President  
20 Turnpike Road  
Westboro, Massachusetts 01581

Gentlemen:

The Commission has issued the enclosed Amendment No. 10 to Facility License No. DPR-28. This amendment includes Change No. 21 to the Technical Specifications, Appendix A, and is in response to Vermont Yankee's request dated September 25, 1974.

This amendment incorporates a design feature change to provide the number of fuel assemblies (368) without reference to the fuel rod array in a fuel assembly.

The Safety Evaluation and the Federal Register Notice relating to this action are also enclosed.

Sincerely,

PCollins  
SVarga  
CHebron  
RSchemel  
ACRS (16)

Karl R. Goller, Assistant Director  
for Operating Reactors  
Directorate of Licensing

Enclosures:

1. Amendment No. 10  
w/Change No. 21
2. Safety Evaluation
3. Federal Register Notice

HJMcAlduff, ORO  
JRBuchanan, ORNL  
TBAbernathy, DTIE

cc w/encls.  
See attached

OFFICE	RMDiggs	L:ORB #2	L:ORB #2	OGC	KRGoller
SURNAME	L:ORB #2	FAnderson:aw	DLZiemann	R. Kinsey	L:OR KRG
DATE	10/10/74	10/10/74	10/10/74	10/16/74	10/18/74

cc w/encs:

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Ropes and Gray  
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Department of the Attorney General  
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Boston, Massachusetts 02133

Honorable Kimberly B. Cheney  
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State of Vermont  
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John R. Stanton, Director  
Radiation Control Agency  
Hazen Drive  
Concord, New Hampshire 03301

Chairman, Vermont Public Service  
Board  
Seven School Street  
Montpelier, Vermont 05602

John W. Stevens, Director  
Conservation Society of Southern  
Vermont  
P. O. Box 256  
Townshend, Vermont 05353

Mr. David M. Scott  
Radiation Health Engineer  
Agency of Human Services  
Division of Occupational Health  
P. O. Box 607  
Barre, Vermont 05641

additional cc: see next page

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DATE ➤						

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cc w/encls:  
Brooks Memorial Library  
224 Main Street  
Brattleboro, Vermont 05301

New England Coalition on Nuclear  
Pollution

Hill and Dale Farm  
West Hill - Faraway Road  
Putney, Vermont 05346

Mr. Raymond H. Puffer  
Chairman  
Board of Selectman  
Vernon, Vermont 05354

cc w/encls and VY filings  
dated 7/26/74, 8/23/74,  
and 9/25/74:

Mr. Wallace Stickney  
Environmental Protection Agency  
JFK Federal Building  
Boston, Massachusetts 02203

Mr. Richard V. DeGrasse  
State of Vermont  
Public Service Board  
7 School Street  
Montpelier, Vermont 05602

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VERMONT YANKEE NUCLEAR POWER CORPORATION

DOCKET NO. 50-271

VERMONT YANKEE NUCLEAR POWER STATION

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 10  
License No. DPR-28

1. The Atomic Energy Commission (the Commission) has found that:
  - A. The application for amendment by Vermont Yankee Nuclear Power Corporation (the licensee) dated September 25, 1974, as supported by previous filings dated May 21, 1974, July 26 and August 23, 1974, 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;
  - E. Prior public notice of this amendment is not required since the amendment does not involve a significant hazards consideration.
2. Accordingly, the license is amended by a change to the Technical Specifications as indicated in the attachment to this license amendment and Facility License No. DPR-28 is hereby amended to read as follows for Paragraph 3.B and 3.F:

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**B. Technical Specifications**

The Technical Specifications contained in Appendices A and B as revised, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications, as revised by issued changes thereto through Change No. 21.

**F. Restrictions**

The licensee may load but shall not operate the facility with 8 x 8 reload fuel in the reactor core.

3. This license amendment is effective as of the date of its issuance.

FOR THE ATOMIC ENERGY COMMISSION

Original by:  
Karl R. Goller

Karl R. Goller, Assistant Director  
for Operating Reactors  
Directorate of Licensing

Attachment:  
Change No. 21 to the  
Technical Specifications

Date of Issuance: 007 9 1974

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ATTACHMENT TO LICENSE AMENDMENT NO. 10  
CHANGE NO. 21 TO THE TECHNICAL SPECIFICATIONS  
FACILITY OPERATING LICENSE NO. DPR-28

Delete page 188 from the Technical Specifications and insert the attached replacement page. The change on the revised page is shown by a marginal line.

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## 5.0 DESIGN FEATURES

### 5.1 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 plan of the site is shown on Figure 2.2-4 of the FSAR. The minimum distance to the boundary of the exclusion area as defined in 10 CFR 100.3 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

- 21 | 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 ( $B_4C$ ).

### 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.

SAFETY EVALUATION BY THE DIRECTORATE OF LICENSING

SUPPORTING AMENDMENT NO. 10 TO FACILITY OPERATING LICENSE NO. DPR-28

(CHANGE NO. 21 TO THE TECHNICAL SPECIFICATIONS)

VERMONT YANKEE NUCLEAR POWER CORPORATION

VERMONT YANKEE NUCLEAR POWER STATION

DOCKET NO. 50-271

INTRODUCTION

By letter dated May 21, 1974, the Vermont Yankee Nuclear Power Corporation (VYNPC) submitted the General Electric Licensing Report NEDO-20103, "General Design Information for General Electric Boiling Water Reactor Reload Fuel Commencing in Spring 1974." This report provides the technical evaluation on a BWR generic basis for Vermont Yankee Reload 2 fuel and constitutes the initial licensing submittal for use of this fuel in the Vermont Yankee Nuclear Power Station (VYNPS). Additional information providing specific evaluation of operating parameters relating to the use of this fuel in VYNPS was submitted by letter dated July 26, 1974, in the General Electric Licensing Report NEDO-20558, "Vermont Yankee Nuclear Power Station - Reload Application For 8 x 8 Fuel." Supplemental information providing errata sheets to NEDO-20558 and Sections on the Thermal Hydraulic Stability Analysis and the Transient and Core Dynamics for NEDO-20558 was submitted by letter dated August 23, 1974. Also included in the July 26, 1974 submittal of NEDO-20558 was proposed Technical Specifications which would permit VYNPC to load the Reload 2 fuel and operate VYNPS with the Reload 2 fuel. Some of these proposed Technical Specifications were revised by the submittal dated August 23, 1974, due to the information added to NEDO-20558. By letter dated September 25, 1974, VYNPC requested permission to load unirradiated Reload 2 fuel assemblies into VYNPS prior to completion of the Regulatory staff's evaluation of operation with the Reload 2 fuel. The proposed Technical Specification change would establish the maximum number of fuel assemblies (368) as a design feature of the reactor core without reference to the composition of each fuel assembly in regard to the fuel rod array.

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EVALUATION

The Regulatory staff has evaluated the General Electric Licensing Report NEDO-20103, "General Design Information for General Electric Boiling Water Reactor Reload Fuel Commencing in Spring 1974" and has determined that the nuclear design parameters of the 8 x 8 fuel assemblies are similar to the 7 x 7 fuel assemblies previously loaded in the Vermont Yankee Nuclear Power Station and other boiling water reactors. The calculational methods previously used to predict the nuclear characteristics of the 7 x 7 fuel assemblies currently in use have been applied to the 8 x 8 assemblies and are considered adequately conservative to provide assurance that the 8 x 8 fuel can be accurately described as neutronicly similar to the 7 x 7 assemblies. Consequently, there are no differences in the safety considerations associated with the loading of 8 x 8 fuel assemblies.

The maximum allowable linear heat generation rate (LHGR) is established by the most limiting fuel rod in any assembly in the core regardless of its fuel rod array and the maximum average planar LHGR is established by all the rods in any fuel assembly at the most limiting axial location for each fuel rod array. These limiting conditions for operation in conjunction with surveillance requirements assure acceptable fuel performance and not a description of the design features of the reactor core. Therefore, the specification for the fuel rod array in a fuel assembly can be deleted from the design feature description of the reactor core.

The facility will not be permitted to operate with 8 x 8 fuel in the reactor core at this time, therefore, the staff has concluded that no further safety considerations are involved. However, prior to reactor startup, the staff will have: (1) evaluated operation of the reactor with 8 x 8 fuel assemblies; (2) determined that the health and safety of the public will not be endangered by such operation; and (3) issued the required additional Technical Specifications for such operation.

CONCLUSION

Based upon the above considerations, the staff concludes that: (1) because the change does not involve a significant increase in the probability of consequences of accidents previously considered and does not involve a significant decrease in a safety margin provided the Vermont Yankee reactor is maintained in the shutdown or refuel mode, the change does not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by the loading of the Vermont Yankee Reload 2 fuel in VYNPS, and (3) such

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activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

/s/

Fredric D. Anderson  
Operating Reactors Branch #2  
Directorate of Licensing  
Orig.  
Dennal

Dennis L. Ziemann, Chief  
Operating Reactors Branch #2  
Directorate of Licensing

Date: OCT 21 1974

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SURNAME ➤						
DATE ➤						

UNITED STATES ATOMIC ENERGY COMMISSION

DOCKET NO. 50-271

VERMONT YANKEE NUCLEAR POWER CORPORATION

NOTICE OF ISSUANCE OF AMENDMENT TO FACILITY  
OPERATING LICENSE

Notice is hereby given that the U. S. Atomic Energy Commission (the Commission) has issued Amendment No. 10 to Facility Operating License No. DPR-28 issued to Vermont Yankee Nuclear Power Corporation which revised Technical Specifications for operation of the Vermont Yankee Nuclear Power Station located near Vernon, Vermont. The amendment is effective as of its date of issuance.

The amendment incorporates a design feature change to provide the number of fuel assemblies (368) without reference to the fuel rod array in a fuel assembly.

The application for the amendment complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendment.

For further details with respect to this action, see (1) the application for amendment dated September 25, 1974, as supported by filings dated May 21, 1974, July 26, and August 23, 1974, (2) Amendment No. 10

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to License No. DPR-28, with Change No. 21, and (3) the Commission's concurrently issued related Safety Evaluation. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N. W., Washington, D. C. and at the Brooks Memorial Library at 224 Main Street, Brattleboro, Vermont 05301. A single copy of items (2) and (3) may be obtained upon request addressed to the U. S. Atomic Energy Commission, Washington, D. C. 20545, Attention: Deputy Director for Reactor Projects, Directorate of Licensing - Regulation.

Dated at Bethesda, Maryland, this 21<sup>st</sup> day of October, 1974.

FOR THE ATOMIC ENERGY COMMISSION

Original  
Dennis

Dennis L. Ziemann, Chief  
Operating Reactors Branch #2  
Directorate of Licensing

OFFICE ➤						
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