

October 13, 1978

Docket No. 50-271

Mr. Robert H. Groce
Licensing Engineer
Yankee Atomic Electric Company
20 Turnpike Road
Westboro, Massachusetts 01581

Distribution

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Dear Mr. Groce:

The Commission has issued the enclosed Amendment No. 48 to Facility Operating License No. DPR-28 for the Vermont Yankee Nuclear Power Station (VYNPS). The amendment includes changes to the Technical Specifications in response to your application dated August 16, 1978. Among the proposed changes in your August 16, 1978 submittal was one which would allow you to operate the plant during October 15 through May 15 in modes other than closed-cycle, provided certain discharge temperature restrictions were met. We have singled out this particular change and issued it in this amendment as delays in processing it beyond October 15 would cause you the financial burden of operating the plant closed-cycle. The remaining parts of the amendment will be handled by a separate action. We found it necessary to make certain changes to your proposed Technical Specifications relating to open cycle operation. These changes have been discussed with and agreed to by your staff.

We have examined the safety significance of this modification to the operation of the VYNPS and have determined that the modification does not alter the accident and transient analyses previously considered by the Commission.

This modification to the limiting conditions for operation of the Appendix B Technical Specifications does not involve significant new safety information of a type not considered in previous Commission safety reviews of the facility. This modification does not involve a significant increase in the probability or consequences of an accident, does not involve a significant decrease in a safety margin, and therefore does not involve a significant hazards consideration. We have also concluded that there is reasonable assurance that the health and safety of the public will not be endangered by this action.

OFFICE ➤									
SURNAME ➤									
DATE ➤									

Consent
CP

OCTOBER 13 1978

Yankee Atomic Electric Company

- 2 -

Copies of the Environmental Impact Appraisal and the Notice of Issuance/Negative Declaration are also enclosed.

Sincerely,

Original Signed by
T. A. Ippolito

Thomas A. Ippolito, Chief
Operating Reactors Branch #3
Division of Operating Reactors

Enclosures:

1. Amendment No. 48 to DPR-28
2. Safety Evaluation
3. Notice of Issuance/
Negative Declaration

cc w/enclosures:
See next page

ESF - Confer with changes indicated in mark-up copy discussed with W. Pasich and D. Clark on 10-13

OFFICE	ORB #3	ORB #3	OELDA	ORB #3	
SURNAME	SSheppard	VRooney:mjf		Tippolito	
DATE	10/ /78	10/10/78	10/13/78	10/13/78	



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

October 13, 1978

Docket No. 50-271

Mr. Robert H. Groce
Licensing Engineer
Yankee Atomic Electric Company
20 Turnpike Road
Westboro, Massachusetts 01581

Dear Mr. Groce:

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Yankee Atomic Electric Company

- 2 -

October 13, 1978

Copies of the Environmental Impact Appraisal and the Notice of Issuance/Negative Declaration are also enclosed.

Sincerely,



Thomas A. Ippolito, Chief
Operating Reactors Branch #3
Division of Operating Reactors

Enclosures:

1. Amendment No. 48 to DPR-28
2. Safety Evaluation
3. Notice of Issuance/
Negative Declaration

cc w/enclosures:
See next page

October 13, 1978

cc: Mr. S. D. Karpyak
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Chairman
Board of Selectman
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Yankee Atomic Electric Company - 4 -

October 13, 1978

cc: Public Service Board
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Chief, Energy Systems Analyses
Branch (AW-459)
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U. S. Environmental Protection
Agency
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Washington, D. C. 20460

U. S. Environmental Protection Agency
Region I Office
ATTN: EIS COORDINATOR
JFK Federal Building
Boston, Massachusetts 02203



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. 48
License No. DPR-28

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Vermont Yankee Nuclear Power Corporation (the licensee) dated August 16, 1978, 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.

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 Appendices A and B, as revised through Amendment No. 48, 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 the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION


Thomas A. Ippolito, Chief
Operating Reactors Branch #3
Division of Operating Reactors

Attachment:
Changes to the Technical
Specifications

Date of Issuance: October 13, 1978

ATTACHMENT TO LICENSE AMENDMENT NO. 48

FACILITY OPERATING LICENSE NO. DPR-28

DOCKET NO. 50-271

Revise Appendix B as follows:

Remove

1
2
2a

Replace

1
2

1.0 LIMITING CONDITIONS FOR OPERATION

2.0 SURVEILLANCE REQUIREMENTS

1.1 CONDENSER COOLING WATERApplicability:

Applies to discharges of non-radioactive effluents from the station.

Objective:

To assure that non-radioactive effluents are released to the environment in an orderly manner and are maintained below established limits.

Specification:A. Discharge Temperature

1. During the period October 15 through May 15 other than closed cycle operation is allowed provided that:
 - a) The temperature at Monitor 3 does not exceed 65°F.
 - b) The plant induced rate of change of temperature at Monitor 3 shall not exceed 5°F per hour.
 - c) The increase in temperature above ambient at Monitor 3 shall not exceed 13.4°F.

For purposes of sub-paragraph 1.1.A.1, "rate of change of temperature" shall mean the difference between consecutive hourly average temperatures and "increase in temperature above ambient" shall mean plant induced temperature increase

2.1 CONDENSER COOLING WATERApplicability:

Applies to monitoring and sampling of non-radioactive effluents discharged from the station and the determination of their environmental impact.

Objective:

To ascertain that the non-radioactive releases are below the established limits and to determine their effects on the environment.

Specification:A. Discharge Temperature

1. River water temperatures shall be continuously measured during periods of heated water release at locations 3-1/2 miles upstream of the plant and 0.65 miles downstream of the Vernon Dam, monitors 7 and 3 respectively.

1.0 LIMITING CONDITIONS FOR OPERATION

2.0 SURVEILLANCE REQUIREMENTS

1. (Continued)

shown by equation 1.1 (defined at Page 1-8 of Vermont Yankee's 316 Demonstration: Engineering, Hydrological & Biological Information and Environmental Impact Assessment (March 1978)).

2. During the period May 16 through October 14 the plant must be operated in the closed-cycle mode.
3. In the event a failure of the cooling tower system occurs, open-cycle operation is permissible in order to execute an orderly shutdown utilizing the main condenser as a heat sink in the open-cycle mode provided that the minimum water flow through Vernon Dam is greater than 1200 cfs. The plant shall be expeditiously reduced below 25 percent power operation and shutdown within 24 hours if the plant is not otherwise authorized to operate in an open-cycle mode.



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

ENVIRONMENTAL IMPACT APPRAISAL

BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 48 TO FACILITY OPERATING LICENSE NO. DPR-28

VERMONT YANKEE NUCLEAR POWER CORPORATION

VERMONT YANKEE NUCLEAR POWER STATION

DOCKET NO. 50-271

Description of Proposed Action

By letter from Vermont Yankee Nuclear Power Corporation (VYNPC) to NRC dated August 16, 1978, VYNPC proposed an amendment to their Appendix B Environmental Technical Specifications (ETS) for Vermont Yankee Nuclear Power Station. The proposal would modify all sections of these ETS except Section 2.1.C. This evaluation treats the proposed change dealing with Section 1.1, condenser cooling water limits and monitoring. The other changes proposed by VYNPC are still under review and will be dealt with in a subsequent action. We have made a few minor modifications to the licensee's proposed changes to Section 1.1 and they have agreed to them.

Under this amendment, operation of Vermont Yankee is allowed in the open or helper-cycle mode during the period of October 15 through May 15. Certain discharge temperature restrictions are placed in operation during these periods to assure acceptable environmental impact. This amendment requires the plant to operate in the closed-cycle mode during the period of May 16 through October 14. Additionally, the proposed amendment removes the limitation on the size of the thermal plume. These operation restrictions of this amendment were developed by the Vermont Yankee Technical Advisory Committee and appear in the current NPDES Permit for the station.

Evaluation

Vermont Yankee has demonstrated during five previous studies (Phase I, February - April 1974; Phase II, December 1974 - May 1975; Phase III, October 1975 - May 1976, Phase IV, September 1976 - May 1977; Phase V, October 1977 - May 1978) that the controlled discharge of selected amounts of heated water directly to the Connecticut River at Vernon under conditions of normally occurring river flows have resulted in no measureable adverse impact on the water quality and biotic communities in the river. These five studies have resulted in a good understanding of the effects of heated water on the aquatic ecosystem at Vernon.

We have intensively reviewed the results of the first four phases described in the environmental impact appraisals accompanying Amendment 20 to License DPR-28 dated September 6, 1976, and Amendment 40 to License DPR-28 dated November 21, 1977.

By letter from VYNPC to NRC dated August 31, 1978, we received the results of Phase V. We have reviewed the Phase V results in a manner similar to the earlier reviews and have reached the following conclusions:

- (1) **Phytoplankton:** None of the five Phase Studies indicated a statistically significant difference in phytoplankton population within the plume as compared to that outside of the plume or downstream of the plant as compared to that upstream of the plant.
- (2) **Zooplankton:** All of the zooplankton data show as much variability among replicate samples as between different stations indicating high spatial variability. No statistically significant difference in population has been observed within the plume as compared to that outside of the plume or downstream of the plant as compared to that upstream of the plant. Intake and discharge samples indicate little entrainment mortality.
- (3) **Benthos:** The population varied much more from colder months to warmer months than from areas outside the thermal plume to areas within the thermal plume. In general, there was a greater diversity of organisms within the thermal plume area than outside of it, indicating a possible beneficial effect of plant operation.
- (4) **Fishes:** The results of the studies indicate that fish tend to stay on the New Hampshire side of the river away from the plant because of the more favorable habitat type on the far side of the river. The density of the fish was equivalent to or greater outside the plume than within it indicating little attraction to it. Cage studies with the brown trout Salmo Trutta indicated that the natural river population should be able to withstand the discharge temperature, and rate of temperature change imposed by the plant.

On the basis of our review of the data we conclude that the action proposed by this amendment will not result in a significant change in the environmental impact of the Vermont Yankee facility.

Conclusion and Basis for Negative Declaration

On the basis of our analysis, it is concluded that there will be no significant environmental impact attributable to the proposed action other than has already been predicted and described in the FES and subsequent Environmental Impact Appraisals. Having made this conclusion,

we further conclude that no environmental impact statement for the proposed action need be prepared and a Negative Declaration to this effect is appropriate.

Dated: October 13, 1978

UNITED STATES NUCLEAR REGULATORY COMMISSIONDOCKET NO. 50-271VERMONT YANKEE NUCLEAR POWER CORPORATIONNOTICE OF ISSUANCE OF AMENDMENT TO FACILITY
OPERATING LICENSEAND NEGATIVE DECLARATION

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 48 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 (the facility) located near Vernon, Vermont. The amendment is effective as of its date of issuance.

The amendment revises the Technical Specifications to allow operation during October 15, 1978 through May 15, 1979, in modes other than closed-cycle, provided certain discharge temperature restrictions were met.

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. Prior public notice of this amendment was not required since the amendment does not involve a significant hazards consideration.

The Commission has prepared an environmental impact appraisal for this amendment and has concluded that an environmental impact statement for this particular action is not warranted because there will be no environmental impact attributable to this action other than that which has already been predicted and described in the Commission's Final Environmental Statement for the facility dated July 1972.

For further details with respect to this action, see (1) the application for amendment dated August 16, 1978, (2) Amendment No. 48 to License No. DPR-28, and (3) the Commission's related Environmental Impact Appraisal. 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, 224 Main Street, Brattleboro, Vermont.

A copy of items (2) and (3) may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Director, Division of Operating Reactors.

Dated at Bethesda, Maryland this 13th day of October, 1978.

FOR THE NUCLEAR REGULATORY COMMISSION


Thomas A. Appolito, Chief
Operating Reactors Branch #3
Division of Operating Reactors