

Distribution

✓ Docket  
ORB #3  
Local PDR  
NRC PDR  
VStello  
BGrimes  
Tippolito  
SSheppard  
VRooney  
IO&E (5)  
BJones (4)  
BScharf (10)  
JMcGough  
DEisenhut  
ACRS (16)  
OPA (CMiles)

DRoss  
TBAbernathy  
JRBuchanan

JULY 31 1978

Docket No. 50-271

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

Gentlemen:

The Commission has issued the enclosed Amendment No. 46 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 4, 1977 as supplemented March 10, 1978.

This amendment allows an increase in the pH of water discharged from the cooling towers from pH 8.0 to pH 8.5.

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.

Corrosion consequences of this change from the possible leakage of water from the circulating water system into the reactor coolant system is not significant, because of primary system demineralization capability.

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.

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

Sincerely,

Original signed by

*Const. I*  
*R*

OFFICE >		Thomas A. Ippolito, Chief Operating Reactors Branch #3 Division of Operating Reactors	SEE NEXT PAGE
SURNAME >			
DATE >			

Enclosures and ccs: See next page

DATE	SURNAME	OFFICE
6/12/78	*SSheppard	ORB #3
6/12/78	VRooney:mjt	ORB R3
7/14/78	*	OELD
6/29/78	Gknighton	EEB/DOR
7/13/78	Suppl to	ORB #3

\*SEE PREVIOUS YELLOW FOR CONCURRENCES

Docket No. 50-271

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

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This amendment allows an increase in the pH of water discharged from the cooling towers from pH 8.0 to pH 8.5.

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.

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Sincerely,

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

Eop 6/28/78  
EEB/10  
G. K. [Signature]  
6/29/78

OFFICE			ORB #3	ORB #3	ORB #3	ORB #3
SURNAME			SSheppard	VRooney	DEED	Glear
DATE	See page 2	6/12/78	6/12/78	6/14/78	6/14/78	6/14/78

Yankee Atomic Power  
Company

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July 31, 1978

Enclosures:

1. Amendment No. 46 to DPR-28
2. Environmental Impact Appraisal
3. Notice/Negative Declaration

cc w/enclosures:

Mr. S. D. Karpyak  
Vermont Yankee Nuclear Power  
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Rutland, Vermont 05701

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Vice President  
Vermont Yankee Nuclear Power  
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New England Coalition on Nuclear  
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Mr. Raymond H. Puffer  
Chairman  
Board of Selectman  
Vernon, Vermont 05354

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Washington, D. C. 20005

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Assistant Attorney General  
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Pavilion Office Building  
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Natural Resources Defense Council  
917 15th Street, N. W.  
Washington, D. C. 20005

Yankee Atomic Electric Company

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July 31, 1978

cc: Public Service Board  
State of Vermont  
120 State Street  
Montpelier, Vermont 05602

Chief, Energy Systems Analyses  
Branch (AW-459)  
Office of Radiation Programs  
U. S. Environmental Protection  
Agency  
Room 645, East Tower  
401 M Street, S. W.  
Washington, D. C. 20460

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

Brooks Memorial Library  
224 Main Street  
Brattleboro, Vermont 05301



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. 46  
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 4, 1977, 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 2.C.(2) of Facility Operating License No. DPR- is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 46, 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 #4  
Division of Operating Reactors

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: July 31, 1978

ATTACHMENT TO LICENSE AMENDMENT NO. 46

FACILITY OPERATING LICENSE NO. DPR-28

DOCKET NO. 50-271

Remove page 4 of the Appendix B Technical Specifications and replace with revised page 4. Marginal lines indicate revised area.



## 1.0 LIMITING CONDITIONS FOR OPERATION

If the total residual chlorine level at the aerating structure exceeds 0.5 mg/l or 0.1 mg/l in the receiving water 100 ft from the discharge structure, as determined by an analysis of 3 samples, chlorination shall cease until the system is corrected. Any corrective actions required to maintain the 0.5 mg/l limit shall be described in the plant Annual Operations Report. During chlorination the discharge area shall be visually inspected (6 times per week) for evidence of detrimental effects on aquatic life, such as dead fish or fish in distress. Such evidence, if any, shall be noted and a record of such evidence shall be maintained.

3. The hydrogen ion concentration of plant discharges shall be controlled within pH limits of 6.5 - 8.5 except when due to natural causes.
5. Approximately 10,600 gallons per month of sodium hypochlorite (15% solution) will be released to condenser cooling water during chlorination (during open-cycle for slime and algae control. During closed-cycle cooling water operation about 900 gallons per month of sulfuric acid will be used for pH control. In the regeneration of cation and anion make-up demineralizers, about 470 gallons per month of sodium hydroxide will be used. Mixed bed demineralizers will require approximately 340 gallons per month of sulfuric acid for regeneration.

## 2.0 SURVEILLANCE REQUIREMENTS

to Vernon Pond (i.e. concentration over a given time period) that is compatible with plant operation.

3. The pH of the condenser cooling water shall be continuously monitored and recorded.
4. During operation with inoperable analyzers or recorders, daily grab samples shall be collected and analyzed to confirm chemical concentration limits.
5. The usage of sodium hypochlorite and sulfuric acid for the treatment of cooling water and the usage of sulfuric acid and sodium hydroxide for demineralizer regeneration shall be recorded in the Plant Annual Operation Report.



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

ENVIRONMENTAL IMPACT APPRAISAL BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORT AMENDMENT NO. 46 TO LICENSE NO. DPR-28

VERMONT YANKEE NUCLEAR POWER CORPORATION

VERMONT YANKEE ATOMIC POWER STATION

DOCKET NO. 50-271

Description of Proposed Action

By letters dated August 4, 1977 and March 10, 1978, from Vermont Yankee Nuclear Power Corporation (VYNPC) to NRC, VYNPC requested a change to the environmental Technical Specifications, Section 1.1.B.3, which would allow an increase in the pH of water discharged from the cooling towers from pH 8.0 to pH 8.5. Bases supporting this request were furnished by VYNPC in letter dated March 10, 1978.

During operation of the cooling towers at Vermont Yankee, the VYNPC is presently required to maintain the pH of the discharge water between pH 6.5 and pH 8.0. Active control is necessary because as water evaporates from the cooling towers, an increase in dissolved substances and a consequent increase in the pH of the water results. It is typically necessary for the VYNPC to add 700-800 pounds of sulfuric acid to the discharge water daily to maintain the blowdown discharge below 8.0. Increasing this limit to pH 8.5 will eliminate the need for much of this sulfuric acid.

Evaluation

The pH of the Connecticut River has been monitored at Vernon almost continuously since January 1968. The monitoring results indicate that the river has an average pH of 7.2 with extreme ranges of 5.8 and 8.8. Extreme fluctuations have been shown to occur over periods as short as a few hours in many natural systems due to phytoplankton growth. We judge that the environmental effect of the discharge of pH 8.5 water from the station in the immediate area of the discharge is not significant because it is within the bounds of natural variation; thus, wildlife in the area, as they are already adapted to these variations, will not be affected by the discharge. Also, we judge that this will not have a significant effect downstream of Vernon Dam because the average increase of pH due to discharge at 8.5 during the lowest flow conditions (Federal Power Commission requires minimum flow to be 1200 CFS) is about .02 pH units<sup>1</sup>, and there is no evidence in this river system or any other river system that such small changes in average pH can have a detrimental effect on the biota.

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<sup>1</sup>Letter from Vermont Yankee Nuclear Power Corporation to NRC dated March 10, 1978.

Conclusion and Bases for Negative Declaration

On the basis of the foregoing analysis, it is concluded that there will not be a significant environmental impact attributable to the proposed action other than has already been predicted and described in the Commission's FES for the Vermont Yankee Atomic Power Station. Having made this conclusion, the Commission has further concluded that no environmental impact statement for the proposed action need be prepared and that a negative declaration to this effect is appropriate.

Dated: July 31, 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. 46 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.

This amendment allows an increase in the pH of water discharged from the cooling towers from pH 8.0 to pH 8.5.

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 4, 1977, as supplemented March 10, 1978, (2) Amendment No. 46 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 31st day of July 1978.

FOR THE NUCLEAR REGULATORY COMMISSION

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