February 7, 1978

Docket No. 50-271

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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. 44 to Facility Operating License No. DPR-28 for the Vermont Yankee Nuclear Power Station. The amendment consists of changes to the Technical Specifications in response to your application for amendment dated August 5, 1977.

The amendment provides for an increase in the High Drywell Pressure setpoint.

Copies of the Safety Evaluation and the Notice of Issuance are enclosed.

Sincerely,

Robert W. Reid, Chief
Operating Reactors Branch #4
Division of Operating Reactors

Enclosures:
1. Amendment No. 44
2. Safety Evaluation
3. Notice

cc w/enclosures:
See next page

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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. 44
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 5, 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 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. 44, 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

Robert W. Reid, Chief
Operating Reactors Branch #4
Division of Operating Reactors

Attachment:
Changes to the Technical
Specifications

Date of Issuance: February 7, 1978

ATTACHMENT TO LICENSE AMENDMENT NO.44

FACILITY OPERATING LICENSE NO. DPR-28

DOCKET NO. 50-271

Revise Appendix A Technical Specifications as follows:

Remove Pages	Insert Pages
19	19
35 & 36	35 & 36
39	39

Changes on the revised pages are shown by marginal lines.

TABLE 3.1.1

REACTOR PROTECTION SYSTEM (SCRAM) INSTRUMENT REQUIREMENTS

Trip Function	Trip Settings	Modes in Which Functions Must be Operating			Minimum Number Operating Instrument Channels Per Trip System(2)	Required Conditions When Minimum Conditions For Operation Are Not Satisfied (3)
		Refuel(1)	Startup	Run		
1. Mode switch in shutdown		X	X	X	1	A
2. Manual scram		X	X	X	1	A
3. IRM						
High Flux	≤120/125	X	X	X(11)	2	A
Inop		X	X	X(11)	2	A
4. APRM						
High Flux (flow bias)	≤0.66W+54%(4)			X	2	A or B
High Flux (reduced)	≤ 15%	X	X	X	2 2(5)	A A or B
INOP				X	2	A or B
Downscale	≥ 2/125					
5. High Reactor Pressure	≤1055 psig	X	X	X	2	A
6. High Drywell Pressure	≤ 2.5 psig	X	X	X	2	A
7. Reactor Low Water Level	≥1.0 inch(6)	X	X	X	2	A
8. Scram Discharge Volume High Level	≤24 gallons	X	X	X	2	A

TABLE 3.2.1

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION

Core Spray - A & B (Note 1)

Minimum Number of Operable Instrument Channels per Trip System	Trip Function	Trip Level Setting	Required Action When Minimum Conditions for Operation are not Satisfied
2	High Drywell Pressure	$\leq$ 2.5 psig	Note 2
2	Low-Low Reactor Vessel Water Level	$\geq$ 6' 10.5" above top of active fuel	Note 2
1	Low Reactor Pressure #1	$\geq$ 300 psig	Note 2
2	Low Reactor Pressure #2	$\geq$ 300 psig	Note 2
1	Time Delay (14A-K16A&B)	$\leq$ 10 seconds	Note 2
2	Pump 14-1A, Discharge Pressure	$\geq$ 100 psig	Note 5
1	Auxiliary Power Monitor	--	Note 5
1	Pump Bus Power Monitor	--	Note 5
1	High Sparger Pressure	$\leq$ 5 psid	Note 5
1	Trip System Logic	--	Note 5

TABLE 3.2.1 (CONT)

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION

Minimum Number of Operable Instrument Channels per Trip System	Trip Function	Trip Level Setting	Required Action When Minimum Conditions for Operation are not Satisfied
Low Pressure Coolant Injection System A & B (Note 1)			
1	Low Reactor Pressure #1 (water level permissive)	300 ≤ p ≤ 350 psig	Note 2
2	High Drywell Pressure #1	≤ 2.5 psig	Note 2
2	Low-Low Reactor Vessel Water Level	≥6' 10.5" above top of active fuel	Note 2
1	Time Delay (10A-K51A&B)	0 sec.	Note 5
1	Reactor Vessel Shroud Level	≥ 2/3 core height	Note 5
1	Time Delay (10A-K72A&B)	≤60 sec.	Note 5
1	Time Delay (10A-K50A&B)	≤5 sec.	Note 5
1	Low Reactor Pressure #2 (shutdown cooling permissive)	100 ≤ p ≤ 150 psig	Note 2
2 per pump	RHR Pump A & C Discharge Pressure	≥ 100 psig	Note 5
2	High Drywell Pressure #2	≤2.5 psig	Note 2

TABLE 3.2.1 (CONT)

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION

Automatic Depressurization

Minimum Number of Operable Instrument Channels per Trip System (Note 4)	Trip Function	Trip Level Setting	Required Action When Minimum Conditions for Operation are not Satisfied
2	Low-Low Reactor Vessel Water Level	Same as Core Spray	Note 6
2	High Drywell Pressure	$\leq$ 2.5 psig	Note 6
1	Time Delay (2E-K5A&B)	$\leq$ 120 seconds	Note 6
1	Bus Power Monitor	--	Note 6
1	Trip System Logic	--	Note 6

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 44 TO FACILITY OPERATING LICENSE NO. DPR-28

VERMONT YANKEE NUCLEAR POWER CORPORATION

VERMONT YANKEE NUCLEAR POWER STATION

DOCKET NO. 50-271

Introduction

By an application for amendment to Operating License dated August 5, 1977, the Vermont Yankee Nuclear Power Corporation (the licensee), proposed changes to the Technical Specifications appended to Facility Operating License No. DPR-28, for the Vermont Yankee Nuclear Power Station. The proposed changes would provide an increase in the High Drywell Pressure setpoint from 2.0 to 2.5 psig.

Background

As part of our ongoing review of suppression chamber (torus) integrity, the Nuclear Regulatory Commission issued an Order for Modification of License, dated February 13, 1976, requiring that a differential pressure of 1.7 psi be maintained between the primary containment (drywell) and the torus. Previously, the maximum differential operating pressure was 1.5 psi. The high drywell pressure trip setpoint is 2.0 psig; thus, the margin between the trip point pressure setting and the drywell pressure has been reduced to 0.3 psi from 0.5 psi.

The proposed license amendment of August 5, 1977, requested a Technical Specification change increasing the high drywell pressure setpoint from 2.0 psig to 2.5 psig in order to permit the plant to maintain the pressure difference between the drywell and torus at 1.7 psi and in turn lessening the probability of an inadvertent trip of the setpoint which would cause reactor scram, containment isolation and attempt initiation of certain Emergency Core Cooling System (ECCS) components as the margin would become 0.8 psi.

Evaluation

The high drywell pressure trip signal is used to initiate primary containment isolation and serves as a backup or conjunctive signal to initiate the ECCS. While it is proposed to raise the trip setpoint value from 2.0 psig to 2.5 psig, the differential pressure between drywell ambient and the trip setting remains at 1.7 psi.

We have reviewed the proposed change with respect to the time to achieve containment isolation, the performance of the ECCS, and the containment response to a postulated loss-of-coolant accident (LOCA). The higher initial containment pressure will slightly improve ECCS pump performance due to the small increase in the net positive suction head accompanied by a lesser increase in pump discharge pressure. In addition, the change in the containment isolation time and the containment pressure response will be small since they are primarily a function of the differential pressure from drywell ambient and the trip setting. The margins between the containment design pressure and temperature and the calculated results for a spectrum of breaks is sufficiently large to accommodate the small changes associated with the higher setpoint. Fuel peak clad temperatures would be unaffected in the event of the design basis accident by the 0.5 psi increase in containment ambient pressure as the rate of discharge from a postulated double-ended pipe rupture would be at choked-flow conditions and independent of discharge pressure.

Based on our review, we find the licensee's proposal to increase the high drywell pressure setpoint from 2.0 psig to 2.5 psig acceptable.

Environmental Consideration

We have determined that the amendment does not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendment involves an action which is insignificant from the standpoint of environmental impact and, pursuant to 10 CFR §51.5(d)(4), that an environmental impact statement, or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

Conclusion

We have concluded, based on the considerations discussed above, that: (1) because the amendment does not involve a significant increase in the probability or consequences of accidents previously considered and does not involve a significant decrease in a safety margin, the amendment 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 operation in the proposed manner, and (3) such 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.

Dated: February 7, 1978

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NO. 50-271

VERMONT YANKEE NUCLEAR POWER CORPORATION

NOTICE OF ISSUANCE OF AMENDMENT TO FACILITY OPERATING LICENSE

The Nuclear Regulatory Commission (the Commission) has issued Amendment No. 44 to Facility Operating License No. DPR-28 issued to Vermont Yankee Nuclear Power Corporation (the licensee) 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 the date of issuance.

The amendment provides for an increase in the High Drywell Pressure setpoint.

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 determined that the issuance of this amendment will not result in any significant environmental impact and that pursuant to 10 CFR §51.5(d)(4) an environmental impact statement, or

negative declaration and environmental impact appraisal need not be prepared in connection with issuance of this amendment.

For further details with respect to this action, see (1) the application dated August 5, 1977, (2) Amendment No. 44 to License No. DPR-28, and (3) the Commission's 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, 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 7th day of February 1978.

FOR THE NUCLEAR REGULATORY COMMISSION

Robert W. Reid, Chief
Operating Reactors Branch #4
Division of Operating Reactors