

DEC 03 1974

Docket No. 50-271

DISTRIBUTION
 Docket File
 AEC PDR
 Local PDR
 ORB #2 Reading
 OGC
 RO (3)
 NDube
 BJones
 RVollmer
 JSaltzman
 RMDiggs
 FDAnderson
 DLZiemann
 SKari
 WOMiller
 BScharf (15)
 TJCarter

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

Gentlemen:

Pursuant to the Atomic Safety and Licensing Board's Order dated November 1, 1974, the Commission has issued the enclosed Amendment No. 11 to Facility License No. DPR-28 for the Vermont Yankee Nuclear Power Station. This amendment includes Change No. 22 to the Technical Specifications and is in response to Vermont Yankee's request dated June 25, 1974 and supplements thereto dated September 9, October 1, October 7, October 9, October 29 and November 13, 1974.

This amendment incorporates (1) removal of limiting conditions for operation and surveillance requirements relative to the low pressure coolant injection system (LPCIS) recirculation loop selection logic system, (2) surveillance requirements relative to LPCIS pump capacity and recirculation pump discharge valves, (3) limiting conditions for operation and surveillance requirements for operability of containment cooling subsystem, (4) limiting conditions for operation relative to the second 480 volt swing bus and (5) surveillance requirements relative to the dual 480 volt swing buses and associated electrical systems.

Copies of the related Safety Evaluation, Federal Register Notice and the Atomic Safety and Licensing Board's Order dated November 1, 1974, also are enclosed.

Original signed by
 Dennis L. Ziemann
 Sincerely,
 Dennis L. Ziemann, Chief
 Operating Reactors Branch #2
 Directorate of Licensing

PCollins
 SVarga
 Chebron
 RSchemel
 ACRS. (16)
 C. Miles

The changes to the Technical Specifications set forth herein should not be construed as authorizing operation of the Vermont Yankee reactor in a manner inconsistent with controlling decisions of the Atomic Safety and Licensing Appeal Board and the Commission.

L:DP/RP
 AGiambusso

Deleted because of Comm. order dated 11/26/74

Enclosures:

- Amendment No. 11 w/Change No. 22
- Safety Evaluation
- Federal Register Notice
- Order

HJMcAlduff, ORO 12/3/74
 JRBuchanan, ORNL
 TBAbernathy, DTIE

OFFICE	L:ORB #2	L:ORB #2	TR	L:OR
SURNAME	RMDiggs	FDAnderson	VStello	KRGoller
cc:	see next page	DLZiemann	11/2/74	12/2/74
DATE	11/10/74	11/20/74	12/2/74	12/2/74

DEC 03 1974

cc w/enclosures:

Mr. James E. Griffin, President
Vermont Yankee Nuclear Power Corporation
77 Grove Street
Rutland, Vermont 05701

Mr. Donald E. Vandenberg, Vice President
Vermont Yankee Nuclear Power Corporation
Turnpike Road, Route 9
Westboro, Massachusetts 01581

John A. Ritsher, Esquire
Ropes and Gray
225 Franklin Street
Boston, Massachusetts 02110

Gregor I. McGregor, Esquire
Assistant Attorney General
Department of the Attorney General
State House, Room 370
Boston, Massachusetts 02133

Richard E. Ayres, Esquire
Natural Resources Defense Council
1710 N Street, N. W.
Washington, D. C. 20036

Honorable Kimberly B. Cheney
Attorney General
State of Vermont
109 State Street
Pavilion Office Building
Montpelier, Vermont 05602

John A. Calhoun
Assistant Attorney General
State of Vermont
109 State Street
Pavilion Office Building
Montpelier, Vermont 05602

Anthony Z. Roisman, Esquire
Berlin, Roisman and Kessler
1712 N Street, N. W.
Washington, D. C. 20036

Jonathon N. Brownell, Esquire
Paterson, Gibson, Noble & Brownell
26 State Street
Montpelier, Vermont 05602

Peter S. Paine, Jr., Esquire
Cleary, Gottlieb, Steen & Hamilton
52 Wall Street
New York, New York 10005

J. Eric Anderson, Esquire
Fitts and Olson
16 High Street
Brattleboro, Vermont 05301

William H. Ward, Esquire
Assistant Attorney General
Office of the Attorney General
State Capitol Building
Topeka, Kansas 66612

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

OFFICE ➤						
SURNAME ➤						
DATE ➤						

DEC 03 1974

cc w/enclosures:
New England Coalition on Nuclear
Pollution
Hill and Dale Farm
West Hill - Faraway Road
Putney, Vermont 05346

Brooks Memorial Library
224 Main Street
Brattleboro, Vermont 05301

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

cc w/enclosures and Vermont Yankee's
requests dtd. 10/7/74, 10/29/74,
and 11/13/74:

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

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

OFFICE >						
SURNAME >						
DATE >						

VERMONT YANKEE NUCLEAR POWER CORPORATION

DOCKET NO. 50-271

VERMONT YANKEE NUCLEAR POWER STATION

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 11
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 June 25, 1974, as supplemented by filings dated September 9, October 1, October 7, October 9, October 29, and November 13, 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; and
 - E. Prior public notice of this amendment was given on August 19, 1974 (39 F.R. 29950) and an Atomic Safety and Licensing Board was appointed to rule on a petition to intervene and for a public hearing (by the State of Vermont). The petition was withdrawn on October 31, 1974, and the Board dismissed the proceeding by Order dated November 1, 1974 and November 1, 1974.

OFFICE						
SURNAME						
DATE						

2. Accordingly, the license is amended by a change to the Technical Specifications as indicated in the attachment to this license amendment and Paragraph 3.B of Facility 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, 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. 22.

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

FOR THE ATOMIC ENERGY COMMISSION

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

Attachment:
Change No. 22 to the
Technical Specifications

Date of Issuance:

DEC 13 1974

OFFICE >						
SURNAME >						
DATE >						

ATTACHMENT TO LICENSE AMENDMENT NO. 11

CHANGE NO. 22 TO THE TECHNICAL SPECIFICATIONS

FACILITY OPERATING LICENSE NO. DPR-28

Delete pages 36, 37, 51, 52, 67, 85, 86, 87, 88, 99, 100, 103 and 175 from the Appendix A Technical Specifications and insert the attached replacement pages bearing the same numbers. The Changes on the revised pages are shown by marginal lines.

OFFICE						
SURNAME						
DATE						

VYNPS

TABLE 3.2.1 (CONT)

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION

Low Pressure Coolant Injection System A & B (Note 1)

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

VYNPS

TABLE 3.2.1 (CONT)

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION

Low Pressure Coolant Injection System A & B (Note 1) (CONT)

<u>Minimum Number of Operable Instrument Channels per Trip System</u>	<u>Trip Function</u>	<u>Trip Level Setting</u>	<u>Required Action When Minimum Conditions for Operation are not Satisfied</u>
22 1	Time Delay (10A-K45A & B)	≤ 6 min	Note 5
22 2	Low Reactor Pressure #3 (injection and recirculation discharge valve permissive)	$300 \leq p \leq 350$ psig	Note 2
1	Auxiliary Power Monitor	_____	Note 5
1	Pump Bus Power Monitor	_____	Note 5
1	Trip System Logic	_____	Note 5

VYNPS

TABLE 4.2.1 (CONT)

Low Pressure Coolant Injection System

<u>Trip Function</u>	<u>Function Test (8)</u>	<u>Calibration (8)</u>	<u>Instrument Check</u>
Low Reactor Pressure #1	(Note 1)	every 3 months	—
High Drywell Pressure #1	(Note 1)	every 3 months	—
Low-Low Reactor Vessel Water Level	(Note 1)	every 3 months	once each day
Reactor Vessel Shroud Level	(Note 1)	every 3 months	—
Low Reactor Pressure #2	(Note 1)	every 3 months	—
RHR Pump Discharge Pressure	(Note 1)	every 3 months	—
High Drywell Pressure #2	(Note 1)	every 3 months	—
22 Low Reactor Pressure #3	Note 1)	every 3 months	—
22 Auxiliary Power Monitor	(Note 1)	every 3 months	once each day
Pump Bus Power Monitor	(Note 1)	None	once each day
22 LPCI Crosstie Monitor	(Note 1)	None	—
22 Trip System Logic	Every 6 Months (Note 2)	every 6 months (Note 3)	—

TABLE 4.2.1 (CONT)

High Pressure Coolant Injection System

<u>Trip Function</u>	<u>Functional Test (8)</u>	<u>Calibration (8)</u>	<u>Instrument Check</u>
Low-Low Reactor Vessel Water Level	(Note 1)	every 3 months	once each day
Low Condensate Storage Tank Water Level	(Note 1)	every 3 months	—
High Drywell Pressure	(Note 1)	every 3 months	—
High Suppression Chamber Water Level	(Note 1)	every 3 months	—
Bus Power Monitor	(Note 1)	None	once each day
Trip System logic	every 6 months (Note 2)	every 6 months (Note 3)	—

4.2 (cont'd)

This specification is a periodic testing program which is based upon the overall on-line testing of protective instrumentation systems, including logic circuits as well as sensor circuits. Table 4.2 outlines the test, calibration, and logic system functional test schedule for the protective instrumentation systems. The testing of a subsystem includes a functional test of each relay wherever practicable. The testing of each relay includes all circuitry necessary to make the relay operate, and also the proper functioning of the relay contacts. Functional testing of the inaccessible temperature switches associated with the isolation systems is accomplished remotely by application of a heat source to individual switches.

All subsystems are functionally tested, calibrated, and operated in their entirety if practicable. Certain exceptions are necessary because the actuation of certain relays would jeopardize plant operation or present an operational hardship.

22 | For example, certain relays trip recirculation system discharge valves, and the actuation of these relays would cause a severe plant transient. In cases of this nature, the devices in the relay circuit will be tested, but the relay will only be actuated during a refueling outage. The number of relays in this category is very small compared to the total number of identical relays being tested on-line.

3.5 LIMITING CONDITION FOR OPERATION4.5 SURVEILLANCE REQUIREMENT3.5 CORE AND CONTAINMENT COOLING SYSTEMSApplicability:

Applies to the operational status of the emergency cooling subsystems.

Objective:

To assure adequate cooling capability for heat removal in the event of a loss of coolant accident or isolation from the normal reactor heat sink.

Specification:A. Core Spray and Low Pressure Coolant Injection

- 22 | 1. Except as specified in Specifications 3.5.A.2 through 3.5.A.4 below and 3.5.H.3 and 3.5.H.4, both core spray and the LPCI subsystems shall be operable whenever irradiated fuel is in the reactor vessel.

4.5 CORE AND CONTAINMENT COOLING SYSTEMSApplicability:

Applied to periodic testing of the emergency cooling subsystems.

Objective:

To verify the operability of the core containment cooling subsystems.

Specification:A. Core Spray and Low Pressure Coolant Injection

Surveillance of the core spray subsystems and LPCI shall be performed as follows:

1. General Testing

<u>Item</u>	<u>Frequency</u>
a. Simulated Automatic Actuation Test	Each refueling outage
b. Flow Rate Test (recirculate to torus) Core spray pumps shall deliver at least 3000 gpm against a system head of 120 psig. Each LPCI pump shall deliver 7400 gpm against a system head corresponding to a vessel pressure of 20 psig. Similarly, two LPCI pumps shall deliver 13,500 gpm.	Each refueling outage

22

3.5 LIMITING CONDITION FOR OPERATION

4.5 SURVEILLANCE REQUIREMENT

2. From and after the date that one of the core spray subsystems is made or found to be inoperable for any reason, reactor operation is permissible only during the succeeding fifteen days unless such subsystem is sooner made operable, provided that during such fifteen days all active components of the other core spray subsystem, the LPCI subsystems and the diesel generators required for operation of such components if no external source of power were available shall be operable.
3. From and after the date that one of the LPCI pumps is made or found to be inoperable for any reason, reactor operation is permissible only during the succeeding thirty

<u>Item</u>	<u>Frequency</u>
c. Pump and Motor Operated Valve Operability except Recirculation Pump discharge valves	once/month
22 d. Recirculation Pump discharge valves shall be tested to verify full open to full closed in $27 \leq t \leq 33$ sec	each refueling outage
2. When it is determined that one core spray subsystem is inoperable the operable core spray subsystem and the LPCI subsystems except the Recirculation System discharge valves and the diesel generators required for operation of such components if no external source of power were available shall be demonstrated to be operable immediately. The operable core spray subsystem shall be demonstrated to be operable daily thereafter.	
3. When it is determined that one of the LPCI pumps is inoperable, the remaining active components of the LPCI subsystems except the Recirculation System discharge valves and the containment cooling subsystems, both core spray subsystems	

3.5 LIMITING CONDITION FOR OPERATION

days unless such pump is sooner made operable, provided that during such thirty days the remaining active components of the LPCI and containment cooling subsystem and all active components of both core spray subsystems and the diesel generators required for operation of such components if no external source of power were available shall be operable.

4. From and after the date that a LPCI subsystem is made or found to be inoperable for any reason, reactor operation is permissible only during the succeeding seven days unless it is sooner made operable, provided that during such seven days all active components of both core spray subsystems, the containment cooling subsystem (including 2 LPCI pumps) and the diesel generators required for operation of such components if no external source of power were available.
5. If the requirements of Specification 3.5.A cannot be met, an orderly shutdown of the reactor shall be initiated and the reactor shall be in the cold shutdown condition within 24 hours.

B. Containment Spray Cooling Capability

1. Containment cooling spray loops are required to be operable when the reactor water temperature is greater than 212°F except that a

4.5 SURVEILLANCE REQUIREMENT

and the diesel generators required for operation of such components if no external source of power were available shall be demonstrated to be operable immediately and the operable LPCI pumps daily thereafter.

4. When it is determined that a LPCI subsystem is inoperable, both core spray subsystems, the containment cooling subsystem, the remaining LPCI subsystem except the recirculation discharge valve, and the diesel generators required for operation of such components if no external source of power were available shall be demonstrated to be operable immediately and daily thereafter.

B. Containment Spray Cooling Capability

- | | |
|----|--|
| 22 | <ol style="list-style-type: none"> 1. Surveillance of the drywell spray loops shall be performed as follows, during each five year period, an air test shall be performed on the drywell spray headers and nozzles. |
|----|--|

3.5 LIMITING CONDITION FOR OPERATION

22

maximum of one drywell spray loop or one torus spray injection valve may be inoperable for thirty days when the reactor water temperature is greater than 212°F.

2. If this requirement cannot be met an orderly shutdown shall be initiated and the reactor shall be in the cold shutdown condition within 24 hours.

C. Residual Heat Removal (RHR) Service Water System

1. Except as specified in Specifications 3.5.C.2, and 3.5.C.3 below, both RHR service water subsystem loops shall be operable whenever irradiated fuel is in the reactor vessel and prior to reactor startup from a cold condition.
2. From and after the date that one of the RHR service water subsystem pumps is made or found to be inoperable for any reason, reactor operation is permissible only during the succeeding thirty days unless such pump is sooner made operable, provided that during such thirty days all other active components of the RHR service water subsystem are operable.

4.5 SURVEILLANCE REQUIREMENT

22

2. When it is determined that a containment cooling subsystem is inoperable, the remaining subsystem shall be demonstrated to be operable immediately and daily thereafter.

C. Residual Heat Removal (RHR) Service Water System

Surveillance of the RHR service water system shall be performed as follows:

1. RHR service water subsystem testing:
 - a. Pump and motor operated valve operability shall be tested every three months.
 - b. Each RHR service water pump shall be tested after pump maintenance and every three months. Each pump shall deliver at least 2700 gpm and a pressure of at least 70 psia shall be maintained at the RHR heat exchanger service water outlet when the corresponding pairs of RHR service water pumps and station service water pumps are operating.
2. When it is determined that one RHR service water pump is inoperable, the remaining components of that subsystem and the other RHR service water subsystem shall be demonstrated to be operable immediately and daily thereafter.

Basex:

3.5 CORE AND CONTAINMENT COOLANT SYSTEMS

A. Core Spray Cooling System and Low Pressure Coolant Injection System

This specification assures that adequate standby cooling capability is available whenever irradiated fuel is in the Reactor Vessel.

Based on the loss-of-coolant analyses, the Core Spray and LPCI systems provide sufficient cooling to the core to dissipate the energy associated with the loss-of-coolant accident and to limit the accident-caused core conditions as specified in 10CFR50, Appendix K. The analyses consider appropriate combinations of the two core spray subsystems and the two LPCI subsystems associated with various break locations and equipment availability in accordance with required single failure assumptions. (A LPCI subsystem consists of the LPCI pumps, the Recirculation Pump Discharge Valve, and the LPCI injection valve powered from the same electrical source).

22 The LPCI System is designed to provide emergency cooling to the core by flooding in the event of a loss-of-coolant accident. This system is completely independent of the core spray system; however, it does function in combination with the core spray system to prevent excessive fuel clad temperature. The LPCI and the core spray system provide adequate cooling for break areas up to and including the double-ended recirculation line break without assistance from the high-pressure emergency core cooling subsystems.

The intent of these specifications is to prevent startup from the cold condition without all associated equipment being operable. However, during operation, certain components may be out of service for the specified allowable repair times. Assurance of the availability of the remaining systems is increased by demonstrating operability immediately and by requiring selected testing during the outage period.

B. and C. Containment Spray Cooling Capability and RHR Service Water System

The containment heat removal portion of the RHR system is provided to remove heat energy from the containment in the event of a loss-of-coolant accident. For the flow specified, the containment long-term pressure is limited to less than 5 psig and, therefore, the flow is more than ample to provide the required heat removal capability. Reference Section 14.6.3.3.2 FSAR.

22 | The containment cooling subsystem consists of two sets of 2 RHR service water pumps, 1 heat exchanger and 2 RHR (LPCI) pumps. Either set of equipment is capable of performing the containment cooling function. In fact, an analysis in Section 14.6 of the FSAR shows that one subsystem consisting of 1 RHR service water pump, 1 heat exchanger and 1 RHR pump has sufficient capacity to perform the cooling function. Whenever one containment cooling subsystem becomes inoperable, the remaining subsystem is tested daily to assure containment cooling capability.

D. Station Service Water and Alternate Cooling Tower Systems

The station service water subsystems and the alternate cooling tower system provide alternate heat sinks to dissipate residual heat after a shutdown or accident. Each station service water subsystem and the alternate cooling tower subsystem provides sufficient heat sink capacity to perform the required heat dissipation. The alternate cooling tower subsystem will provide the necessary heat sink in the event both station service water subsystems become incapacitated due to a loss of the Vernon Dam with subsequent loss of the Vernon Pond.

E. High Pressure Coolant Injection System

The high pressure coolant injection system (HPCIS) is provided to adequately cool the core for all pipe breaks smaller than those for which the LPCI or core spray cooling subsystems can protect the core.

The HPCIS meets this requirement without the use of outside power. For the pipe breaks for which the HPCIS is intended to function the core never uncovers and is continuously cooled; thus, no clad damage occurs and clad temperatures remain near normal throughout the transient. Reference Subsection 6.5.2.2 of the FSAR.

F. Automatic Depressurization System

The relief valves of the automatic depressurization system are a backup to the HPCIS. They enable the core spray cooling system or LPCIS to provide protection against the small pipe break in the event of HPCI failure by depressurizing the reactor vessel rapidly enough to actuate the core sprays or LPCIS. Either of the two core spray cooling systems or LPCIS provide sufficient flow of coolant to prevent clad melting. All four relief valves are included in the automatic pressure relief system. Of these four, only two are required to provide sufficient capacity for the automatic depressurization system. (See VYNPS FSAR Vol. 4 Appendix B.) However, at least three valves are required by this section to provide an additional margin of redundancy. In addition, specific recognition is made of the operability of the HPCI as an additional requirement.

4.5 CORE AND CONTAINMENT COOLING SYSTEMS

A. Core Spray and LPCI

22 | During normal plant operation, manual tests of operable pumps and valves shall be conducted monthly to demonstrate operability with the exception of the Recirculation Pump Discharge valves. The Recirculation System discharge valves are not tested during plant operation since to do so would create a severe plant transient.

During each refueling shutdown, tests (as summarized below) shall be conducted to demonstrate proper automatic operation and system performance.

Periodic testing at the intervals specified above will demonstrate that all components which do not operate during normal conditions will operate properly if required.

The automatic actuation test will be performed by simulation of high drywell pressure or low-low water level. The starting of the pump and actuation of valves will be checked. The normal power supply will be used during the test. Testing of the sequencing of the pumps when the diesel generator is the source of power will be checked during the testing of the diesel. Following the automatic actuation test, the flow rate will be checked by recirculation to the suppression chamber. The pump and valve operability checks will be performed by manually starting the pump or activating the valve. For the pumps, the pump motors will be run long enough for them to reach operating temperatures.

B. and C. Containment Spray Cooling Capability and RHR Service Water Systems

The periodic testing intervals specified in Specifications 4.5.B. and C. will demonstrate that all components will operate properly if required. Since this is a manually actuated system, no automatic actuation test is required. The system will be activated manually and the flow checked by an indicator in the control room.

Once every five years air tests will be performed to assure that the containment spray header nozzles are operable.

D., E. and F. Station Service Water and Alternate Cooling Tower Systems and High Pressure Coolant Injection and Automatic Depressurization System

The testing intervals for the HPCI system will demonstrate that the system will operate if required. The automatic depressurization system is tested during refueling outages to avoid an undesirable blowdown of the reactor coolant system.

The HPCI automatic actuation test will be performed by simulation of the accident signal. This test will be followed by a flow rate test in which water is recirculated to the condensate storage tank.

3.10 LIMITING CONDITIONS FOR OPERATION

4.10 SURVEILLANCE REQUIREMENTS

3. Emergency Buses

- 22] The emergency 4160 volt buses 3 and 4, and 480 volt buses 8, 9, 89 and 89B shall be energized and operable.

4. Off-Site Power

- a. At least one off-site transmission line and the start-up transformer in service.
- b. One of the following additional sources of delayed access power:

The main step-up transformer and unit auxiliary transformer available and capable of supplying power to the emergency 4160 volt buses or,

The 4160 volt tie line to Vernon Hydro-electric Station capable of supplying power to either of the two emergency 4160 volt buses.

3. Emergency Buses

The emergency 4160 volt buses and 480 volt buses shall be checked daily.

- 22] The transfer circuits associated with 480 volt buses 89 and 89B shall be tested every two weeks to minimize the existence of an undetected failure.

4. Off-Site Power

The status of the off-site power sources shall be checked daily.

SAFETY EVALUATION BY THE DIRECTORATE OF LICENSING

SUPPORTING AMENDMENT NO. 11 TO FACILITY OPERATING LICENSE NO. DPR-28

(CHANGE NO. 22 TO THE TECHNICAL SPECIFICATIONS)

VERMONT YANKEE NUCLEAR POWER CORPORATION

VERMONT YANKEE NUCLEAR POWER STATION

DOCKET NO. 50-271

INTRODUCTION

By letter dated June 25, 1974, and supplements thereto dated September 9, October 1, October 7, October 9, October 29, and November 13, 1974, Vermont Yankee Nuclear Power Corporation (VYNPC) requested authorization to modify the low pressure coolant injection system (LPCIS) in the emergency core cooling system (ECCS) for the Vermont Yankee Nuclear Power Station (VYNPS) during the Fall 1974 outage. Our letter dated October 22, 1974, included our Safety Evaluation for the LPCIS modifications to the ECCS but did not authorize the modifications to be made at that time. Our letter dated November 1, 1974, authorized the LPCIS modifications to be made by authority of the Atomic Safety and Licensing Board's Order dated November 1, 1974.

Also included in the June 25, 1974 submittal were proposed Technical Specifications which would permit VYNPC to operate the modified LPCIS in the ECCS and modified associated electrical systems. All of these system modifications and changes were reviewed and approved in our October 21, 1974 Safety Evaluation Report. Some of the proposed Technical Specifications were revised by the submittal dated September 9, 1974, and additional Technical Specifications were submitted as requested by our October 22, 1974 letter on November 13, 1974.

The proposed changes to the Technical Specifications would:

1. Remove the limiting conditions for operation and surveillance requirements associated with the LPCIS recirculation loop selection logic system;
2. Add surveillance requirements associated with LPCIS pump capacity and recirculation pump discharge valves;

OFFICE ➤						
SURNAME ➤						
DATE ➤						

3. Clarify the intent of the specification regarding the subsystems in the containment cooling system that may be inoperable for thirty days by adding the torus spray injection valve and requiring increased surveillance if one of the containment cooling subsystems is inoperable;
4. Include second 480 volt swing bus in limiting conditions for operation of the emergency buses; and
5. Add surveillance requirements for the dual 480 volt swing buses and associated electrical systems.

EVALUATION

Only the proposed Technical Specification changes are reviewed and evaluated in this safety evaluation. Based on the October 21, 1974 Safety Evaluation, we concluded that there was reasonable assurance that the health and safety of the public would not be endangered by the modifications to the LPCIS in the ECCS.

Our evaluation of the proposed Technical Specification changes are as follows:

1. Since the approved modifications to the LPCIS included removal of the LPCIS recirculation loop selection logic system, there is no longer any need for limiting conditions for operation and surveillance requirements on the trips of the recirculation pumps in the Technical Specifications. Therefore, the trip level setting on the recirculation pump and the associated surveillance frequencies for functional test and calibration have been deleted. Also, the break detection permissive, pressure differential across the two LPCIS and associated time delays have been deleted for the logic system in the limiting conditions for operation of the LPCIS. All surveillance requirements associated with the trip functions of the logic system have been deleted. The deletion of these trip functions and surveillance requirements does not affect any other safety feature of the facility. A recirculation discharge valve permissive has been added to the LPCIS injection valve permissive trip level setting in the Technical Specification. A surveillance requirement has been added for the LPCI crosstie valve monitor even though the valve will be closed during normal operation and power disconnected to the motor operator. The addition of the trip function on the recirculation discharge valve permissive and surveillance of the LPCIS crosstie valve monitor enhances the operation of the LPCIS.

OFFICE >						
SURNAME >						
DATE >						

2. The addition of surveillance requirements on the LPCIS pump capacity is necessary to assure that the LPCIS pumps, if required to operate, could supply, as a minimum, the quantity of water assumed in the evaluation of the design basis accident for loss of coolant. This requirement replaces the previous pump capacity value of all three RHR (LPCIS) pumps as used for the accident analysis with the unmodified LPCIS. With the modified LPCIS, additional surveillance requirements are necessary for determining operability of the recirculation pump discharge valve which has been changed from an inactive valve in the unmodified LPCIS operation to an active valve in the modified LPCIS operation. Prior to the LPCIS modification, operation of the recirculation pump discharge valve was unnecessary for successful operation of the LPCIS and therefore, was not required to be tested for operability. With the LPCIS modification, the recirculation pump discharge valve must close upon signal indicating a loss of coolant accident and must close within a given time period following the permissive signal discussed above. These surveillance requirements enhance the reliability of the LPCIS pumps to perform as assumed in the accident analysis and enhance the reliability of the recirculation pump discharge valve to close upon signal and within a given period of time in case of a loss of coolant accident.
3. The addition of the torus spray injection valve to the components in the containment cooling systems that could be inoperable for thirty days is a clarification of the intent for the specification. For an inoperable containment cooling subsystem, a surveillance requirement has been added which is consistent with other surveillance requirements on such safety related systems. These additional specifications do not affect any other safety feature of the facility and enhance the surveillance requirements on the containment cooling subsystems. These changes were not a result of the LPCIS modifications.
4. The second 480 volt swing bus, designated as 89 B, has been added to the Emergency Buses Technical Specification, thereby establishing the same limiting conditions for operation for the new bus as has been previously determined to be acceptable for existing buses of similar function.

OFFICE ➤						
SURNAME ➤						
DATE ➤						

5. As previously stated in our Safety Evaluation approving the LPCIS modifications dated October 21, 1974, additional surveillance requirements on the dual swing buses and associated electrical systems were necessary to minimize the possibility of an undetected failure in the electrical system. Functional tests are to be performed on the swing bus undervoltage circuits and verification of the protective relaying and circuit breaker coordination between each swing bus and the diesel generators are to be completed prior to reactor startup following the Fall 1974 outage. Following acceptable results from these pre-operational tests, we have determined that bi-monthly tests of the two transfer circuits using test procedures to be approved by us are adequate to assure against undetected failures in the transfer circuits for the dual swing buses. These additional specifications do not affect any other safety feature of the facility and enhance the surveillance requirements on the dual swing buses and associated electrical systems.

CONCLUSIONS

Based upon the above considerations, we conclude that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner; and (2) 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 the health and safety of the public.

Date:

Richard D. Silver
for

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

Original signed by
Dennis L. Ziemann

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

Date:

DEC 03 1974

OFFICE ➤						
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

The Atomic Energy Commission (the Commission) issued on August 8, 1974, and published in the Federal Register on August 19, 1974 (39 F.R. 29950), a notice of consideration of proposed changes in the Technical Specifications of Facility Operating License No. DPR-28 (issued to the Vermont Yankee Nuclear Power Corporation) relating to operation and surveillance of the low pressure coolant injection system in the emergency core cooling system of the Vermont Yankee Nuclear Power Station (located near Vernon, Vermont).

The State of Vermont filed "Petitions For Leave To Intervene and For Adjudicatory Public Hearing" dated September 18, 1974, as supplemented by a petition dated September 20, 1974, under 10 CFR 2.714 of the Commission's Rules of Practice. Subsequently, on October 31, 1974, the State of Vermont withdrew its petition. On November 1, 1974, the Atomic Safety and Licensing Board issued an Order granting withdrawal of the intervention petition and dismissing the proceeding.

Accordingly, the Commission has issued Amendment No. 11, incorporating Change No. 22 to the Technical Specifications of Facility Operating License No. DPR-28 to the Vermont Yankee Nuclear Power Corporation (the licensee). This change, effective immediately, authorizes the items which were subject of the August 8, 1974 notice, as referenced above.

OFFICE >						
SURNAME >						
DATE >						

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 June 25, 1974, as supplemented by filings dated September 9, October 1, October 7, October 9, October 29 and November 13, 1974, (2) Amendment No. 11 to License No. DPR-28 with Change No. 22, (3) the Commission's concurrently issued related Safety Evaluation, (4) the Commission's related Safety Evaluation dated October 21, 1974 and transmittal letter dated October 22, 1974, and (5) the Board's Order dated November 1, 1974. 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), (3) and (4) 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 *3rd day of December, 1974.*

FOR THE ATOMIC ENERGY COMMISSION

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

OFFICE >						
SURNAME >						
DATE >						

UNCLASSIFIED

OUTGOING TELECOMMUNICATION MESSAGE

THIS DOCUMENT CONSISTS OF _____ PAGES

FOR NORMAL USE		EMERGENCY USE ONLY		SINGLE ADDRESS	
ACTION: <input type="checkbox"/> ROUTINE	<input checked="" type="checkbox"/> PRIORITY	<input type="checkbox"/> IMMEDIATE	<input type="checkbox"/> FLASH	<input type="checkbox"/> MULT. ADDRESS	<input type="checkbox"/> BOOK MESSAGE
INFO: <input type="checkbox"/> (4 HRS.)	<input type="checkbox"/> (17 HRS.)	<input type="checkbox"/> (1 HRS.)	<input type="checkbox"/> (ASAP)	NR:	DTG: 2

FROM: USAEC
 SAMUEL W. JENSCH, CHAIRMAN
 ATOMIC SAFETY AND LICENSING BOARD
 GERMANTOWN, MARYLAND

OFFICIAL BUSINESS
Samuel W. Jensch
 (Signature of certifying official)
 DATE: 11/1/74

THOMAS G. DIGNAN, JR., ESQ., ROPES & GRAY, 225 FRANKLIN STREET, BOSTON, MASS.

ORDER IN THE MATTER OF VERMONT YANKEE NUCLEAR POWER CORPORATION, APPLICANT
 DOCKET NO. 50-271-OL No. DPR-28 (LOW PRESSURE COOLANT INJECTION SYSTEM).
 UPON THE WITHDRAWAL BY THE STATE OF VERMONT OF ITS PETITION TO INTERVENE
 IN THIS PROCEEDING, THE ATOMIC SAFETY AND LICENSING BOARD APPOINTED TO
 RULE ON PETITIONS TO INTERVENE HAS NO PETITION BEFORE IT. THE REQUEST
 BY THE STATE OF VERMONT TO WITHDRAW THE PETITION TO INTERVENE IN THIS
 PROCEEDING IS GRANTED AND THE DIRECTOR OF REGULATION IS AUTHORIZED TO
 PROCEED IN THIS MATTER AS HE PROPOSED TO DO BY THE NOTICE OF PROPOSED
 ISSUANCE OF AMENDMENT TO FACILITY OPERATING LICENSE PUBLISHED IN THE
 FEDERAL REGISTER ON AUGUST 19, 1974 IN VOLUME 39, AT PAGE 29,950 AND SUPPLEMENTED BY
 AGREEMENT MADE BY REGULATORY STAFF STATE OF VERMONT AND APPLICANT.
 INFO CYS TO: JOHN A CALHOUN, ASSISTANT ATTORNEY GENERAL, STATE OF
 VERMONT, MONTPELLER, VERMONT

HONORABLE DONALD W. STEVER, JR., ASSISTANT ATTORNEY GENERAL,
 STATE OF NEW HAMPSHIRE, STATE HOUSE ANNEX, CONCORD, NEW HAMPSHIRE

USAEC, DAVID E.. KARTALLA, ESQ., OFFICE OF GENERAL COUNSEL,
 REGULATION, BETHESDA, MARYLAND

MEMO TO WESTERN UNION--DO NOT MAIL SEND ACCORDING TO TARIFFS AND WITHIN THAT TIME
 BE BRIEF -- ELIMINATE UNNECESSARY WORDS

ORIGINATOR: SWJensch ALJ C-45CGTN 3752	INSERT CLASSIFICATION (If Classified)	RESTRICTED DATA OR ESPIONAGE INFO, IF REQUIRED
---	--	--

NOV 6 1974
 02

3. Clarify the intent of the specification regarding the subsystems in the containment cooling system that may be inoperable for thirty days by adding the torus spray injection valve and requiring increased surveillance if one of the containment cooling subsystems is inoperable;
4. Include second 480 volt swing bus in limiting conditions for operation of the emergency buses; and
5. Add surveillance requirements for the dual 480 volt swing buses and associated electrical systems.

EVALUATION

Only the proposed Technical Specification changes are reviewed and evaluated in this safety evaluation. Based on the October 21, 1974 Safety Evaluation, we concluded that there was reasonable assurance that the health and safety of the public would not be endangered by the modifications to the LPCIS in the ECCS.

Our evaluation of the proposed Technical Specification changes are as follows:

Since the approved modifications to the LPCIS included,

1. ~~The~~ removal of the LPCIS recirculation loop selection logic system during the approved modifications to the LPCIS ^{there is no longer any} makes the need for limiting conditions for operation and surveillance requirements on the trips of the recirculation pumps in the Technical Specifications unnecessary. Therefore, the trip level setting on the recirculation pump and the associated surveillance frequencies for functional test and calibration have been deleted. Also, the break detection permissive, pressure differential across the two LPCIS and associated time delays have been deleted for the logic system in the limiting conditions for operation of the LPCIS. ~~the~~ recirculation discharge valve permissive has been added to the LPCIS injection valve permissive trip level setting in the Technical Specification. A surveillance requirement has been added for the LPCI crosstie valve monitor even though the valve will be closed during normal operation and power disconnected to the motor operator. All surveillance requirements associated with the trip functions of the logic system have been deleted (such as the relays, differential sensors and low reactor pressure for break detection sensors). The deletion of these trip functions does not affect any other safety feature of the facility. The addition of the trip function on the recirculation discharge valve permissive and surveillance ~~on~~ the LPCIS crosstie valve monitor enhances the operation of the LPCIS.

*217
SURVEILLANCE
FUNCTIONS*

Handwritten initials/signature

OFFICE →					
SURNAME →					
DATE →					

2. The addition of surveillance requirements on the LPCIS pump capacity is necessary to assure that the LPCIS pumps, if required to operate, could supply, as a minimum, the quantity of water used in the evaluation of the design basis accident for loss of coolant. *assumed* This requirement replaces the previous pump capacity value (for surveillance) of all three RHR (LPCIS) pumps as used for the accident analysis with the unmodified LPCIS. With the modified LPCIS, additional surveillance requirements are necessary (to specify the frequency) for determining operability of the recirculation pump discharge valve which has been changed from an inactive valve in the unmodified LPCIS operation to an active valve in the modified LPCIS operation. Prior to the LPCIS modification, operation of the recirculation pump discharge valve was unnecessary for successful operation of the LPCIS and therefore, was not required to be tested for operability. With the LPCIS modification, the recirculation pump discharge valve must close upon signal indicating a loss of coolant accident and must close within a given time period following the permissive signal previously discussed above regarding the trip function of this valve. These surveillance requirements enhance the reliability of the LPCIS pumps to perform as assumed in the accident analysis for WMPs and the reliability of the recirculation pump discharge valve to close upon signal and within a given period of time in case of a loss of coolant accident.

3. The addition of the torus spray injection valve to the allowable components that could be inoperable for thirty days in the containment cooling systems is a clarification of the intent for the specification, of limiting condition for operation. For an inoperable containment cooling subsystem, a surveillance requirement has been added which is consistent with other surveillance requirements on such safety related systems. These additional specifications do not affect any other safety feature of the facility and enhance the surveillance requirements on the containment cooling subsystems. These changes were not a result of the LPCIS modifications.

Permit

The addition of the second 480 volt swing bus, designated as 89B, to the limiting conditions for operation of the Emergency Buses Technical Specification established the same conditions for the new bus as previously required for similar buses. By including the second 480 volt swing bus in these Technical Specification requirements, the limiting conditions for operation of similar buses which were previously determined to be acceptable will be the same for all buses.

Did addition of new bus establish same conditions? Reversing sentence helps that is start with kind of question in the same conditions were established for the new bus with all of adding

OFFICE →					
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

The Atomic Energy Commission (the Commission) issued on August 8, 1974, and published in the Federal Register on August 19, 1974 (39 F.R. 29950), a notice of consideration of proposed changes in the Technical Specifications of Facility Operating License No. DPR-23 (issued to the Vermont Yankee Nuclear Power Corporation) relating to operation and surveillance of the low pressure coolant injection system in the emergency core cooling system of the Vermont Yankee Nuclear Power Station (located near Vernon, Vermont).

The State of Vermont filed "Petitions For Leave To Intervene and For Adjudicatory Public Hearing" dated September 18, 1974, as supplemented by a petition dated September 20, 1974, under 10 CFR 2.714 of the Commission's Rules of Practice. Subsequently, on October 31, 1974, the State of Vermont withdrew its petition ~~based on applicant accepting requirements of Regulatory Staff's Safety Evaluation dated October 21, 1974, including those set forth in the transmittal letter dated October 22, 1974, and the Staff's letter dated October 31, 1974.~~

On November 1, 1974, the Atomic Safety and Licensing Board issued an *granting withdrawal of the intervention petition and dismissing the proceeding.* Order ~~in the Matter of Vermont Yankee Nuclear Power Corporation authorizing the Director of Regulation to proceed with action noticed on August 19, 1974,~~

OFFICE						
SURNAME						
DATE						

~~(39 F.R. 29950) and supplemented by agreement made by Regulatory staff, State of Vermont and Vermont Yankee.~~ Accordingly, the Commission has issued Amendment No. 11, incorporating Change No. 22 to the Technical Specifications of Facility Operating License No. DPR-28 to the Vermont Yankee Nuclear Power Corporation (the licensee). This change, effective immediately, authorizes the items which were the subject of the August 8, 1974 notice, as referenced above.

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 June 25, 1974, as supplemented by filings dated September 9, October 1, October 7, October 9, October 29 and November 13, 1974, (2) Amendment No. 11 to License No. DPR-28 with Change No. 22, (3) the Commission's concurrently issued related Safety Evaluation, (4) the Commission's related Safety Evaluation dated October 21, 1974 and transmittal letter dated October 22, 1974, and (5) the Board's Order dated November 1, 1974. 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

OFFICE >						
SURNAME >						
DATE >						

copy of items (2), (3) and (4) 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 day of 1974.

FOR THE ATOMIC ENERGY COMMISSION

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

OFFICE ➤						
SURNAME ➤						
DATE ➤						