

June 26, 1989

Mr. R. W. Capstick, Licensing Engineer
Vermont Yankee Nuclear Power Corporation
580 Main Street
Bolton, Massachusetts 01740-1398

Dear Mr. Capstick:

SUBJECT: ISSUANCE OF EXEMPTIONS TO 10 CFR 50, APPENDIX R, SECTION III.J,
EMERGENCY LIGHTING, (TAC 68857) AND SECTION III.G.2.a, SEPARATION,
(TAC 72219) - VERMONT YANKEE NUCLEAR POWER STATION

The Nuclear Regulatory Commission has granted the enclosed Exemptions regarding emergency lighting in the northeast corner catwalk area of the torus and qualification of a wall penetration. These Exemptions are issued in accordance with 10 CFR 50.12, Section 2(ii), in response to your letters, dated June 29, 1988 and February 2, 1989.

We find that granting these Exemptions is authorized by law, does not present an undue risk to the public health and safety, is consistent with the common defense and security, and meets the special circumstances described in 10 CFR 50.12(a)(2)(ii). This action closes out TAC 68857 and TAC 72219.

A Notice of Environmental Assessment and Finding of No Significant Impact was published in the Federal Register on May 30, 1989 (54 FR 22988).

The Exemptions have been forwarded to the Office of the Federal Register for publication.

Sincerely,

s/

Steven A. Varga, Director
Division of Reactor Projects I/II
Office of Nuclear Reactor Regulation

Enclosure:
As stated

cc w/encl.: See next page

*See previous concurrence

[VY EXEMPT. TAC 68857, 72219]

OFC	:PDI-3*	:PDI-3*	:DIR/PDI-3	:OGC*	:ADR	:DRP/DRSP	:
NAME	:MRushbrook	:MFairtile	:mw:RWesson	:EReis	:BBoger	:SVarga	:
DATE	:6/21/89	:6/21/89	:6/23/89	:6/12/89	:6/23/89	:6/26/89	:

OFFICIAL RECORD COPY

8907070140 890626
PDR ADOCK 05000271
P PDC

CP3
cc
DFO1
111

June 26, 1989

EXEMPTION - VERMONT YANKEE NUCLEAR POWER CORPORATION -
VERMONT YANKEE NUCLEAR POWER STATION

DISTRIBUTION

Docket File 50-271 ←

NRC/PDR

L/PDR

PDI-3 r/f

T. Murley/J.Sniezek

J. Partlow

C. Rossi

S. Varga

B. Boger

R. Wessman

M. Fairtile

V. Rooney

M. Rushbrook

OGC

E. Jordan

B. Grimes

T. Meek (4)

ACRS (10)

GPA/PA

ARM/LFMB

D. Notley

DF01
11



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

June 26, 1989

Docket No. 50-271

Mr. R. W. Capstick, Licensing Engineer
Vermont Yankee Nuclear Power Corporation
580 Main Street
Bolton, Massachusetts 01740-1398

Dear Mr. Capstick:

SUBJECT: ISSUANCE OF EXEMPTIONS TO 10 CFR 50, APPENDIX R, SECTION III.J,
EMERGENCY LIGHTING, (TAC 68857) AND SECTION III.G.2.a, SEPARATION,
(TAC 72219) - VERMONT YANKEE NUCLEAR POWER STATION

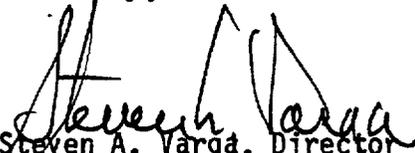
The Nuclear Regulatory Commission has granted the enclosed Exemptions regarding emergency lighting in the northeast corner catwalk area of the torus and qualification of a wall penetration. These Exemptions are issued in accordance with 10 CFR 50.12, Section 2(ii), in response to your letters, dated June 29, 1988 and February 2, 1989.

We find that granting these Exemptions is authorized by law, does not present an undue risk to the public health and safety, is consistent with the common defense and security, and meets the special circumstances described in 10 CFR 50.12(a)(2)(ii). This action closes out TAC 68857 and TAC 72219.

A Notice of Environmental Assessment and Finding of No Significant Impact was published in the Federal Register on May 30, 1989 (54 FR 22988).

The Exemptions have been forwarded to the Office of the Federal Register for publication.

Sincerely,


Steven A. Varga, Director
Division of Reactor Projects I/II
Office of Nuclear Reactor Regulation

Enclosure:
As stated

cc w/encl: See next page

Mr. R. W. Capstick
Vermont Yankee Nuclear Power Corporation

Vermont Yankee Nuclear Power Station

cc:

Mr. J. Gary Weigand
President & Chief Executive Officer
Vermont Yankee Nuclear Power Corp.
R.D. 5, Box 169
Ferry Road
Brattleboro, Vermont 05301

W. P. Murphy, Vice President
and Manager of Operations
Vermont Yankee Nuclear Power Corp.
R.D. 5, Box 169
Ferry Road
Brattleboro, Vermont 05301

Mr. John DeVincentis, Vice President
Yankee Atomic Electric Company
580 Main Street
Bolton, Massachusetts 01740-1398

Mr. George Sterzinger, Commissioner
Vermont Department of Public Service
120 State Street, 3rd Floor
Montpelier, Vermont 05602

New England Coalition on Nuclear
Pollution
Hill and Dale Farm
R.D. 2, Box 223
Putney, Vermont 05346

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

Vermont Public Interest Research
Group, Inc.
43 State Street
Montpelier, Vermont 05602

G. Dean Weyman
Chairman, Board of Selectman
Post Office Box 116
Vernon, Vermont 05354

William Russell, Regional Administrator
Region I Office
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, Pennsylvania 19406

Raymond N. McCandless
Vermont Division of Occupational
and Radiological Health
Administration Building
Montpelier, Vermont 05602

Mr. R. W. Capstick
Vermont Yankee Nuclear
Power Corporation
580 Main St.
Bolton, Massachusetts 01740-1398

Honorable John J. Easton
Attorney General
State of Vermont
109 State Street
Montpelier, Vermont 05602

R. K. Gad III
Ropes & Gray
225 Franklin Street
Boston, Massachusetts 02110

Conner & Wetterhahn, P.C.
Suite 1050
1747 Pennsylvania Avenue, N.W.
Washington, D.C. 20006

Vermont Yankee Nuclear Power
Corporation

- 2 -

Vermont Yankee Nuclear Power Station

cc:

Ellyn R. Weiss, Esq.
Harmon & Weiss
2001 S Street, N.W.
Washington, D.C. 20009

David J. Mullett, Esq.
Special Assistant Attorney General
Vermont Dept. of Public Service
120 State Street
Montpelier, VT 05602

Jay Gutierrez
Regional Counsel
USNRC, Region I
475 Allendale Road
King of Prussia, PA 19406

G. Dana Bisbee, Esq.
Office of the Attorney General
Environmental Protection Bureau
State House Annex
25 Capitol Street
Concord, NH 03301-6397

Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Mr. Gustave A. Linenberger, Jr.
Administrative Judge
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Resident Inspector
U.S. Nuclear Regulatory Commission
P.O. Box 176
Vernon, Vermont 05354

Carol S. Sneider, Esq.
Assistant Attorney General
Office of the Attorney General
One Ashburton Place, 19th Floor
Boston, MA 02108

Geoffrey M. Huntington, Esquire
Office of the Attorney General
Environmental Protection Bureau
State House Annex
25 Capitol Street
Concord, NH 03301-6397

Charles Bechhoefer, Esq.
Administrative Judge
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Dr. James H. Carpenter
Administrative Judge
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Adjudicatory File (2)
Atomic Safety and Licensing Board
Panel Docket
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of	}	
Vermont Yankee Nuclear Power Corporation	}	Docket No. 50-271
Vermont Yankee Nuclear Power Station	}	

EXEMPTION

I.

Vermont Yankee Nuclear Power Corporation ("licensee") is the holder of Operating License No. DPR-28, which authorizes the operation of the Vermont Yankee Nuclear Power Station. This license provides, among other things, that the Vermont Yankee Nuclear Station is subject to all rules, regulations and Orders of the Commission now or hereafter in effect.

The plant is a boiling water reactor at the licensee's site located in Vernon, Vermont.

II.

On November 19, 1980, the Commission published a revised Section 50.48 and a new Appendix R to 10 CFR Part 50 regarding fire protection features of nuclear power plants (45 FR 76602). The revised Section 50.48 and Appendix R became effective on February 17, 1981. Section III of Appendix R contains 15 subsections, lettered A through O, each of which specifies requirements for a particular aspect of the fire protection features at a nuclear power plant. Two of these subsections, III.G.2.a and III.J, are the subject of the licensee's exemption requests.

Section III.G.2.a of Appendix R to 10 CFR Part 50, requires separation of cables and equipment and associated non-safety trains by a fire barrier having a three hour rating. Penetration seals forming a part of such fire barriers shall be qualified to provide fire resistance equivalent to that required of the barrier. Section III.J of Appendix R, requires emergency lighting units to have at least an 8-hour battery backup power supply in all areas needed for operation of safe shutdown equipment, as well as access to and from such equipment.

III.

By letter dated February 2, 1989, Vermont Yankee Nuclear Power Corporation requested an exemption from the technical requirements of Section III.G.2.a of Appendix R to 10 CFR Part 50, "Fire Protection of Safe Shutdown Capability." The exemption is for an unqualified penetration seal for the four main steam lines and two feedwater lines through the Reactor Building west wall into the Turbine Building. The wall itself is qualified as a 3-hour rated fire barrier, however, the penetration seal is not.

The subject penetration is located in the barrier separating the Reactor Building Steam Tunnel and the Turbine Building High Pressure Bay. These are high radiation areas during plant operation. Therefore, access is controlled and transient combustibles are absent. The penetration seal is constructed of steel sleeves and steel plate assembled with rivets designed to break at a predetermined load to provide blow-out panels in the event of a steam line break inside the steam tunnel. The piping is covered with composite insulation and a zippered fabric bellows incorporating an air tight vinyl gasket to support secondary containment integrity.

Based on our evaluation, above, that the subject penetration area is inaccessible to personnel during plant operation and that there will be no transient combustibles as a consequence, and as there are no other possible sources of a fire, we conclude that the subject penetration provides adequate fire protection even with the unqualified seal. In addition, we conclude that fire protection would not be particularly enhanced if the existing unqualified penetration seal was replaced with a seal qualified to 3-hour fire resistance rating as there is no credible source for initiation and maintenance of a fire.

By letter dated June 29, 1988 the licensee also requested an exemption from the technical requirements of Section III.J of Appendix R. Section III.J requires that "Emergency lighting units with at least an eight-hour battery supply shall be provided in all areas needed for operation of safe shutdown equipment and in access and egress routes thereto."

Vermont Yankee's Appendix R Alternate Shutdown System was designed to address a fire in the Control Room, Cable Vault, and West Switchgear Room. Alternate shutdown utilizes the Residual Heat Removal (RHR) System for torus cooling and shutdown cooling to help achieve cold shutdown. In the event of a Loss of Off-Site Power (LOOP), an Emergency Diesel Generator (EDG) is required to operate RHR. Although torus cooling is not required for several hours following a fire and LOOP, operation of an EDG is established by procedure early in the scenario. One of the advantages of bringing on the EDG is establishing backup ac lighting. However, the area of the torus catwalk does not have an eight-hour battery supply for backup illumination power.

In order to ensure proper valve line-up for RHR torus cooling, an operator is required by procedure to check that RHR-38A (suppression chamber spray valve) and RHR-66 (discharge to radwaste isolation valve) are closed.

These valves are located in the Reactor Building torus area off the catwalk. This area, as well as access to the area, is provided with 120 V ac lighting backed by an EDG rather than a backup battery supply.

Based on the above, we conclude that the availability of the EDG for backup power eliminates the need for an individual 8-hour battery power supply in this specific area and provides for a superior backup power supply.

The licensee stated in their February 2, 1989 submittal regarding Appendix R Section III.G.2.a regarding the special circumstance requirements of 10CFR50.12a(2)(ii) that sealing the main steam lines and feedwater lines penetration between the Reactor Building and Turbine Building with a qualified three-hour fire rated seal is not necessary to achieve the underlying purpose of Section III.G.2.a. The staff agrees with this conclusion because the subject penetration provides fire protection comparable to that provided by Section III.G.2.a.

The licensee's June 29, 1989 letter addressed the special circumstances regarding Appendix R Section III.J by stating that the provision of a 120V ac emergency lighting system driven by an emergency diesel generator rather than a battery driven system achieves the purpose of Appendix R, Section III.J. As stated above, the staff finds the 120V ac system superior to the battery system and agrees with the licensee's conclusion on special circumstances.

Therefore, an exemption to the requirements of Section III.G.2.a of Appendix R in relation to the need for a three hour fire rated seal and Section III.J in regard to backup power supplies should be granted.

IV.

Accordingly, the Commission has determined, pursuant to 10 CFR 50.12(a), that (1) the exemption as described in Section III is authorized by law, will not present an undue risk to the public health and safety, and is consistent

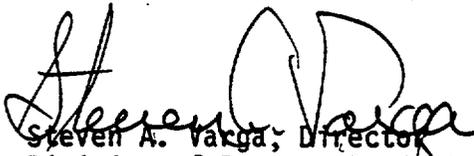
with the common defense and security, and (2) in this case, special circumstances are present in that application of the regulation is not necessary to achieve the underlying purpose of Appendix R to 10 CFR Part 50. Therefore, the Commission hereby grants the exemption from the requirements of Section III.G.2.a and Section III.J of Appendix R to 10 CFR Part 50 as discussed above.

Pursuant to 10 CFR 51.32, the Commission has determined that the granting of this exemption will not result in any significant environmental impact (54FR 22988). A copy of the licensee's submittals dated June 29, 1988 and February 2, 1989 are available for public inspection at the Commission's Public Document Room, 2120 L Street, N.W., Washington, D.C. and at the Brooks Memorial Library, 224 Main Street, Brattleboro, Vermont 05301. Copies may be obtained upon written request addressed to the U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Director, Division of Reactor Projects I/II.

This Exemption is effective upon issuance.

Dated at Rockville, Maryland this 26th day of June , 1989.

FOR THE NUCLEAR REGULATORY COMMISSION


Steven A. Varga, Director
Division of Reactor Projects I/II
Office of Nuclear Reactor Regulation

with the common defense and security, and (2) in this case, special circumstances are present in that application of the regulation is not necessary to achieve the underlying purpose of Appendix R to 10 CFR Part 50. Therefore, the Commission hereby grants the exemption from the requirements of Section III.G.2.a and Section III.J of Appendix R to 10 CFR Part 50 as discussed above.

Pursuant to 10 CFR 51.32, the Commission has determined that the granting of this exemption will not result in any significant environmental impact (54FR 22988). A copy of the licensee's submittals dated June 29, 1988 and February 2, 1989 are available for public inspection at the Commission's Public Document Room, 2120 L Street, N.W., Washington, D.C. and at the Brooks Memorial Library, 224 Main Street, Brattleboro, Vermont 05301. Copies may be obtained upon written request addressed to the U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Director, Division of Reactor Projects I/II.

This Exemption is effective upon issuance.

Dated at Rockville, Maryland this 26th day of June , 1989.

FOR THE NUCLEAR REGULATORY COMMISSION

s/

Steven A. Varga, Director
Division of Reactor Projects I/II
Office of Nuclear Reactor Regulation

OFC	:PDI-3	:PDI-3	:DIR/PDI-3	:OGC	:ADR	:DRP/DRSP	:
NAME	:MRushbrook	:WArtile	:mw:RWessman	:MBogger	:SVarga	:	:
DATE	:5/ /89	:6/2/89	:6/23/89	:6/20/89	:6/23/89	:6/26/89	: