



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

7ERA

November 24, 1980

Docket No. 50-271
Plant Name: Vermont Yankee Nuclear Power Station

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TO ALL POWER REACTOR LICENSEES WITH PLANTS
LICENSED PRIOR TO JANUARY 1, 1979

The Commission published on November 19, 1980 (45 FR 76602), a revised Section 10 CFR 50.48 and a new Appendix R to 10 CFR 50 regarding fire protection features of nuclear power plants. The revised Section 50.48 and Appendix R will become effective February 17, 1981, which is 90 days after publication. A copy of the Federal Register Notice is enclosed (Enclosure 1).

The provisions of Appendix R that are applicable to the fire protection features of your facility can be divided into two categories. The first category consists of those provisions of the Appendix that are required to be backfit in their entirety by the new rule, regardless of whether or not alternatives to the specific requirements of these Sections have been previously approved by the NRC staff. These requirements are set forth in Sections III-G, Fire Protection of Safe Shutdown Capability; III-J, Emergency Lighting; and III-O, Oil Collection Systems for Reactor Coolant Pump. The fire protection features of your facility must satisfy the specific requirements of these three Sections by the dates established by Paragraph 50.48(c), unless an exemption from the Appendix R requirements is approved by the Commission. You should note the provisions for tolling the time for completing the modifications required by these three Sections of Appendix R set forth in Paragraph 50.48(c)(6).

The second category of Appendix R provisions applicable to the fire protection features of your facility consists of requirements concerning the "open" items of previous NRC staff fire protection reviews of your facility. An open item is defined as a fire protection feature that has not been previously approved by the NRC staff as satisfying the provisions of Appendix A to Branch Technical Position BTP PCSB 9.5-1, as reflected in a staff fire protection safety evaluation report. The fire protection features of your facility that are in this category must satisfy the specific requirements of Appendix R by the dates established by Paragraph 50.48(c), unless an exemption from the Appendix R requirements on those features is approved by the Commission.

Enclosure 2 is a summary listing of the open items concerning the fire protection features of your facility based on a review of our records. Also included is our position on the specific requirements that must be satisfied in order to resolve these open items. If you have any questions or disagreements with this enclosure, please advise us within 30 days of your receipt of this letter.

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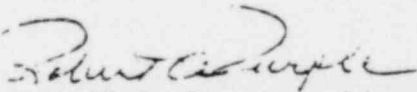
November 24, 1980

With regard to the fire protection modifications that have been previously approved by the NRC staff, Paragraph 50.48(d) specifies a new schedule for their completion. This paragraph, when it becomes effective, will supersede the currently effective section of the regulations that temporarily suspends completion dates for previously approved fire protection modifications that are given in facility license conditions (45 FR 71569, October 29, 1980). The Commission expects that all such modifications will be completed in accordance with this new schedule, unless an extension has been requested and granted by the Director of the Office of Nuclear Reactor Regulation [see Paragraph 50.48(d)], or an exemption has been requested and granted by the Commission pursuant to Section 50.12 of the Commission's regulations.

If you have previously requested extensions of dates for completion of modifications that are required by license conditions for your facility which were not approved, and you have determined that these extensions are still necessary and justifiable, it will be necessary for you to reapply for any such extensions in accordance with the provisions of Paragraph 50.48(d).

All requests for Commission action resulting from this rule are subject to the schedule of fees specified in 10 CFR 170.21. If you have any questions concerning the subject matters of this letter, please contact the NRC Project Manager for your facility.

Sincerely,


Darrell G. Eisenhut, Director
Division of Licensing
Office of Nuclear Reactor Regulation

Enclosures:

1. Notice - Fire Protection Rule
2. Summary of Staff Requirements to Resolve Open Items

cc w/enclosures:
See next page

Mr. Robert L. Smith

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November 24, 1980

cc:

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Mr. Robert L. Smith

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November 24, 1980

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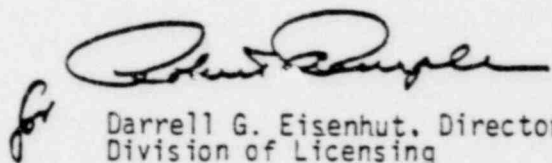


UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

November 25, 1980

TO ALL POWER REACTOR LICENSEES WITH PLANTS
LICENSED PRIOR TO JANUARY 1, 1979

The Federal Register Notice enclosed with my letter dated November 24, 1980 has a typographical error in the effective date. The effective date should be February 17, 1981. A correction will be published in the Federal Register in the near future.


for Darrell G. Eisenhut, Director
Division of Licensing

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DUPLICATE DOCUMENT

Entire document previously
entered into system under:

ANO 8012310008

No. of pages: 17

VERMONT YANKEE NUCLEAR POWER STATION
SUMMARY OF STAFF REQUIREMENTS
TO RESOLVE OPEN ITEMS

Item 3.1.8 Fire Barrier Penetration

By letter dated February 26, 1980, the licensee committed to provide information supporting the qualification testing of barrier penetration seals. That information has not yet been provided.

Item 3.2.3 Fire Water Loop

In the Fire Protection SER, the concern was that a break in one of the underground discharge lines from the fire pumps could affect the other discharge lines which is located less than one foot away, resulting in a total loss of the fire water supply.

By letters dated January 30, 1978, and September 14, 1979, the licensee claimed that, based on their calculations, no modifications are required. The licensee did not provide their calculations for our review. We do not have enough information to conclude that no modifications are necessary. A rupture of a 12-inch underground water main would damage an adjacent water main. The licensee was informed of our findings.

To meet the recommendations of ANSI 59.4, and Section IIIA of Appendix R to 10 CFR Part 50, licensees should relocate one of the underground fire pump discharge mains to provide adequate separation (approximately 25 feet).

Item 3.2.4 Primary Containment Analysis

In the Fire Protection SER, we indicated our concern that the fire hazards analysis for the primary containment was not complete and, therefore, the adequacy of the fire protection features could not be evaluated.

By letters dated January 30, 1978 and September 14, 1979, the licensee proposed the following modifications:

1. A means for early detection of oil fires inside the containment.
2. A collection system for small oil leaks from each reactor recirculation pump motor.
3. Fixed (manual) suppression for oil fires at each reactor recirculation pump motor (density of .3 gpm/sq. ft.).
4. Replacement of all combustible "armoflex" insulation with non-combustible insulation.

The proposed modifications are not sufficient to assure that: (1) the reactor recirculation pump motor lube oil will not contribute to a large fire, and (2) a fire which does start will not burn for a considerable time and cause damage to safe shutdown systems, and therefore find that the proposed modifications do not provide an adequate level of fire protection inside containment. The licensee was informed of our findings.

To meet the requirements of Section III.D of Appendix R to 10 CFR Part 50, the licensee should provide standpipe and hose stations outside the drywell with adequate lengths of hose to reach any location inside the drywell with an effective hose stream.

By letter dated September 19, 1980, the licensee indicated that since the motors used on the reactor recirculation pumps are of a bath type design, the only piping that is external to the motor is a fill and drain connection for each bearing. The licensee proposed to provide an overflow collection system at each oil bath reservoir, sized to handle the flow from a ruptured oil cooler. The system will collect the overflow and deposit it in a closed, vented container. The collection system will be designed to withstand Category I seismic events. The licensee did not provide information regarding the additional standpipe hose stations outside the drywell or the additional protection required for the redundant cables in the primary containment.

Based on our review, we conclude that the licensee has not provided information for our evaluation of the fire protection features inside the containment for the reactor recirculation pump oil collection system. The licensee should provide adequate fire protection, including an oil collection system that meets the requirements of Appendix R to 10 CFR 50 Section III.

Item 3.2.7 Administrative Controls

In the Fire Protection SER the concern was that the licensee's administrative controls for fire protection were not adequate.

By letters dated January 30, 1978, April 13, 1978, August 14, 1978, September 7, 1978, October 13, 1978, and September 10, 1979, the licensee provided additional information about their proposed administrative controls. The licensee indicated that existing procedures were smoking, welding, cutting, grinding and open framework (hotwork). The procedures require a permit and a fire watch for hotwork in certain plant areas with high combustible loading, and only in safety related areas with a significant combustible loading. The plant fire protection coordinator reviews the exceptions to these controls.

The licensee also indicated that the Shift Supervisor will be the on-scene Fire Brigade Leader. The five man brigade has two levels of training i.e., three members of the primary fire fighting team will be fully trained whereas

the two assigned security personnel will receive only training necessary to perform their support roles. In addition, the licensee stated that the three primary fire brigade members will drill two times per year and the two security support personnel on the fire brigade would drill two times per year or less. We find the licensee's commitments inadequate.

To provide adequate assurance that work such as welding, cutting, etc. does not introduce unnecessary fire hazards in areas containing safety-related systems and to comply with Section III.K.5 of Appendix R to 10 CFR Part 50, the licensee should prepare and institute administrative controls to assure all safety-related areas and areas hazardous to safety-related equipment are protected from fire damage or loss resulting from work involving ignition sources, such as welding, cutting, grinding, or open flamework.

In addition, to assure that the fire brigade has adequate supervisory personnel and is adequately trained to provide effective control of fires in the plant, the licensee should provide fire brigade supervision and training to meet the requirements of Section III, Paragraphs H and I of Appendix R to 10 CFR Part 50.

Item 3.2.8 Shutdown Capability

In the Fire Protection Safety Evaluation Report it was our concern that an unmitigated fire in the switchgear room would preclude safe shutdown of the plant. In the SER we requested that the licensee demonstrate that safe shutdown system can be placed in operation independent of fire damage to electrical circuits in the control room, cable spreading area or switchgear room.

By letter dated January 30, 1978, the licensee provided their analysis of the safe shutdown capability after a fire in the switchgear room.

We informed the licensee that the analysis was unacceptable because of unacceptable or unsupported assumptions.

To meet our fire protection guidelines, alternate shutdown capability should be provided when safe shutdown cannot be ensured by barriers and detection and suppression systems because of the exposure or redundant safe shutdown equipment, cabling, or components in a single fire area to an exposure fire, or fire suppression activities, or rupture or inadvertent operation of fire suppression systems. We informed the licensee that such alternate shutdown capability which is independent of several fire areas should be provided. By letter dated August 13, 1980 the licensee informed us that a new safe shutdown analysis would be submitted when proposed Appendix R to 10 CFR Part 50 is published in its final form.

To meet Section III, Paragraph G of Appendix R to 10 CFR Part 50, the licensee should provide alternate shutdown capability for the following areas of the plant:

1. The Switchgear Room
2. The Control Room
3. The Cable Spreading Room

The alternate shutdown system should meet the requirements of Section III, Paragraph L of Appendix R to 10 CFR Part 50.