

December 14, 1994

Mr. E. E. Fitzpatrick, Vice President
Indiana Michigan Power Company
c/o American Electric Power Service Corporation
1 Riverside Plaza
Columbus, Ohio 43215

SUBJECT: DONALD C. COOK NUCLEAR PLANT, UNIT NOS. 1 AND 2 - REVISION TO
TECHNICAL SPECIFICATION BASES REFLECTING CHANGE TO FIRE SUPPRESSION
BACKUP WATER SOURCE (TAC NOS. M90177 & M90178)

Dear Mr. Fitzpatrick:

By letters dated March 16, and July 26, 1994, you requested a revision to
Bases section 3/4.7.9 of the Technical Specifications (TS) appended to
Facility Operating License Nos. DPR-58 and DPR-74 for the Donald C. Cook
Nuclear Plant, Unit Nos. 1 and 2. The revision deletes reference to the
screenhouse fire pumps as a backup water source for the fire suppression
system.

The staff has reviewed your proposal, as documented in the enclosed Safety
Evaluation, and determined that the changes are acceptable. Copies of the
revised Bases pages are also enclosed.

Should you have any questions, please contact me at (301) 504-3017.

Sincerely,

ORIGINAL SIGNED BY

John B. Hickman, Project Manager
Project Directorate III-1
Division of Reactor Projects - III/IV
Office of Nuclear Reactor Regulation

Docket Nos. 50-315
and 50-316

Enclosures: 1. Revised Bases Pages
2. Safety Evaluation

cc w/encl: See next page

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Mr. E. E. Fitzpatrick
Indiana Michigan Power Company

Donald C. Cook Nuclear Plant

cc:

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December 1993

BASES (Continued)

radiation levels and the expected time to perform a visual inspection in each snubber location as well as other factors associated with accessibility during plant operations (e.g., temperature, atmosphere, location, etc.), and recommendations of Regulatory Guides 8.8 and 8.10. The addition or deletion of any snubber shall be made in accordance with Section 50.59 of 10 CFR Part 50.

3/4.7.9 FIRE SUPPRESSION SYSTEMS

The OPERABILITY of the fire suppression systems ensures that adequate fire suppression capability is available to confine and extinguish fires occurring in any portion of the facility where safety related equipment is located. The fire suppression system consists of the water system, spray and/or sprinklers, CO₂, Halon and fire hose stations. The collective capability of the fire suppression systems is adequate to minimize potential damage to safety-related equipment and is a major element in the facility fire protection program.

In the event that one or more CO₂ Suppression System requiring automatic actuation must be isolated for personal protection to permit entry for routine tours, maintenance, construction, or surveillance testing in the protected area, the fire detection system(s) required to be operable by Specification 3.3.3.7 shall be verified to be operable. Isolation of an automatic CO₂ suppression system temporarily puts this system in a manual actuation mode.

Reliance on the fire detection system, in conjunction with the ability to manually discharge the CO₂ suppression system will provide adequate fire protection for periods when personnel are required to work in these areas.

In the event that portions of the fire suppression systems are inoperable, alternate backup fire fighting equipment is required to be made available in the affected areas until the inoperable equipment is restored to service. When the inoperable fire fighting equipment is intended for use as a backup means of fire suppression, a longer period of time is allowed to provide an alternate means of fire fighting than if the inoperable equipment is the primary means of fire suppression. Backup fire protection equipment will normally take the form of permanently mounted fire extinguishers and/or fire hose stations in or near the area, or fire hoses routed to the affected area. However, it is not our intent to rely on backup systems or other compensatory measures for an extended period of time and action will be taken to restore the inoperable portions of the fire suppression system to OPERABLE status within a reasonable period.

BASES

3/4.7.9 (Continued)

The surveillance requirements provide assurance that the minimum OPERABILITY requirements of the fire suppression systems are met. While performing the surveillances specified in 4.7.9.1 the fire suppression water system is still capable of performing its intended function. Consequently, it is not necessary to enter the ACTION STATEMENT specified in 3.7.9.1 while the SURVEILLANCES specified in 4.7.9.1.1 are being performed, unless the tested equipment fails the SURVEILLANCE. In addition, an allowance is made for ensuring a sufficient volume of Halon and CO₂ in the Halon and CO₂ storage tanks by verifying either the weight, level, or pressure of the tanks.

The fire suppression water system has three fire pumps common to both units which discharge into underground ring headers. There is one motor-driven horizontal centrifugal fire pump rated at 2500 gpm that takes suction from the fire water storage tanks; and two diesel-engine-driven horizontal centrifugal fire pumps rated at 2500 gpm that take suction from the fire water storage tanks. Having a combination of diesel-driven and electric motor-driven pumps in the system design is consistent with NRC Branch Technical Position APSCB 9.5-1.

The purpose of the charcoal filter fire suppression T/S is to account for detection and suppression of fires in the charcoal filters. Manual operation of these systems is allowed because two-point heat detection with control room and local annunciation of trouble conditions is provided for the charcoal filters. The OPERABILITY of the fire suppression system protecting the charcoal filters is only required when there is charcoal in the filters. Actuation of spray water onto the charcoal filters requires both the manual opening of the system isolation valve and reaching the high temperature alarm setpoint for the automatic opening of the system deluge valve.

Because of the inaccessibility of the lower containment to personnel during operation due to ALARA radiation exposure concerns, the use of one or more CCTVs in the lower containment, to monitor for fire and smoke, is an acceptable substitute to an hourly fire watch, if the fire suppression system becomes inoperable.

All hourly fire watch patrols are performed at intervals of sixty minutes with a margin of fifteen minutes.

A continuous fire watch requires that a trained individual be in the specified area at all times and that each fire zone within the specified area be patrolled at least once every fifteen minutes with a margin of five minutes.

PLANT SYSTEMS

BASES

3/4.7.9 (Continued)

In the event that portions of the fire suppression systems are inoperable, alternate backup fire fighting equipment is required to be made available in the effected areas until the inoperable equipment is restored to service. When the inoperable fire-fighting equipment is intended for use as a backup means of fire suppression, a longer period of time is allowed to provide an alternate means of fire fighting than if the inoperable equipment is the primary means of fire suppression. Backup fire protection equipment will normally take the form of permanently mounted fire extinguishers and/or fire hose stations in or near the area, or fire hoses routed to the affected area. However, it is not our intent to rely on backup systems or other compensatory measures for an extended period of time and action will be taken to restore the inoperable portions of the fire suppression system to OPERABLE status within a reasonable period.

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO REVISION OF TECHNICAL SPECIFICATION BASES
ON FIRE SUPPRESSION SYSTEM

1.0 INTRODUCTION

By letters dated March 16, and July 26, 1994, the Indiana Michigan Power Company (the licensee) requested a revision to the Bases of the Donald C. Cook Nuclear Plant, Unit Nos. 1 and 2 Technical Specifications (TS). The proposed revision would delete reference to the screenhouse fire pumps as a backup water source for the fire suppression system. The licensee has proposed, as an alternative, the use of the Lake Township water supply as a backup fire water source. Although the use of the screenhouse fire pumps as a backup water source is not specified in the body of the TS and only referenced in the Bases, use of the pumps was noted as a supportive function in the NRC Safety Evaluation (SE) associated with Amendment Nos. 171 and 154 to the D. C. Cook TS. Amendment Nos. 171 and 154 added new TS requirements to reflect the installation of new fire water storage tanks, fire water pumps, and associated components and controls.

2.0 EVALUATION

The SE for Cook Amendments 171 and 154 stated that the existing fire suppression water supply system (screenhouse fire pumps) will remain intact. The system will be isolated to preclude zebra mussel infestation and the automatic controls will be removed. However, only simple manual action will be required to start and line up these pumps for service. The SE considered the availability of this backup system as partial justification for allowing a 30-day allowed outage time for one of the newly installed fire water storage tanks. Although the 30-day allowed outage time was an extension of the typical outage time at the time of the amendment, the *improved* "Standard Technical Specifications Westinghouse Plants", NUREG-1431, issued September 1992, removed the fire protection requirements from the TS in their entirety.

The licensee has stated that the use of the Lake Township water supply coupled with the fire suppression capability of the plant and local fire department in lieu of the screenhouse fire pumps does not involve a significant increase in the probability or consequences of an accident previously evaluated, does not create the possibility of a new or different kind of accident from any accident previously evaluated, and does not involve a significant reduction in a margin of safety. The use of the Lake Township water supply is consistent with and meets the intent of the action statement for TS 3.7.9.1(b)(2) which requires "Establish[ing] a backup fire suppression water system within 24 hours." The Lake Township water supply was found to be capable of refilling a fire water storage tank within the recommended 8-hour period, as

were the screenhouse fire pumps. In addition, the Lake Township water supply can provide a sufficient quantity of water to meet the largest TS fire suppression system demand. Finally, the licensee has concluded that continued attempts to maintain the screenhouse fire pumps are impractical considering their inherent susceptibility to zebra mussel contamination.

3.0 CONCLUSION

Based on the operational difficulties associated with the existing screenhouse fire pumps and the acceptable design alternative of the Lake Township water supply and the fire suppression capability of the plant and local fire department, the staff finds the licensee's proposal to switch the backup fire water source and the deletion of the reference to the screenhouse fire pumps from the Bases to be acceptable.

Principal Contributor: John B. Hickman, NRR

Date: December 14, 1994