March 31, 1993

Docket Nos. 50-315
and 50-316

Mr. E. E. Fitzpatrick, Vice President
Indiana Michigan Power Company
c/o American Electric Power Service Corporation
1 Riverside Plaza
Columbus, Ohio 43216

Dear Mr. Fitzpatrick:

SUBJECT: DONALD C. COOK NUCLEAR PLANT, UNIT NOS. 1 AND 2 - AMENDMENT NOS. 171 AND 154 TO FACILITY OPERATING LICENSE NOS. DPR-58 AND DPR-74 (TAC NOS. M82856 AND M82857)

The Commission has issued the enclosed Amendment No. 171 to Facility Operating License No. DPR-58 and Amendment No. 154 to Facility Operating License No. DPR-74 for the Donald C. Cook Nuclear Plant, Unit Nos. 1 and 2. The amendments consist of changes to the Technical Specifications (TS) in response to your application dated February 12, 1992, as supplemented January 27, 1993.

The amendments reflect the installation of new fire water storage tanks, fire pumps, and associated components and controls.

A copy of our related Safety Evaluation is also enclosed. Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,

Original Signed By:

William M. Dean, Sr. Project Manager
Project Directorate III-1
Division of Reactor Projects III/IV/V
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 171 to DPR-58
2. Amendment No. 154 to DPR-74
3. Safety Evaluation

CP-1

cc w/enclosures:
See next page

OFFICE	LA:PD31	PM:PD31	OGC	D:PD31	BC:SPLB
NAME	MShuttleworth	WDean:clw	S. Hom	LMarsh	CMcCracken
DATE	3/31/93	3/3/93	3/22/93	3/31/93	3/3/93

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

March 31, 1993

Docket Nos. 50-315
and 50-316

Mr. E. E. Fitzpatrick, Vice President
Indiana Michigan Power Company
c/o American Electric Power Service Corporation
1 Riverside Plaza
Columbus, Ohio 43216

Dear Mr. Fitzpatrick:

SUBJECT: DONALD C. COOK NUCLEAR PLANT, UNIT NOS. 1 AND 2 - AMENDMENT NOS. 171 AND 154 TO FACILITY OPERATING LICENSE NOS. DPR-58 AND DPR-74 (TAC NOS. M82856 AND M82857)

The Commission has issued the enclosed Amendment No. 171 to Facility Operating License No. DPR-58 and Amendment No. 154 to Facility Operating License No. DPR-74 for the Donald C. Cook Nuclear Plant, Unit Nos. 1 and 2. The amendments consist of changes to the Technical Specifications (TS) in response to your application dated February 12, 1992, as supplemented January 27, 1993.

The amendments reflect the installation of new fire water storage tanks, fire pumps, and associated components and controls.

A copy of our related Safety Evaluation is also enclosed. Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,

William M. Dean, Sr. Project Manager
Project Directorate III-1
Division of Reactor Projects III/IV/V
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 171 to DPR-58
2. Amendment No. 154 to DPR-74
3. Safety Evaluation

cc w/enclosures:
See next page

cc:

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Mr. S. Brewer
American Electric Power Service
Corporation
1 Riverside Plaza
Columbus, Ohio 43216

DATED: March 31, 1993

AMENDMENT NO. 171 TO FACILITY OPERATING LICENSE NO. DPR-58-D. C. COOK
AMENDMENT NO. 154 TO FACILITY OPERATING LICENSE NO. DPR-74-D. C. COOK

Docket File
NRC & Local PDRs
PDIII-1 Reading
D.C. Cook Plant File
J. Roe
J. Zwolinski
L. Marsh
M. Shuttleworth
W. Dean
OGC-WF
D. Hagan, 3302 MNBB
G. Hill (2), P-137
Wanda Jones, MNBB-7103
C. Grimes, 11/F/23
C. McCracken
J. Stang
ACRS (10)
GPA/PA
OC/LFMB
W. Shafer, R-III

cc: Plant Service list

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

INDIANA MICHIGAN POWER COMPANY

DOCKET NO. 50-315

DONALD C. COOK NUCLEAR PLANT, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 171
License No. DPR-58

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Indiana Michigan Power Company (the licensee) dated February 12, 1992, as supplemented January 27, 1993, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-58 is hereby amended to read as follows:

   Technical Specifications

   The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 171 , are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of issuance and is to be implemented within 30 days of issuance of this amendment.

FOR THE NUCLEAR REGULATORY COMMISSION

L B Marsh

Ledyard B. Marsh, Director
Project Directorate III-1
Division of Reactor Projects III/IV/V
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: March 31, 1993

ATTACHMENT TO LICENSE AMENDMENT NO. 171

TO FACILITY OPERATING LICENSE NO. DPR-58

DOCKET NO. 50-315

Revise Appendix A Technical Specifications by removing the pages identified below and inserting the attached pages. The revised pages are identified by amendment number and contain vertical lines indicating the area of change.

REMOVE	INSERT
3/4 7-41	3/4 7-41
3/4 7-42	3/4 7-42
3/4 7-43	3/4 7-43
3/4 7-45	3/4 7-45
B 3/4 7-7	B 3/4 7-7
B 3/4 7-8	B 3/4 7-8
B 3/4 7-9	B 3/4 7-9

PLANT SYSTEMS

3/4.7.9 FIRE SUPPRESSION SYSTEMS

FIRE SUPPRESSION WATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.9.1 The fire suppression water system shall be considered to be OPERABLE with:

a. Three fire suppression system pumps, * each with a capacity of 2500 gpm, with their discharge aligned to the fire suppression header,

b. Two fire water tanks, * each with a minimum usable volume of 565,000 gallons (34.0 feet level indication).

c. An OPERABLE flow path capable of taking suction from either one of the fire water tanks and transferring the water through distribution piping (with OPERABLE sectionalizing valves) up to the yard hydrant curb control valves, to the hose station valve(s) and water suppression system controlling valve(s). The hose station valve(s) and the water suppression system controlling valve(s) that are required to be in the flow path are given in Specifications 3.7.9.5 and 3.7.9.2, respectively.

APPLICABILITY: At all times.

ACTION:

a. With one pump inoperable, restore the inoperable pump to OPERABLE status within 7 days or provide an alternate backup pump.

b. With one fire water tank inoperable, restore the inoperable tank to OPERABLE status within 30 days or establish a backup water system supply.

c. With the fire suppression water system otherwise inoperable:

1. Restore the fire suppression water distribution system to OPERABLE status within 24 hours, or

2. Establish a backup fire suppression water system within 24 hours.

d. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

* These pumps and tanks are shared between Units 1 and 2.

SURVEILLANCE REQUIREMENTS

4.7.9.1.1 The fire suppression water system shall be demonstrated OPERABLE:

a. At least once per 7 days by verifying the water supply contained in the fire water tanks.

b. At least once per 31 days on a STAGGERED TEST BASIS by starting each pump and operating it for at least 15 minutes on recirculation flow.

c. At least once per 31 days by verifying that each valve (manual, power operated, or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position.

d. At least once per 6 months by performance of a system flush of above ground internal distribution headers and fire hydrants.

e. At least once per 12 months by cycling each testable valve in the flow path through at least one complete cycle of full travel.

f. At least once per 18 months by performing a system functional test which includes simulated automatic actuation of the system throughout its operating sequence, and:

1. Verifying that each automatic valve in the flow path actuates to its correct position,

2. Verifying that each pump develops a flow of at least 2500 gpm at a system head of at least 300 feet of water by observing three points (minimum, rated, and peak) on the pump's performance curve,

3. Cycling each valve in the flow path that is not testable during plant operation through at least one complete cycle of full travel, and

4. Verifying that each pump starts in its preplanned sequence to maintain the fire suppression water system pressure greater than or equal to 100 psig.

g. At least once per 3 years by performing a series of flow tests so that every fire main segment (excluding individual system supplies) has been verified to be clear of obstruction by a full flow test.

SURVEILLANCE REQUIREMENTS (Continued)

4.7.9.1.2 The fire pump diesel engines shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying:

1. The fuel storage tanks contain at least 160 gallons of fuel, and

2. The diesels start from ambient conditions and operate for at least 30 minutes.

b. At least once per 92 days by verifying that a sample of diesel fuel from the fuel storage tanks obtained in accordance with ASTM-D4057-81 is within the acceptable limits specified in Table 1 of ASTM-D975-81 when checked for viscosity, water and sediment.

c. At least once per 18 months by subjecting the diesels to an inspection in accordance with procedures prepared in conjunction with the manufacturer's recommendations for this class of standby service.

4.7.9.1.3 The fire pump diesel starting battery banks and chargers shall be demonstrated OPERABLE:

a. At least once per 7 days by verifying that:

1. The electrolyte level of each battery is above the plates, and

2. The output battery voltage of each bank is greater than 24 volts.

b. At least once per 92 days by verifying that the specific gravity is appropriate for continued service of each battery.

c. At least once per 18 months by verifying that:

1. The batteries, cell plates and battery packs show no visual indication of physical damage or abnormal deterioration, and

2. The battery-to-battery and terminal connections are clean, tight, free of corrosion, and coated with anti-corrosion material.

SURVEILLANCE REQUIREMENTS (Continued)

4.7.9.2 Each of the above required water spray and/or sprinkler systems shall be demonstrated to be OPERABLE:

a. At least once per 12 months by cycling each testable valve in the flow path through at least one complete cycle of full travel as provided by Technical Specification 4.7.9.1.1.e.

b. At least once per 18 months:

1. By performing a system functional test which includes simulated automatic actuation of the system, and:

a) Verifying that the automatic valves in the flow path actuate to their correct positions on a test signal, and*

b) Cycling each valve in the flow path that is not testable during plant operation through at least one complete cycle of full travel.

2. By visual inspection of deluge and preaction system piping (this is not required for systems supervised by air) to verify their integrity.

3. By visual inspection of each open head deluge nozzle to verify that there is no blockage.

c. At least once per 3 years by performing an air flow test through the piping of each open head deluge system and verifying each open head deluge nozzle is unobstructed.

*The fire protection water flow surveillance testing may be suspended until the completion of the fire protection water storage tank and fire pump installations (May 31, 1993). The surveillance testing suspended as a result of this amendment will be initiated at its normal frequency within four months of the new fire protection water storage tanks and fire pumps being declared OPERABLE, with the exception of unit outage required testing which would be completed before the end of the next scheduled unit outage.

BASES

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 systems consist of the water system, spray and/or sprinklers, CO_2, 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 CO_2 suppression systems 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 CO_2 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 CO_2 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. In the event that the fire water tanks become inoperable, Lake Michigan may serve as their backup. Two manual, diesel-engine driven, vertical-turbine fire pumps rated at 2000 gpm, which take suction off of Lake Michigan and provide water to the fire suppression header, are administratively controlled. One of these pumps may serve as a backup to one of the fire suppression pumps that take suction off of the tanks. 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.

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 CO_2 in the Halon and CO_2 storage tanks by verifying either the weight, level, or pressure of the tanks.

BASES

3/4.4.7.9 (Continued)

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 flow paths capable of taking suction from Lake Michigan are normally isolated to preclude zebra mussel infestation of the system.

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.

3/4.7.9 (Continued)

A control valve is defined as a valve that when closed does not leave an alternate open flow path to a system. A sectionalizing valve is defined as a valve that when closed does not prevent an alternate open flow path to a system and hence does not make the fire suppression water system inoperable. Under certain situations, the closure of a sectionalizing valve followed by the closure of a second valve will not leave an open flow path to one of the specified systems. In this instance, Action Statement c of Specification 3.7.9.1 is applicable.

Manual actuation of CO_2 fire suppression systems provides adequate fire protection for the protected areas based on OPERABLE fire detection in the area, low combustible loadings, and prompt fire brigade response to alarms.

Many of the Action Statements take credit for OPERABLE fire detection in lieu of a fire watch when a fire protection system is inoperable. OPERABLE fire detection provides sufficient early warning capability of a fire to the appropriate Control Room.

During Surveillance Testing of a Low Pressure CO_2 System with the system inoperable, the requirement for a continuous fire watch may be suspended during portions of the test which result or may result in a discharge into the CO_2 protected area. Similarly, if a CO_2 actuation occurs which results in the need to have the Low Pressure CO_2 System made inoperable, the requirement for a continuous fire watch may be suspended. In either case, the area affected shall be restored to habitability as soon as practicable, after which the continuous fire watch is to be re-established if the system is still inoperable.

3/4.7.10 FIRE RATED ASSEMBLIES

The OPERABILITY of the fire barriers and barrier penetrations ensure that fire damage will be limited. These design features minimize the possibility of a single fire involving more than one fire area prior to detection and extinguishment. The fire barriers and fire barrier penetration sealing devices are periodically inspected to verify their OPERABILITY. The functional testing of the fire dampers is provided to ensure that the dampers remain functional. The ventilation seals area seals around ventilation duct work penetrating fire barriers. 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 rated assembly to OPERABLE status within a reasonable period.

For the purpose of determining OPERABILITY, an OPERABLE fire rated assembly and/or sealing device is one that is capable of performing its intended safety function.

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

INDIANA MICHIGAN POWER COMPANY

DOCKET NO. 50-316

DONALD C. COOK NUCLEAR PLANT, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 154
License No. DPR-74

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Indiana Michigan Power Company (the licensee) dated February 12, 1992, as supplemented January 27, 1993, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-74 is hereby amended to read as follows:

   Technical Specifications

   The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 154 , are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of issuance and is to be implemented within 30 days after issuance of this amendment.

FOR THE NUCLEAR REGULATORY COMMISSION

L B Marsh

Ledyard B. Marsh, Director
Project Directorate III-1
Division of Reactor Projects III/IV/V
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: March 31, 1993

ATTACHMENT TO LICENSE AMENDMENT NO. 154

FACILITY OPERATING LICENSE NO. DPR-74

DOCKET NO. 50-316

Revise Appendix A Technical Specifications by removing the pages identified below and inserting the attached pages. The revised pages are identified by amendment number and contain vertical lines indicating the area of change.

REMOVE	INSERT
3/4 7-36	3/4 7-36
3/4 7-37	3/4 7-37
3/4 7-38	3/4 7-38
3/4 7-40	3/4 7-40
B 3/4 7-6	B 3/4 7-6
B 3/4 7-7	B 3/4 7-7
B 3/4 7-8	B 3/4 7-8
---	B 3/4 7-9

PLANT SYSTEMS

3/4.7.9 FIRE SUPPRESSION SYSTEMS

FIRE SUPPRESSION WATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.9.1 The fire suppression water system shall be considered to be OPERABLE with:

a. Three fire suppression system pumps, * each with a capacity of 2500 gpm, with their discharge aligned to the fire suppression header,

b. Two fire water tanks,* each with a minimum usable volume of 565,000 gallons. (34.0 feet level indication)

c. An OPERABLE flow path capable of taking suction from either one of the fire water tanks and transferring the water through distribution piping (with OPERABLE sectionalizing valves) up to the yard hydrant curb control valves, to the hose station valve(s) and water suppression system controlling valve(s). The hose station valve(s) and the water suppression system controlling valve(s) that are required to be in the flow path are given in Specifications 3.7.9.5 and 3.7.9.2, respectively.

APPLICABILITY: At all times.

ACTION:

a. With one pump inoperable, restore the inoperable pump to OPERABLE status within 7 days or provide an alternate backup pump.

b. With one fire water tank inoperable, restore the inoperable tank to OPERABLE status within 30 days or establish a backup water system supply.

c. With the fire suppression water system otherwise inoperable:

1. Restore the fire suppression water distribution system to OPERABLE status within 24 hours, or

2. Establish a backup fire suppression water system within 24 hours.

d. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

* These pumps and tanks are shared between Units 1 and 2.

SURVEILLANCE REQUIREMENTS

4.7.9.1.1 The fire suppression water system shall be demonstrated OPERABLE:

a. At least once per 7 days by verifying the water supply contained in the fire water tanks.

b. At least once per 31 days on a STAGGERED TEST BASIS by starting each pump and operating it for at least 15 minutes on recirculation flow.

c. At least once per 31 days by verifying that each valve (manual, power operated, or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position.

d. At least once per 6 months by performance of a system flush of above ground internal distribution headers and fire hydrants.

e. At least once per 12 months by cycling each testable valve in the flow path through at least one complete cycle of full travel.

f. At least once per 18 months by performing a system functional test which includes simulated automatic actuation of the system throughout its operating sequence, and:

1. Verifying that each automatic valve in the flow path actuates to its correct position,

2. Verifying that each pump develops a flow of at least 2500 gpm at a system head of at least 300 feet of water by observing three points (minimum, rated, and peak) on the pump's performance curve,

3. Cycling each valve in the flow path that is not testable during plant operation through at least one complete cycle of full travel, and

4. Verifying that each pump starts in its preplanned sequence to maintain the fire suppression water system pressure greater than or equal to 100 psig.

g. At least once per 3 years by performing a series of flow tests so that every fire main segment (excluding individual system supplies) has been verified to be clear of obstruction by a full flow test.

SURVEILLANCE REQUIREMENTS (Continued)

4.7.9.1.2 The fire pump diesel engines shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying:

1. The fuel storage tanks contain at least 160 gallons of fuel, and

2. The diesels start from ambient conditions and operate for at least 30 minutes.

b. At least once per 92 days by verifying that a sample of diesel fuel from the fuel storage tanks obtained in accordance with ASTM-D4057-81 is within the acceptable limits specified in Table 1 of ASTM-D975-81 when checked for viscosity, water and sediment.

c. At least once per 18 months by subjecting the diesels to an inspection in accordance with procedures prepared in conjunction with the manufacturer's recommendations for this class of standby service.

4.7.9.1.3 The fire pump diesel starting battery banks and chargers shall be demonstrated OPERABLE:

a. At least once per 7 days by verifying that:

1. The electrolyte level of each battery is above the plates, and

2. The output battery voltage of each bank is greater than 24 volts.

b. At least once per 92 days by verifying that the specific gravity is appropriate for continued service of each battery.

c. At least once per 18 months by verifying that:

1. The batteries, cell plates and battery packs show no visual indication of physical damage or abnormal deterioration, and

2. The battery-to-battery and terminal connections are clean, tight, free of corrosion, and coated with anti-corrosion material.

SURVEILLANCE REQUIREMENTS (Continued)

4.7.9.2 Each of the above required water spray and/or sprinkler systems shall be demonstrated to be OPERABLE:

a. At least once per 12 months by cycling each testable valve in the flow path through at least one complete cycle of full travel as provided by Technical Specification 4.7.9.1.1.e.

b. At least once per 18 months:

1. By performing a system functional test which includes simulated automatic actuation of the system, and:

a) Verifying that the automatic valves in the flow path actuate to their correct positions on a test signal, and*

b) Cycling each valve in the flow path that is not testable during plant operation through at least one complete cycle of full travel.

2. By visual inspection of deluge and preaction system piping (this is not required for systems supervised by air) to verify their integrity.

3. By visual inspection of each open head deluge nozzle to verify that there is no blockage.

c. At least once per 3 years by performing an air flow test through the piping of each open head deluge system and verifying each open head deluge nozzle is unobstructed.

*The fire protection water flow surveillance testing may be suspended until the completion of the fire protection water storage tank and fire pump installations (May 31, 1993). The surveillance testing suspended as a result of this amendment will be initiated at its normal frequency within four months of the new fire protection water storage tanks and fire pumps being declared OPERABLE, with the exception of unit outage required testing which would be completed before the end of the next scheduled unit outage.

BASES

The service life of a snubber is evaluated via manufacturer's input and information through consideration of the snubber service conditions and associated installation and maintenance records (newly installed snubber, seal replaced, spring replaced, in high radiation area, in high temperature area, etc...). The requirement to monitor the snubber service life is included to ensure that the snubbers periodically undergo a performance evaluation in view of their age and operating conditions. These records will provide statistical bases for future consideration of snubber service life. The requirements for the maintenance of records and the snubber service life review are not intended to affect plant operation.

The number of snubbers to be functionally tested during each surveillance is based on calculations performed to allow extension of the surveillance interval from 18 months to 24 months, and therefore, the number of snubbers functionally tested deviates from the number required by the Westinghouse Standard Technical Specifications (NUREG-0452, Revision 4).

3/4.7.8 SEALED SOURCE CONTAMINATION

The limitations on removable contamination for sources requiring leak testing, including alpha emitters, is based on 10 CFR 70.39(c) limits for plutonium. This limitation will ensure that leakage from byproduct, source, and special nuclear material sources will not exceed allowable intake values.

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, CO_2, 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 CO_2 suppression systems 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 CO_2 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 CO_2 suppression system, will provide adequate fire protection for periods when personnel are required to work in these areas.

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 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. In the event that the fire water tanks become inoperable, Lake Michigan may serve as their backup. Two manual, diesel-engine driven, vertical-turbine fire pumps rated at 2000 gpm, which take suction off of Lake Michigan and provide water to the fire suppression header, are administratively controlled. One of these pumps may serve as a backup to one of the fire suppression pumps that take suction off of the tanks. 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.

The surveillance requirements provide assurance that the minimum OPERABILITY requirements of the fire suppression systems are met. While performing the surveillances specified in 4.7.9.1.1 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 CO_2 in the Halon and CO_2 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 flow paths capable of taking suction from Lake Michigan are normally isolated to preclude zebra mussel infestation of the system.

BASES

3/4.7.9 (Continued)

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 a continuous 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.

A control valve is defined as a valve that when closed does not leave an alternate open flow path to a system. A sectionalizing valve is defined as a valve that when closed does not prevent an alternate open flow path to a system and hence does not make the fire suppression water system inoperable. Under certain situations, the closure of a sectionalizing valve followed by the closure of a second valve will not leave an open flow path to one of the specified systems. In this instance, Action Statement c of Specification 3.7.9.1 is applicable.

Manual actuation of CO_2 fire suppression systems provides adequate fire protection for the protected areas based on operable fire detection in the area, low combustible loadings, and prompt fire brigade response to alarms.

3/4.7.9 (Continued)

Many of the Action Statements take credit for OPERABLE fire detection in lieu of a fire watch when a fire protection system is inoperable. OPERABLE fire detection provides sufficient early warning capability of a fire to the appropriate Control Room.

During Surveillance Testing of a Low Pressure CO_2 System with the system inoperable, the requirement for a continuous fire watch may be suspended during portions of the test which result or may result in a discharge into the CO_2 protected area. Similarly, if a CO_2 actuation occurs which results in the need to have the Low Pressure CO_2 System made inoperable, the requirement for a continuous fire watch may be suspended. In either case, the area affected shall be restored to habitability as soon as practicable, after which the continuous fire watch is to be re-established if the system is still inoperable.

3/4.7.10 FIRE RATED ASSEMBLIES

The OPERABILITY of the fire barriers and barrier penetrations ensures that fire damage will be limited. These design features minimize the possibility of a single fire involving more than one fire area prior to detection and extinguishment. The fire barriers and fire barrier penetration sealing devices are periodically inspected to verify their OPERABILITY. The functional testing of the fire dampers is provided to ensure that the dampers remain functional. The ventilation seals are seals around ventilation duct work penetrating fire barriers. 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 rated assembly to OPERABLE status within a reasonable period.

For the purpose of determining OPERABILITY, an OPERABLE fire rated assembly/sealing device is one that is capable of performing its intended safety function.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 171 TO FACILITY OPERATING LICENSE NO. DPR-58

AND AMENDMENT NO. 154 TO FACILITY OPERATING LICENSE NO. DPR-74

INDIANA MICHIGAN POWER COMPANY

DONALD C. COOK NUCLEAR PLANT, UNIT NOS. 1 AND 2

DOCKET NOS. 50-315 AND 50-316

1.0 INTRODUCTION

By letter dated February 12, 1992, as supplemented January 27, 1993, the Indiana Michigan Power Company (the licensee) requested amendments to 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 proposed amendments would add limiting conditions for operation and surveillance requirements for the newly installed fire water tanks, fire water pumps, and associated components and controls.

2.0 EVALUATION

Currently, Lake Michigan supplies the water used in the fire suppression water systems at the D. C. Cook Nuclear Plant, Units 1 and 2. In the last few years, propagation of zebra mussels into Lake Michigan has posed a significant threat to the operability of these systems at D. C. Cook as well as other facilities that use Lake Michigan as a source of water. As a precautionary measure, the licensee has installed a new dedicated water supply for fire suppression which is free from the potential of zebra mussel infestation.

The fire suppression water system will be supplied with water from two new, dedicated, 100 percent capacity water tanks. Each tank has a minimum usable volume of 565,000 gallons, which represents the required amount of water needed to supply the largest fire demand as described in the Fire Protection Program Manual (FPPM) for a period of two hours (i.e., 4700 gallons per minute (gpm) for the combined flow, including hose streams, for the Unit 1 transformer and turbine building wall exposure systems.) To provide adequate volume and pressure for the fire suppression systems, the licensee installed three new fire pumps, each having a 2500 gpm (50 percent) capacity. Two of the pumps will be diesel driven and one will be electric motor driven. The installation of the pumps is designed such that 100 percent fire suppression water supply capacity will be available assuming failure of any one pump or

the loss of off-site power. The fire pumps can take suction from either one or both of the newly installed water tanks. A failure of one tank or its piping will not result in both tanks going empty inadvertently.

The fire pumps have been installed in accordance with National Fire Protection Association (NFPA) 20, "Standard for the Installation of Centrifugal Fire Pumps." The installation of the new fire suppression water storage tanks and the fire pumps are in accordance with the requirements of Section C.6.b of Branch Technical Position (BTP) CMEB 9.5-1, "Guidelines for Fire Protection for Nuclear Power Plants."

The existing fire suppression water supply system will remain intact. Two 2000 gpm diesel driven fire water pumps will be maintained operational in order to facilitate the capability of obtaining fire water from Lake Michigan. The existing diesel driven fire water pumps and associated piping and components will be isolated from the rest of the fire suppression water system to preclude the possibility of zebra mussel infestation. The automatic controls for the existing diesel driven pumps will be removed. Therefore, simple local manual action to start and line up these pumps will be required to place them in service. The existing fire suppression water system will serve a backup function to the new system in the event the new system were to become inoperable.

The licensee has proposed limiting conditions for operation (LCO), surveillance requirements, and bases for the new fire suppression water storage tanks and fire pumps consistent with the Standard Technical Specifications (STS), NUREG-0103, with one exception. The STS allows one storage tank to be out of service for 7 days before action is required by the licensee to provide an adequate backup source of water. The licensee has proposed a 30-day outage time limit for one storage tank.

The licensee justifies this position by indicating that the existing fire suppression water system will not be removed from service when the new system is made operational. The automatic actuation capability will be disconnected, but only simple local operator actions will be required to put the system in service, thus providing a complete redundant water supply for fire suppression. The existing fire suppression water system has previously been reviewed by the staff and found acceptable in an NRC Safety Evaluation Report (SER) dated July 31, 1979.

In the highly unlikely event a fire occurs concurrent with one of the new storage tanks being out of service and a single failure occurs rendering the second storage tank inoperable, a complete, redundant fire suppression water system can be put in service following the completion of several simple operator actions. Therefore, the staff finds that notwithstanding extending the LCO from 7 days to 30 days for an inoperable storage tank, the margin of safety of the fire suppression water system will still be adequate.

Based on the above evaluation, the staff finds that the installation of new fire suppression water storage tanks, fire pumps, and associated components and controls is in accordance with BTP CMEB 9.5-1 and is, therefore, acceptable. In addition, the proposed TS for the fire suppression water system are acceptable.

3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Michigan State official was notified of the proposed issuance of the amendments.

4.0 ENVIRONMENTAL CONSIDERATION

The amendments change the requirements with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and change the surveillance requirements. The staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration and there has been no public comment on such finding (58 FR 596). Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

5.0 CONCLUSION

The staff has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

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Date: March 31, 1993