



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555

May 22, 1992

Docket Nos. 50-315  
and 50-315

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

Dear Mr. Fitzpatrick:

SUBJECT. DONALD C. COOK NUCLEAR PLANT, UNITS 1 AND 2 - AMENDMENT NOS. 165 AND 150 TO FACILITY OPERATING LICENSE NOS. DPR-58 AND DPR-74 (TAC NOS. M83403 AND M83404)

The Commission has issued the enclosed Amendment No. 165 to Facility Operating License No. DPR-58 and Amendment No. 150 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 May 15, 1992.

These amendments would suspend the fire protection water flow testing requirements of TS 3/4.7.9.1, 3/4.7.9.2, and 3/4.7.9.5 until October 1993. These sections cover the fire pumps, water suppression systems, and hose stations. All other surveillance testing of fire protection systems will continue in accordance with the TS.

Your May 15, 1992 letter, requested that this amendment be treated as an emergency because insufficient time exist for the Commission's usual 30-day notice, because water flow surveillance testing of the above systems is required to be performed prior to May 25, 1992, and this flow testing may introduce zebra mussels into the fire water system. The suspension of the flow testing will lessen the possibility of the infestation of zebra mussels in the fire protection systems until the installation of a zebra mussel free fire protection water supply system is completed in May 1993. This relief is a one time relief until October 1993.

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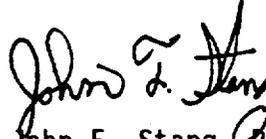
Mr. E. E. Fitzpatrick

- 2 -

May 22, 1992

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,



John F. Stang, Project Manager  
Project Directorate III-1  
Division of Reactor Projects III/IV/V  
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 165 to DPR-58
2. Amendment No. 150 to DPR-74
3. Safety Evaluation

cc w/enclosures:  
See next page

Mr. E. E. Fitzpatrick  
Indiana Michigan Power Company

Donald C. Cook Nuclear Plant

cc:

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P. O. Box 30195  
Lansing, Michigan 48909



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. 165  
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 May 15, 1992, 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.

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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. 165, 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 its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



L. 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: May 22, 1992

ATTACHMENT TO LICENSE AMENDMENT NO. 165  
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 marginal lines indicating the area of change.

<u>REMOVE</u>	<u>INSERT</u>
3/4 7-42	3/4 7-42
3/4 7-43	3/4 7-43
3/4 7-45	3/4 7-45
3/4 7-51	3/4 7-51

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS

4.7.9.1.1 The fire suppression water system shall be demonstrated OPERABLE:

- a. 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.\*
- b. At least once per 31 days by verifying that each valve (manual, power operated, or automatic) in flow path that is not locked, sealed, or otherwise secured in position, is in its correct position.
- c. At least once per 6 months by performance of a system flush of above ground internal distribution headers and fire hydrants.\*
- d. At least once per 12 months by cycling each testable valve in the flow path through at least one complete cycle of full travel.
- e. 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 2000 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 high pressure pump starts in its preplanned sequence to maintain the fire suppression water system pressure greater than or equal to 100 psig.\*
- f. 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.\*

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.

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

4.7.9.1.2 The fire pump diesel engine shall be demonstrated OPERABLE:

- a. At least once per 31 days by verifying:
  - 1. The fuel storage tank contains at least 160 gallons of fuel, and
  - 2. The diesel starts from ambient conditions and operates for at least 30 minutes.\*
- b. At least once per 92 days by verifying that a sample of diesel fuel from the fuel storage tank 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 diesel to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendations for this class of standby service.

4.7.9.1.3 The fire pump diesel starting battery tank and charger 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.

\*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.

PLANT SYSTEMS

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.d.
- 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.

PLANT SYSTEMS

FIRE HOSE STATIONS

LIMITING CONDITION FOR OPERATION

3.7.9.5 The fire hose stations shown in Table 3.7-7 shall be OPERABLE:

APPLICABILITY: Whenever equipment in the areas protected by the fire hose stations is required to be OPERABLE.

ACTION:

- a. With one or more of the fire hose stations shown in Table 3.7-7 inoperable: 1) For those areas where the inoperable fire hose station is the primary means of fire suppression (areas where no fixed systems are provided or areas where the fixed systems are inoperable), within 1 hour, route an additional equivalent capacity fire hose to the affected area(s), from an OPERABLE hose station(s) per Specification 4.7.9.5, or 2) within 1 hour, verify that the fixed fire suppression system(s) that also protects the affected area(s) serviced by the fire hose station(s) is OPERABLE.
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.9.5 Each of the fire hose stations shown in Table 3.7-7 shall be demonstrated OPERABLE:

- a. At least once per 31 days by a visual inspection of the fire hose stations to assure all required equipment is at the station.
- b. At least once per 18 months by:
  1. Removing the hose for visual inspection and re-racking, and
  2. Replacement of all degraded gaskets in couplings.
- c. At least once per 3 years by:
  1. Partially opening each hose station valve to verify OPERABILITY and no flow blockage.\*
  2. Conducting a hose hydrostatic test at a pressure of 150 psig or at least 50 psi greater than the maximum pressure available at that hose station, whichever is greater.\*

\*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.



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. 150  
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 May 15, 1992, 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. 150, 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 its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



L. 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: May 22, 1992

ATTACHMENT TO LICENSE AMENDMENT NO. 150

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 marginal lines indicating the area of change.

REMOVE

3/4 7-37  
3/4 7-38  
3/4 7-40  
3/4 7-45

INSERT

3/4 7-37  
3/4 7-38  
3/4 7-40  
3/4 7-45

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS

- 4.7.9.1.1 The fire suppression water system shall be demonstrated OPERABLE:
- a. 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.\*
  - b. At least once per 31 days by verifying that each valve (manual, power operated, or automatic) in flow path that is not locked, sealed, or otherwise secured in position, is in its correct position.
  - c. At least once per 6 months by performance of a system flush of above ground internal distribution headers and fire hydrants.\*
  - d. At least once per 12 months by cycling each testable valve in the flow path through at least one complete cycle of full travel.
  - e. 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 2000 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 high pressure pump starts in its preplanned sequence to maintain the fire suppression water system pressure greater than 100 psig.\*
  - f. 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 obstructions by a full flow test.\*

\*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.

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

4.7.9.1.2 The fire pump diesel engine shall be demonstrated OPERABLE:

- a. At least once per 31 days by verifying:
  1. The fuel storage tank contains at least 160 gallons of fuel, and
  2. The diesel starts from ambient conditions and operates for at least 30 minutes.\*
- b. At least once per 92 days by verifying that a sample of diesel fuel from the fuel storage tank 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 diesel to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendations for this class of standby service.

4.7.9.1.3 The fire pump diesel starting battery tank and charger 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.

\*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.

PLANT SYSTEMS

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.d.
- 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.

PLANT SYSTEMS

FIRE HOSE STATIONS

LIMITING CONDITION FOR OPERATION

3.7.9.5 The fire hose stations shown in Table 3.7-7 shall be OPERABLE:

APPLICABILITY: Whenever equipment in the areas protected by the fire hose stations is required to be OPERABLE.

ACTION:

- a. With one or more of the fire hose stations shown in Table 3.7-7 inoperable: 1) For those areas where the inoperable fire hose station is the primary means of fire suppression (areas where no fixed systems are provided or areas where the fixed systems are inoperable), within 1 hour, route an additional equivalent capacity fire hose to the affected area(s) from an OPERABLE hose station(s) per Specification 4.7.9.5, or 2) within 1 hour, verify that the fixed fire suppression system(s) that also protects the affected area(s) serviced by the fire hose station(s) is OPERABLE.
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.9.5 Each of the fire hose stations shown in Table 3.7-7 shall be demonstrated OPERABLE:

- a. At least once per 31 days by a visual inspection of the fire hose stations to assure all required equipment is at the station.
- b. At least once per 18 months by:
  1. Removing the hose for visual inspection and re-racking, and
  2. Replacement of all degraded gaskets in couplings.
- c. At least once per 3 years by:
  1. Partially opening each hose station valve to verify OPERABILITY and no flow blockage.\*
  2. Conducting a hose hydrostatic test at a pressure of 150 psig or at least 50 psi greater than the maximum pressure available at that hose station, whichever is greater.\*

\*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.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 165 TO FACILITY OPERATING LICENSE NO. DPR-58  
AND AMENDMENT NO. 150 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 May 15, 1992, 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 suspend the fire protection water flow testing requirements of TS 3/4.7.9.1, 3/4.7.9.2, and 3/4.7.9.5 until October 1993. These sections cover the fire pumps, water suppression systems, and hose stations. All other surveillance testing of fire protection systems will continue in accordance with the TS.

The next flow test requested by the TS is due on May 25, 1992. Due to insufficient time to allow for 30-day notice in the Federal Register, the licensee has submitted this change as an emergency TS change request.

2.0 EVALUATION

The fire protection water supply is provided from Lake Michigan via intake structure (i.e., forebay) where the fire pumps take direct suction. Since July 1990, the zebra mussel population at the D. C. Cook Nuclear Plant has continued to follow the explosive population trends already established within the eastern Great Lakes. Specifically, the densities within forebay structure where the fire pumps take suction have increased as follows despite periodic chemical treatments:

<u>DATE</u>	<u>NO. OF MUSSELS/SQUARE METER</u>
07/90	1
11/90	100
09/91	63,000

Future design changes and chemical treatments will reduce but not eliminate the number of live mussels within the intake structure.

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The fire protection water system uses four high demand pumps, two electric motor driven and two diesel engine driven. The fire pumps discharge into underground ring headers around the outside of the plant and into the interior ring header in the turbine building which supplies various automatic sprinkler systems and hose stations throughout the entire plant.

The licensee is currently in the process of replacing the existing fire protection system in order to remove the fire protection systems from the zebra mussel risk associated with Lake Michigan. This will be accomplished by installing new fire protection water storage tanks, fire pumps, and water supply piping.

Until completion of the above modification, the licensee proposes to immediately suspend all fire protection water flow testing listed in TS 4.7.9.1, 4.7.9.2, and 4.7.9.5 in both units. These sections cover the fire pumps, water suppression systems, and fire hose stations. The period of relief needed would begin May 25, 1992 and remain in effect until the new fire pumps and dedicated water tanks are declared operable. The surveillance testing will be initiated at its normal frequency within four months of the modification being declared operable, with the exception of unit outage required testing which would be completed before the end of the next scheduled unit outage.

The proposed suspended surveillance testing involves testing the fire pumps to ensure they are operable, testing automatic valves to verify they actuate to the correct position, and performing flow tests to verify no flow blockage. All of this surveillance testing would introduce lake water into the fire protection system, thus introducing zebra mussels into the fire protection water supply piping.

Studies have shown that zebra mussels reproduce at an alarming rate (30,000 mussels per vent). Female zebra mussels begin development in the fall of the year in which they settle. Egg development is completed rapidly the following spring when water temperatures are 12 to 14°C (54 to 57°F). Fertilized eggs usually hatch into veligers in two to three days. Zebra mussel veligers could be drawn into the fire protection system during the testing of the fire protection water suppression systems. Veligers in the underground or above ground distribution piping can be controlled through chemical treatments with a biocide. However, if the veligers enter the suppression system piping, it would be very difficult to eliminate them from the system due to the design of the suppression systems.

The fire suppression systems use a series of dead end piping with progressively smaller sized pipes. This design feature inherently increases susceptibility to fouling and/or plugging. Flushing of the suppression systems through existing points (drains and inspector's test connections) is limited and cannot provide an effective flow throughout the entire system without considerable manpower and expense in obtaining flow through each dead end branch line. Thus, treatment of the system with a biocide is limited by this design feature. In addition, the biocide only kills the mussels, it does

not remove the mussel shells from the system. The flushing treatments will raise the fear of introducing new veligers into the fire protection system. Hence, the stagnant conditions of the fire suppression systems cannot be reasonably treated with the water treatment technologies that have been successful with free flowing or once through systems.

Delay in testing the fire protection system until October 1993 would not create a safety hazard. The fire protection system has not shown signs of system degradation that requires TS surveillance testing during this period of relief. The four high demand fire pumps have been performance tested on an eighteen-month frequency and the pump performance data from the past six years has been reviewed and the test results have remained consistent. The other components of the fire protection water system have also not shown signs of system degradation. The required system flushes have not indicated blockages within the system. The automatic valves have actuated to their correct position.

The licensee has taken measures to ensure that the zebra mussels have not infested the fire protection water system. To date, no evidence of live zebra mussels has been found within the fire protection system piping. This is based on inspections of the fire protection piping and valves.

Based on the above and the performance surveillance data of the fire protection pumps and valves, over the last five years at D. C. Cook, the staff finds the delay in testing of the fire pumps, sprinkler valves, and hose stations until October 1993, is acceptable.

### 3.0 EMERGENCY CIRCUMSTANCES

In the May 15, 1992 application, the licensee requested temporary emergency relief from performing the water testing requirements in TS Sections 4.7.9.1, 4.7.9.2, and 4.7.9.5 for both units. The next required surveillance is May 25, 1992. Performing the surveillance would result in the possible infestation of zebra mussels into the fire protection suppression systems. If the zebra mussels enter the fire protection systems, the licensee stated that the systems could not be counted on as reliable and would have to declare them inoperable. The majority of these systems have been installed to meet the requirements of 10 CFR Part 50, Appendix R. If the systems are declared inoperable, then the units would be required to shut down.

In accordance with 10 CFR 50.91(a)(5), the licensee has also provided information that the need for the emergency arose as a result of information obtained over the past few weeks and having become aware of the fact that other utility fire protection systems have already become zebra mussel infested. Accordingly, the Commission has determined that there are emergency circumstances warranting prompt approval by the Commission.

#### 4.0 FINAL NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

The Commission's regulations in 10 CFR 50.92 state that the Commission may make a final determination that a license amendment involves no significant hazards consideration if operation of the facility, in accordance with the amendment, would not:

- (1) Involve a significant increase in the probability or consequences of an accident previously evaluated; or
- (2) Create the possibility of a new or different kind of accident from any accident previously evaluated; or
- (3) Involve a significant reduction in a margin of safety.

The proposed changes do not involve a significant hazards consideration because the operation of Donald C. Cook, Units 1 and 2 in accordance with these changes would not:

- (1) Involve a significant increase in the probability or consequences of an accident previously evaluated.

The purpose of the fire protection system is to protect equipment from damage due to fires. The probability of a fire occurring is not impacted by the proposed change, which only involves temporary relief from the fire protection water flow surveillance testing requirements. The consequences of an accident will not be significantly increased because the reliability of the fire protection water system has been shown in testing over the past years. The fire protection systems has not shown signs of system degradation that would require TS surveillance testing during this 17 month period of relief. Consequently, the fire fighting capability will not be compromised. The fire protection water system will adequately perform its function in the event of a fire. This is based on actions taken to prevent zebra mussel infestation such as chemical biocide treatments five times a year and visual inspection during maintenance activities. To date, the licensee has found no signs of zebra mussel infestation in the fire protection systems. In addition, the licensee indicated that not performing the surveillance testing will help prevent mussel infestation. For these reasons, the staff concludes that the relief from fire protection water flow testing will not significantly increase the probability or consequences of an accident.

- (2) Create the possibility of a new or different kind of accident from any accident previously evaluated.

The proposed amendments do not create the possibility of a new or different kind of accident from any accident previously evaluated because the proposed change involves no physical changes to the plant or changes in the way equipment is operated. The licensee's review of past system performance leads to the conclusion that systems will function adequately in the event of a fire, despite the temporary relief from testing. Consequently, fire fighting capability will not be compromised. The fire protection water system will adequately perform its function in the event of a fire. This is based on actions taken to prevent zebra mussel infestation such as chemical biocide treatments five times a year and visual inspection during maintenance activities. To date, the licensee has found no signs of zebra mussel infestation in the fire protection system. In addition, not performing the surveillance testing will help prevent mussel infestation. For these reasons, the staff concludes that the relief from conducting fire protection water flow surveillance testing will not create the possibility of a new or different kind of accident from any accident previously evaluated.

- (3) Involve a significant reduction in a margin of safety.

The proposed amendments do not involve a significant reduction in the margin of safety because of the reliability of the fire protection water system over the past years. The fire protection system has not shown signs of system degradation that would warrant our need to continued the TS surveillance testing during this period of relief. Consequently, fire fighting capability will not be compromised. The staff finds the fire protection water system will adequately perform its function in the event of a fire. This is based on actions taken by the licensee to prevent zebra mussel infestation such as chemical biocide treatments five times a year and visual inspection during maintenance activities. To date, the licensee has found no signs of zebra mussel infestation in the fire protection systems. In addition, not performing the surveillance testing will help prevent mussel infestation. For these reasons, the staff concludes that any reduction in the margin of safety would not be significant. Consequently, the proposed amendments do not involve a significant reduction in the margin of safety.

## 5.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Michigan State official was notified of the proposed issuance of the amendments. The State official had no comments.

## 6.0 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 changes in 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 made a final no significant hazards consideration with respect to these amendments. Accordingly, these 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 these amendments.

## 7.0 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.

Principal Contributor: J. Stang

Date: May 22, 1992

DATED: MAY 22, 1992

AMENDMENT NO. 165 TO FACILITY OPERATING LICENSE NO. DPR-58-D. C. COOK  
AMENDMENT NO. 150 TO FACILITY OPERATING LICENSE NO. DRP-74-D. C. COOK

**Docket File**

NRC & Local PDRs  
PDIII-1 Reading  
D.C. Cook Plant File  
B. Boger  
J. Zwolinski  
L. Marsh  
M. Shuttleworth  
J. Stang  
OGC-WF  
D. Hagan, 3302 MNBB  
G. Hill (8), P-137  
Wanda Jones, MNBB-7103  
C. Grimes, 11/F/23  
C. McCracken 8/D/1  
ACRS (10)  
GPA/PA  
OC/LFMB  
W. Shafer, R-III

cc: Plant Service list

Mr. E. E. Fitzpatrick

- 2 -

May 22, 1992

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

John F. Stang, Project Manager  
Project Directorate III-1  
Division of Reactor Projects III/IV/V  
Office of Nuclear Reactor Regulation

Enclosures:

- 1. Amendment No. 165 to DPR-58
- 2. Amendment No. 150 to DPR-74
- 3. Safety Evaluation

cc w/enclosures:  
See next page

*OGC copy - as modified  
5/21/92*

OFFICE	LA:PD31 <i>MALCZ</i>	PM:PD31 <i>JStang</i>	BC:SPLB <i>CB</i>	OGC <i>JH</i>	D:PD31 <i>LM</i>
NAME	MShuttleworth	JStang	CMcCracken	<i>JH</i>	LMarsh
DATE	5/17/92	5/21/92	5/21/92	<del>5/21/92</del>	5/21/92

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