December 28, 1987

Docket No. 50-316

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

Dear Mr. Dolan:

The Commission has issued the enclosed Amendment No. 97 to Facility Operating License No. DPR-74 for the Donald C. Cook Nuclear Plant, Unit No. 2. The amendment consists of changes to the Technical Specifications in response to your application dated October 28, 1987.

The amendment revises the Technical Specifications to extend the interval of certain 18-month surveillances until the next refueling outage currently planned to begin in early 1988.

A copy of the Safety Evaluation is also enclosed. The notice of issuance will be included in the Commission's next biweekly Federal Register notice.

Sincerely,

/s/

David L. Wigginton, Project Manager
Project Directorate III-3
Division of Reactor Projects

Enclosures:
1. Amendment No. 97 to DPR-74
2. Safety Evaluation

cc w/enclosures:
See next page

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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. 97
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 October 28, 1987 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:

   (2) Technical Specifications

   The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 97 , 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. The Technical Specification revisions are to be implemented within 45 days of receipt.

FOR THE NUCLEAR REGULATORY COMMISSION

Dominic C. D. Dani/for

Kenneth E. Perkins, Director
Project Directorate III-3
Division of Reactor Projects

Attachment:
Changes to the Technical
Specifications

Date of Issuance: December 28, 1987

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 97 FACILITY OPERATING LICENSE NO. DPR-74

DOCKET NO.50-316

Revise Appendix A Technical Specifications by removing the pages identified below and inserting the enclosed pages. The revised pages are identified by amendment number and contain marginal lines indicating the area of change. Corresponding overleaf pages are provided to maintain document completeness.

REMOVE	INSERT
3/4 0-3	3/4 0-3
3/4 3-1	3/4 3-1
3/4 3-14	3/4 3-14
3/4 3-32	3/4 3-32
3/4 3-47	3/4 3-47
3/4 4-33	3/4 4-33
3/4 5-1*	3/4 5-1*
3/4 5-2	3/4 5-2
3/4 5-5	3/4 5-5
3/4 6-10	3/4 6-10
3/4 6-12	3/4 6-12
3/4 6-14	3/4 6-14
3/4 7-6	3/4 7-6
3/4 7-11*	3/4 7-11*
3/4 7-12	3/4 7-12
3/4 7-13	3/4 7-13
3/4 7-14*	3/4 7-14*
3/4 7-16a	3/4 7-16a
3/4 7-19a	3/4 7-19a
3/4 8-3	3/4 8-3
3/4 8-5	3/4 8-5
3/4 9-3*	3/4 9-3*
3/4 9-4	3/4 9-4

*Overleaf pages

SURVEILLANCE REQUIREMENTS

b. Surveillance intervals specified in Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda for the inservice inspection and testing activities required by the ASME Boiler and Pressure Vessel Code and applicable Addenda shall be applicable as follows in these Technical Specifications:

ASME Boiler and Pressure Vessel Code and applicable Addenda terminology for inservice inspection and testing criteria	Required frequencies for performing inservice inspection and testing activities
Weekly	At least once per 7 days
Monthly	At least once per 31 days
Quarterly or every 3 months	At least once per 92 days
Semiannually or every 6 months	At least once per 184 days
Yearly or annually	At least once per 366 days

c. The provisions of Specification 4.0.2 are applicable to the above required frequencies for performing inservice inspection and testing activities.

d. Performance of the above inservice inspection and testing activities shall be in addition to other specified Surveillance Requirements.

e. Nothing in the ASME Boiler and Pressure Vessel Code shall be construed to supersede the requirements of any Technical Specification.

4.0.6 By specific reference to this section, those surveillances which must be performed on or before March 31, 1986, and are designated as 18-month surveillances (or required as outage-related surveillances under the provisions of Specification 4.0.5) may be delayed until the end of the refueling outage scheduled to begin on or before February 28, 1986. For these specific surveillances under this section, the specified time intervals required by Specification 4.0.2 will be determined with the new initiation date established by the surveillance date during the Unit 2 1986 refueling outage.

4.0.7 By specific reference to this section, those surveillances which must be performed on or before July 1, 1988 and are designated as 18-month surveillances (or required as outage-related surveillances under the provisions of Specification 4.0.5) may be delayed until the end of the cycle 6-7 refueling outage (currently scheduled to begin during the latter part of the second quarter of 1988). For these specific surveillances under this section, the specified time intervals required by Specification 4.0.2 will be determined with the new initiation date established by the surveillance date during the Unit 2 1988 refueling outage.

3/4.3 INSTRUMENTATION

3/4.3.1 REACTOR TRIP SYSTEM INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.1.1 As a minimum, the reactor trip system instrumentation channels and interlocks of Table 3.3-1 shall be OPERABLE with RESPONSE TIMES as shown in Table 3.3-2.

APPLICABILITY: As shown in Table 3.3-1.

ACTION:

As shown in Table 3.3-1.

SURVEILLANCE REQUIREMENTS

4.3.1.1.1 Each reactor trip system instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST operations for the MODES and at the frequencies shown in Table 4.3-1*.

4.3.1.1.2 The logic for the interlocks shall be demonstrated OPERABLE prior to each reactor startup unless performed during the preceding 92 days. The total interlock function shall be demonstrated OPERABLE at least once per 18 months during CHANNEL CALIBRATION testing of each channel affected by interlock operation*.

4.3.1.1.3 The REACTOR TRIP SYSTEM RESPONSE TIME of each reactor trip function shall be demonstrated to be within its limit at least once per 18 months. Each test shall include at least one logic train such that both logic trains are tested at least once per 36 months and one channel per function such that all channels are tested at least once every N times 18 months where N is the total number of redundant channels in a specific reactor trip function as shown in the "Total No. of Channels" column of Table 3.3-1**.

*The provisions of Specification 4.0.6 are applicable.

**The provisions of Specification 4.0.7 are applicable.

INSTRUMENTATION

3/4.3.2 ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.2.1 The Engineered Safety Feature Actuation System (ESFAS) instrumentation channels and interlocks shown in Table 3.3-3 shall be OPERABLE with their trip setpoints set consistent with the values shown in the Trip Setpoint column of Table 3.3-4 and with RESPONSE TIMES as shown in Table 3.3-5.

APPLICABILITY: As shown in Table 3.3-3.

ACTION:

a. With an ESFAS instrumentation channel trip setpoint less conservative than the value shown in the Allowable Values column of Table 3.3-4, declare the channel inoperable and apply the applicable ACTION requirement of Table 3.3-3 until the channel is restored to OPERABLE status with the trip setpoint adjusted consistent with the Trip Setpoint value.

b. With an ESFAS instrumentation channel inoperable, take the ACTION shown in Table 3.3-3.

SURVEILLANCE REQUIREMENTS

4.3.2.1.1 Each ESFAS instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST operations for the MODES and at the frequencies shown in Table 4.3-2*.

4.3.2.1.2 The logic for the interlocks shall be demonstrated OPERABLE during the automatic actuation logic test. The total interlock function shall be demonstrated OPERABLE at least once per 18 months during CHANNEL CALIBRATION testing of each channel affected by interlock operation*.

4.3.2.1.3 The ENGINEERED SAFETY FEATURES RESPONSE TIME of each ESFAS function shall be demonstrated to be within the limit at least once per 18 months. Each test shall include at least one logic train such that both logic trains are tested at least once per 36 months and one channel per function such that all channels are tested at least once per N times 18 months where N is the total number of redundant channels in a specific ESFAS function as shown in the "Total No. of Channels" column of Table 3.3-3**.

* The provisions of Specification 4.0.6 are applicable.
**The provisions of Specification 4.0.7 are applicable.

TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION
SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED
4. STEAM LINE ISOLATION				
a. Manual	N.A.	N.A.	M(1)	1, 2, 3
b. Automatic Actuation Logic	N.A.	N.A.	M(2)	1, 2, 3
c. Containment Pressure--High-High	S	R	M(3)	1, 2, 3
d. Steam Flow in Two Steam Lines--High Coincident with T_{avg}--Low-Low	S	R	M	1, 2, 3
e. Steam Line Pressure-Low	S	R	M	1, 2, 3
5. TURBINE TRIP AND FEEDWATER ISOLATION				
a. Steam Generator Water Level--High-High	S	R	M	1, 2, 3 and $
6. MOTOR DRIVEN AUXILIARY FEEDWATER PUMPS				
a. Steam Generator Water Level -- Low-Low	S	R	M	1, 2, 3
b. 4 kv Bus Loss of Voltage	S	R	M	1, 2, 3
c. Safety Injection	N.A.	N.A.	M(2)	1, 2, 3
d. Loss of Main Feed Pumps	N.A.	N.A.	R +	1, 2

+ The provisions of Specification 4.0.7 are applicable.

TABLE 4.3-10

POST-ACCIDENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION
1. Containment Pressure	M	R
2. Reactor Coolant Outlet Temperature - T_{HOT} (Wide Range)	M	R
3. Reactor Coolant Inlet Temperature - T_{COLD} (Wide Range)	M	R
4. Reactor Coolant Pressure - Wide Range	M	R
5. Pressurizer Water Level	M	R
6. Steam Line Pressure	M	R
7. Steam Generator Water Level - Narrow Range	M	R
8. RWST Water Level	M	R
9. Boric Acid Tank Solution Level	M	R
10. Auxiliary Feedwater Flow Rate	M	R
11. Reactor Coolant System Subcooling Margin Monitor	M	R
12. PORV Position Indicator - Limit Switches	M	R
13. PORV Block Valve Position Indicator - Limit Switches	M	R
14. Safety Valve Position Indicator - Acoustic Monitor	M	R
15. Incore Thermocouples (Core Exit Thermocouples) (4)	M	R(1)
16. Reactor Coolant Inventory Tracking System (Reactor Vessel Level Indication)	M(2)	R(3)+
17. Containment Sump Level*	M	R
18. Containment Water Level*	M	R

(1) Partial range channel calibration for sensor to be performed below P-12 in MODE 3.
(2) With one train of Reactor Vessel Level Indication inoperable, Subcooling Margin Indication and Core Exit Thermocouples may be used to perform a CHANNEL CHECK to verify the remaining Reactor Vessel Indication train OPERABLE.
(3) Completion of channel calibration for sensors to be performed below P-12 in MODE 3.
(4) The core exit thermocouples will not be installed until the 1988 refueling outage; therefore, surveillances will not be required until that time. See license amendment dated April 10, 1987.

* The requirements for these instruments will become effective after the level transmitters are modified or replaced and become operational. The schedule for modification or replacement of the transmitters is described in the Bases.

\+ The provisions of Specification 4.0.7 are applicable.

Amendment No. 92, 95 (Am. 95 effective before startup following refueling outage currently scheduled in early 1988)

LIMITING CONDITION FOR OPERATION (Continued)

2. With two or more block valves inoperable,

within 1 hour either (1) restore a total of at least two block valves to OPERABLE status, or (2) close the block valves and remove power from the block valves, or (3) close the associated PORVs and remove power from their associated solenoid valves; and apply the portions of ACTION a.2 or a.3 above for inoperable PORVs, relating to OPERATIONAL MODE, as appropriate.

c. With PORVs and block valves not in the same line inoperable,*

within 1 hour either (1) restore the valves to OPERABLE status or (2) close and de-energize the other valve in each line. Apply the portions of ACTION a.2 or a.3 above, relating to OPERATIONAL MODE, as appropriate for two or three lines unavailable.

d. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.4.11.1 Each of the three PORVs shall be demonstrated OPERABLE:

a. At least once per 31 days by performance of a CHANNEL FUNCTIONAL TEST, excluding valve operation, and

b. At least once per 18 months by performance of a CHANNEL CALIBRATION.

4.4.11.2 Each of the three block valves shall be demonstrated OPERABLE at least once per 92 days by operating the valve through one complete cycle of full travel. The block valve(s) do not have to be tested when ACTION 3.4.11.a or 3.4.11.c is applied.

4.4.11.3 The emergency power supply for the PORVs and block valves shall be demonstrated OPERABLE at least once per 18 months by operating the valves through a complete cycle of full travel while the emergency buses are energized by the onsite diesel generators and onsite plant batteries. This testing can be performed in conjunction with the requirements of Specifications 4.8.1.1.2.c and 4.8.2.3.2.d.**

* PORVs isolated to limit RCS leakage through their seats and the block valves shut to isolate this leakage are not considered inoperable.
**The provisions of Specification 4.0.7 are applicable.

3/4.5 EMERGENCY CORE COOLING SYSTEMS (ECCS)

ACCUMULATORS

LIMITING CONDITION FOR OPERATION

3.5.1 Each reactor coolant system accumulator shall be OPERABLE with:

a. The isolation valve open,

b. A contained borated water volume of between 929 and 971 cubic feet,

c. A boron concentration between 2400 ppm and 2600 ppm, and

d. A nitrogen cover-pressure of between 599 and 644 psig.

APPLICABILITY: MODES 1, 2 and 3*.

ACTION:

a. With one accumulator inoperable, except as a result of a closed isolation valve, restore the inoperable accumulator to OPERABLE status within one hour or be in HOT SHUTDOWN within the next 12 hours.

b. With one accumulator inoperable due to the isolation valve being closed, either immediately open the isolation valve or be in HOT STANDBY within one hour and be in HOT SHUTDOWN within the next 12 hours.

SURVEILLANCE REQUIREMENTS

4.5.1 Each accumulator shall be demonstrated OPERABLE:

a. At least once per 12 hours by:

1. Verifying the contained borated water volume and nitrogen cover-pressure in the tanks, and

2. Verifying that each accumulator isolation valve is open.

*Pressurizer Pressure above 1000 psig.

SURVEILLANCE REQUIREMENTS (Continued)

b. At least once per 31 days and within 6 hours after each solution volume increase of $\geq$ 1% of tank volume by verifying the boron concentration of the accumulator solution.

c. At least once per 31 days when the RCS pressure is above 2000 psig by verifying that power to the isolation valve operator is disconnected by removal of the breaker from the circuit.

d. At least once per 18 months by verifying that each accumulator isolation valve opens automatically upon receipt of a safety injection test signal.*

* The provisions of Specification 4.0.7 are applicable.

SURVEILLANCE REQUIREMENTS (Continued)

d. At least once per 18 months by:

1. Verifying automatic isolation and interlock action of the RHR system from the Reactor Coolant System when the Reactor Coolant System pressure is above 600 psig.

2. A visual inspection of the containment sump and verifying that the subsystem suction inlets are not restricted by debris and that the sump components (trash racks, screens, etc.) show no evidence of structural distress or corrosion.

e. At least once per 18 months, during shutdown, by:*

1. Verifying that each automatic valve in the flow path actuates to its correct position on a Safety Injection test signal.

2. Verifying that each of the following pumps start automatically upon receipt of a safety injection test signal:

a) Centrifugal charging pump

b) Safety injection pump

c) Residual heat removal pump

f. By verifying that each of the following pumps develops the indicated discharge pressure on recirculation flow when tested pursuant to Specification 4.0.5:

1. Centrifugal charging pump $\geq$ 2405 psig

2. Safety Injection pump $\geq$ 1445 psig

3. Residual heat removal pump $\geq$ 195 psig

g. By verifying the correct position of each mechanical stop for the following Emergency Core Cooling System throttle valves:

1. Within 4 hours following completion of each valve stroking operation or maintenance on the valve when the ECCS subsystems are required to be OPERABLE.

*The provisions of Specification 4.0.7 are applicable.

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

CONTAINMENT SPRAY SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.2.1 Two independent containment spray systems shall be OPERABLE with each spray system capable of taking suction from the RWST and transferring suction to the containment sump.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With one containment spray system inoperable, restore the inoperable spray system to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours; restore the inoperable spray system to OPERABLE status within the next 48 hours or be in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.2.1 Each containment spray system shall be demonstrated OPERABLE:

a. 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.

b. By verifying, that on recirculation flow, each pump develops a discharge pressure of $\geq$ 255 psig at a flow of $\geq$ 700 gpm, when tested pursuant to Specification 4.0.5.

c. At least once per 18 months during shutdown, by:*

1. Verifying that each automatic valve in the flow path actuates to its correct position on a Containment Pressure--High-High test signal.

2. Verifying that each spray pump starts automatically on a Containment Pressure--High-High test signal.

d. At least once per 5 years by performing an air or smoke flow test through each spray header and verifying each spray nozzle is unobstructed.

*The provisions of Specification 4.0.7 are applicable.

SURVEILLANCE REQUIREMENTS (Continued)

c. At least once per 18 months during shutdown, by verifying that each automatic valve in the flow path actuates to its correct position on a Containment Pressure--High-High test signal.*

d. At least once per 5 years by verifying a water flow rate of at least 20 gpm ($\geq$ 20 gpm) but not to exceed 50 gpm ($\leq$ 50 gpm) from the spray additive tank test line to each containment spray system with the spray pump operating on recirculation with a pump discharge pressure $\geq$ 255 psig.

*The provisions of Specification 4.0.7 are applicable.

SURVEILLANCE REQUIREMENTS (Continued)

4.6.3.1.2 Each isolation valve specified in Table 3.6-1 shall be demonstrated OPERABLE during the COLD SHUTDOWN or REFUELING MODE at least once per 18 months by:*

a. Verifying that on a Phase A containment isolation test signal, each Phase A isolation valve actuates to its isolation position.

b. Verifying that on a Phase B containment isolation test signal, each Phase B isolation valve actuates to its isolation position.

c. Verifying that on a Containment Purge and Exhaust isolation test signal, each Purge and Exhaust valve actuates to its isolation position.

4.6.3.1.3 The isolation time of each power operated or automatic valve of Table 3.6-1 shall be determined to be within its limit when tested pursuant to Specification 4.0.5.

*The provisions of Specification 4.0.7 are applicable.

SURVEILLANCE REQUIREMENTS (Continued)

3. Verifying that each non-automatic valve in the flow path that is not locked, sealed, or otherwise secured in position is in its correct position.

4. Verifying that each automatic valve in the flow path is in the fully open position whenever the auxiliary feedwater system is placed in automatic control or when above 10% RATED THERMAL POWER. This requirement is not applicable for those portions of the Auxiliary Feedwater System being used intermittently to maintain steam generator level.

b. At least once per 18 months during shutdown by:*

1. Verifying that each automatic valve in the flow path actuates to its correct position upon receipt of the appropriate engineered safety features actuation test signal required by Specification 3/4.3.2.

2. Verifying that each auxiliary feedwater pump starts as designed automatically upon receipt of the appropriate engineered safety features actuation test signal required by Specification 3/4.3.2.

*The provisions of Specification 4.0.7 are applicable.

3/4.7.2 STEAM GENERATOR PRESSURE/TEMPERATURE LIMITATION

LIMITING CONDITION FOR OPERATION

3.7.2.1 The temperatures of both the primary and secondary coolants in the steam generators shall be > 70°F when the pressure of either coolant in the steam generator is > 200 psig.

APPLICABILITY: At all times.

ACTION:

With the requirements of the above specification not satisfied:

a. Reduce the steam generator pressure of the applicable side to ≤ 200 psig within 30 minutes, and

b. Perform an engineering evaluation to determine the effect of the overpressurization on the structural integrity of the steam generator. Determine that the steam generator remains acceptable for continued operation prior to increasing its temperatures above 200°F.

SURVEILLANCE REQUIREMENTS

4.7.2.1 The pressure in each side of the steam generator shall be determined to be < 200 psig at least once per hour when the temperature of either the primary or secondary coolant is < 70°F.

3/4.7.3 COMPONENT COOLING WATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.3.1 At least two independent component cooling water loops shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With only one component cooling water loop OPERABLE, restore at least two loops to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.7.3.1. At least two component cooling water loops shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying that each valve (manual, power operated or automatic) servicing safety related equipment that is not locked, sealed, or otherwise secured in position, is in its correct position.

b. At least once per 18 months during shutdown, by verifying that each automatic valve servicing safety related equipment actuates to its correct position on a Safety Injection test signal.*

*The provisions of Specification 4.0.7 are applicable.

3/4.7.4 ESSENTIAL SERVICE WATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.4.1 At least two independent essential service water loops shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With only one service water loop OPERABLE, restore at least two loops to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.7.4.1 At least two essential service water loops shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying that each valve (manual, power operated or automatic) servicing safety related equipment that is not locked, sealed, or otherwise secured in position, is in its correct position.

b. At least once per 18 months during shutdown, by verifying that each automatic valve servicing safety related equipment actuates to its correct position on a Safety Injection test signal.*

*The provisions of Specification 4.0.7 are applicable.

3/4.7.5 CONTROL ROOM EMERGENCY VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.5.1 The control room emergency ventilation system shall be OPERABLE with:

a. Two independent heating and cooling systems,

b. Two independent pressurization fans, and

c. One charcoal adsorber and HEPA filter train.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

a. With one heating and cooling system inoperable, restore the inoperable system to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With one pressurization fan inoperable, restore the inoperable fan to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

c. With the filter train inoperable, restore the filter train to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.7.5.1 The control room emergency ventilation system shall be demonstrated OPERABLE:

a. At least once per 12 hours by verifying that the control room air temperature is $\leq$ 120°F.

b. At least once per 31 days on a STAGGERED TEST BASIS by initiating flow through the HEPA filter and charcoal adsorber train and verifying that the system operates for at least 15 minutes.

SURVEILLANCE REQUIREMENTS (Continued)

e. At least once per 18 months by:

1. Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is < 6 inches Water Gauge while operating the ventilation system at a flow rate of 6000 cfm ± 10%.

2. Verifying that on a Safety Injection Signal from either Unit 1 or Unit 2, or on a containment phase A isolation signal, the system automatically diverts its inlet flow through the HEPA filters and charcoal adsorber bank and that either fan can then be manually started in the re-circulation mode.*

3. Verifying that the system maintains the control room at a positive pressure of ≥ 1/16 inch W. G. relative to the outside atmosphere at a system flow rate of 6000 cfm ± 10%.

f. After each complete or partial replacement of a HEPA filter bank by verifying that the HEPA filter banks remove ≥ 99% of the DOP when they are tested in-place in accordance with ANSI N510-1975 while operating the ventilation system at a flow rate of 6000 cfm ± 10%.

g. After each complete or partial replacement of a charcoal adsorber bank by verifying that the charcoal adsorbers remove > 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1975 while operating the ventilation system at a flow rate of 6000 cfm ± 10%.

*The provisions of Specification 4.0.7 are applicable.

SURVEILLANCE REQUIREMENTS (Continued)

3. Verifying that the standby fan starts automatically on a Containment Pressure--High-High Signal and diverts its exhaust flow through the HEPA filters and charcoal adsorber banks on a Containment Pressure--High-High Signal.*

e. After each complete or partial replacement of HEPA filter bank by verifying that the HEPA filter banks remove $\geq$ 99% of the DOP when they are tested in-place in accordance with ANSI N510-1975 while operating the ventilation system at a flow rate of 25,000 cfm $\pm$ 10%.

f. After each complete or partial replacement of a charcoal adsorber bank by verifying that the charcoal adsorbers remove $>$ 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1975 while operating the ventilation system at a flow rate of 25,000 cfm $\pm$ 10%.

*The provisions of Specification 4.0.7 are applicable.

SURVEILLANCE REQUIREMENTS (Continued)

3. Verifying the fuel transfer pump can be started and transfers fuel from the storage system to the day tank.

4. Verifying the diesel starts from ambient condition and accelerates to at least 514 rpm in $\leq$ 10 seconds.

5. Verifying the generator is loaded to $\geq$ 1750 kw, and operates for $\geq$ 60 minutes and verifying that the generator output breaker to the emergency bus is OPERABLE.

6. Verifying the diesel generator is aligned to provide standby power to the associated emergency busses.

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-D270-65 is within the acceptable limits specified in Table 1 of ASTM-D975-74 when checked for viscosity, water and sediment.

c. At least once per 18 months during shutdown by:*

1. Subjecting the diesel to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendations for this class of standby service.

2. Verifying that the automatic sequence timing relays are OPERABLE with each load sequence time within $\pm$ 5% of its required value and that each load is sequenced on within the design allowable time limit.

3. Verifying the generator capability to reject a load of $\geq$ 600 kw while maintaining voltage at 4160 $\pm$ 420 volts and frequency at 60 $\pm$ 1.2 Hz.

4. Verifying the generator capability to reject a load of 3500 kw without exceeding 75% of the difference between nominal speed and the overspeed trip setpoint.

5. Simulating a loss of offsite power by itself, and:

a) Verifying de-energization of the emergency busses and load shedding from the emergency busses.

*The provisions of Specification 4.0.7 are applicable.

ELECTRICAL POWER SYSTEMS

SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.8.1.2 As a minimum, the following A.C. electrical power sources shall be OPERABLE:

a. One circuit between the offsite transmission network and the onsite Class 1E distribution system, and

b. One diesel generator with:

1. A day fuel tank containing a minimum volume of 70 gallons of fuel,

2. A fuel storage system containing a minimum volume of 42,000 gallons of fuel, and

3. A fuel transfer pump.

APPLICABILITY: MODES 5 and 6.

ACTION:

With less than the above minimum required A.C. electrical power sources OPERABLE, suspend all operations involving CORE ALTERATIONS or positive reactivity changes.

SURVEILLANCE REQUIREMENTS

4.8.1.2 The above required A.C. electrical power sources shall be demonstrated OPERABLE by the performance of each of the Surveillance Requirements of 4.8.1.1.1 and 4.8.1.1.2 except for Requirement 4.8.1.1.2.a.5.*

*The provisions of Specifications 4.0.6 and 4.0.7 are applicable.

REFUELING OPERATIONS

DECAY TIME

LIMITING CONDITION FOR OPERATION

3.9.3 The reactor shall be subcritical for at least 100 hours.

APPLICABILITY: During movement of irradiated fuel in the reactor pressure vessel.

ACTION:

With the reactor subcritical for less than 100 hours, suspend all operations involving movement of irradiated fuel in the reactor pressure vessel. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.3 The reactor shall be determined to have been subcritical for at least 100 hours by verification of the date and time of subcriticality prior to movement of irradiated fuel in the reactor pressure vessel.

REFUELING OPERATIONS

CONTAINMENT BUILDING PENETRATIONS

LIMITING CONDITION FOR OPERATION

3.9.4 The containment building penetrations shall be in the following status:

a. The equipment door closed and held in place by a minimum of four bolts,

b. A minimum of one door in each airlock is closed, and

c. Each penetration providing direct access from the containment atmosphere to the outside atmosphere shall be either:

1. Closed by an isolation valve, blind flange, or manual valve, or

2. Be capable of being closed by an OPERABLE automatic Containment Purge and Exhaust isolation valve.

APPLICABILITY: During CORE ALTERATIONS or movement of irradiated fuel within the containment.

ACTION:

With the requirements of the above specification not satisfied, immediately suspend all operations involving CORE ALTERATIONS or movement of irradiated fuel in the containment building. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.4 Each of the above required containment building penetrations shall be determined to be either in its closed/isolated condition or capable of being closed by an OPERABLE automatic Containment Purge and Exhaust isolation valve within 100 hours prior to the start of and at least once per 7 days during CORE ALTERATIONS or movement of irradiated fuel in the containment building by:

a. Verifying the penetrations are in their closed/isolated condition, or

b. Testing the Containment Purge and Exhaust isolation valves per the applicable portions of Specification 4.6.3.1.2.*

*The provisions of Specification 4.0.7 are applicable.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 97 TO FACILITY OPERATING LICENSE NO. DPR-74

INDIANA MICHIGAN POWER COMPANY

DONALD C. COOK NUCLEAR PLANT, UNIT NO. 2

DOCKET NO. 50-316

1.0 INTRODUCTION

By letter dated October 28, 1987 the Indiana Michigan Power Company submitted a request for revision of the Technical Specifications, Appendix A to Facility Operating License DPR-74 for D.C. Cook Nuclear Plant, Unit 2. The proposed revision would extend the surveillance requirements for several items starting from December 31, 1987 to the next refueling outage currently scheduled to begin June 10, 1988. This one-time extension was requested due to operation at 80% of rated thermal power and various unanticipated outages of up to 49-day duration which resulted in a lower rate of fuel burnup. The affected Technical Specifications include:

(1)	4.3.1.1.3 4.3.2.1.3	Delay time-response testing for reactor trip and engineered safety features instrumentation
(2)	4.5.1.d 4.5.2.e 4.6.2.1.c 4.6.3.1.2 4.7.3.1.b 4.7.4.1.b 4.7.5.1.e.2 4.7.6.1.d.3 4.9.4.b 4.6.2.2.c	Delay testing for equipment response to ESF signals (safety injection, containment pressure high-high, containment isolation phase A and B and purge exhaust
(3)	table 4.3-10 item 16	Delay reactor vessel level indication system calibration
(4)	table 4.3-2 item 6.d 4.7.1.2.b	Delay auxiliary feedwater system testing including channel functional testing of loss of main feedwater pump signal
(5)	4.8.1.1.2.c 4.8.1.2 4.4.11.3 4.7.4.1.b	Delay diesel generator testing including relief valve testing and essential service water valve testing

These items are scheduled for surveillance between December 31, 1987 and March 18, 1988. By letter dated December 23, 1987, the licensee provided additional requested details on the surveillance extension. This letter documents the understanding between the staff and IMPC.

2.0 DISCUSSION

This request for surveillance extension is very similar to a recent extension which was granted for D. C. Cook Unit 1. The reasons for the extension and the equipment included, with the exception of the diesel generators in this request, are the same. In discussions between the licensee and the staff, the licensee has stated that the results of the Unit 1 extension have been reviewed and no problems were discovered with operability or instrument drift for any of the items that are being requested for this Unit 2 extension. The specific Technical Specification changes are addressed below.

(1) and (2) Reactor Trip and ESF Response Testing

The technical specifications listed in the Reactor Trip, (1), and ESF Response Testing, (2), above include the automatic initiation of valves, pumps and ventilation as detailed in the licensee's submittal. This equipment is actuated by ESF signals; SI, phase isolation, containment purge, exhaust isolation, and containment pressure high-high. Testing of these instrument loops either requires plant shutdown or removal of an entire train of safety equipment from operation. The licensee does not consider it prudent to perform this testing at power. This equipment has operated reliably since 1983 with no failures in meeting technical specification requirements due to equipment malfunction. All required channel check and channel functional checks will continue as scheduled.

(3) Reactor Vessel Level Indication System

The required calibration for this item can be performed only during plant shutdown due to the restricted access to areas of the containment. Since this system is a recent addition, there is not an extensive surveillance history. There is no indication that this system is unreliable. Alternate methods are available to determine vessel level and any failure of this system is annunciated. The channel checks will continue to be performed on a monthly basis.

(4) Auxiliary Feedwater Pump Testing

Testing of these items would require either plant shutdown or a trip of a main feedpump with the resultant reduction in plant power and associated thermal transient. Portions of the system have been inadvertently tested by spurious trips several times since the last refueling. Additionally, part of the surveillance was performed during a recent short duration outage. The licensee has noted in its submittal that these items have had an excellent test history. Though not specifically mentioned in the licensee's submittal, the staff notes that the required monthly surveillance will continue.

(5) Diesel Generator Testing

The surveillance requirements of T/S 4.8.1.1.2.C for diesel generators (DG) 2AB and 2CD are required by TS to be performed during shutdown. To perform the scope of work necessary to satisfy these surveillance requirements would require the diesel generators to be inoperable for an extended period of time or the plant to be shut down to prevent inadvertent trip. Therefore, the licensee has requested a one-time extension to perform these surveillance requirements during the upcoming outage. Surveillance requirements of 4.8.1.1.2.C.1 require subjecting each diesel generator to an inspection which is in accordance with procedures prepared in conjunction with the manufacturer's recommendations for this class of standby service. This surveillance interval requirement expires on March 18, 1988 for DG 2AB and April 18, 1988 for DG 2CD. The balance of surveillance requirements of T/S 4.8.1.1.2.C (4.8.1.1.2.C.2 thru 12) expire on May 16, 1988. The licensee is requesting this extension until approximately June 30, 1988, when they expect the entire core to be unloaded.

The licensee has verified with the diesel generator vendor that the DG inspection required by T/S 4.8.1.1.2.C.1 can be extended on a one-time basis for the requested period. The results from the periodic DG surveillance show that the individual performance of D. C. Cook DG's (2AB & 2CD) surpasses the industry average. Only one failure in the last 100 starts has occurred on DG 2CD and no failures have occurred on DG 2AB. Additionally, there have been no significant problems with the other surveillance requirements of T/S 4.8.1.1.2.C.2 thru 12 in the past. Based on the above, the staff concludes that the proposed extension to perform the surveillance requirements of T/S 4.8.1.1.2.C for the above period is acceptable.

The licensee also proposes to extend the surveillance period for testing the emergency power supply for the power operated relief valves (PORV's) and block valves (T.S. 4.4.11.3). This test assures that emergency power is available from the emergency diesel generators, therefore, the tests are done coincident with DG testing during refueling outages. The staff agrees that testing at power could readily induce a reactor trip which is unwarranted considering the short duration of the extension. These tests have been performed successfully in the past and there is no reason to believe the extension will change this performance. The extension is acceptable. The licensee further proposes to extend the testing of essential service water automatic valves, some of which provide cooling to the DG's. These tests have been successful in the past and are done in conjunction with the DG tests during refueling. Based on the performance history of these valves and use of procedures in conjunction with DG testing, the extensions of these surveillances are acceptable.

ENVIRONMENTAL CONSIDERATION

Pursuant to 10 CFR 51.32, the Commission has determined that the issuance of the amendment will have no significant impact on the environment (52 FR 48470, December 22, 1987).

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, and (2) such activities will be conducted in compliance with the Commission's regulations, and the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

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Date: December 28, 1987