Docket No. 50-316 January 28, 1986

Mr. John Dolan, Vice President
Indiana and Michigan Electric 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. 78 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 transmitted by letter dated December 13, 1985, as supplemented by letter dated December 19, 1985.

This amendment extends on a one-time basis the 18 month surveillance frequency by 2 months for testing the reactor trip system instrumentation, the engineered safety feature actuation system instrumentation, the containment sump level and flow monitoring instrumentation, the reactor coolant system relief and block valve instrumentation, the reactor coolant pump spray headers, the electrical power systems including: the alternate source, diesel generator and batteries, the energy core cooling system subsystem, some snubbers, and inspection of the divider barrier seal.

A copy of the related Safety Evaluation which includes the final determination of no significant hazards consideration is enclosed. A Notice of Issuance will be included in the Commission's next regular bi-weekly Federal Register notice.

Sincerely,

ORIGINAL SIGNED BY:

D. L. Wigginton, Project Manager
PWR Project Directorate #4
Division of PWR Licensing-A, NRR

Enclosures:
1. Amendment No. 78 to DPR-74
2. Safety Evaluation

DISTRIBUTION:
See attached page

cc: w/enclosures
See next page

8602120752 860128
PDR ADOCK 05000316
P PDR

PWR#4:DPWR-A	PWR#4:DPWR-A	PWR#4:DPWR-A
DWigginton:kab	MDuncan	BJYoungblood
01/24/86	01/27/86	01/27/86

JAN 2 8 1986

Mr. John Dolan
Indiana and Michigan Electric Company

Donald C. Cook Nuclear Plant

cc:
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Washington, DC 20515

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DISTRIBUTION:

AMENDMENT NO. 78 TO DPR-74 DATED: January 28, 1986

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

INDIANA AND MICHIGAN ELECTRIC COMPANY

DOCKET NO. 50-316

DONALD C. COOK NUCLEAR PLANT UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 78
License No. DPR-74

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

   A. The application for amendment by Indiana and Michigan Electric Company (the licensee) dated December 13, 1985, as supplemented by letter dated December 19, 1985, 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:

8602120758 860128
PDR ADOCK 05000316
P PDR

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. , 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

B. J. Youngblood, Director
PWR Project Directorate #4
Division of PWR Licensing-A, NRR

Attachment:
Changes to the Technical
Specifications

Date of Issuance: JAN 28 1986

PWR#4:DPWR-A	PWR#4:DPWR-A	OELD	PWR#4:DPWR-A
DWigginton:kab	MDuncan		BJYoungblood
01/24/86	01/21/86	01/27/86	01/ /86

subject to
noted modifications

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 78 FACILITY OPERATING LICENSE NO. DPR-74

DOCKET NO. 50-316

Revise Appendix A as follows:

Remove Pages	Insert Pages
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 3-47	3/4 3-47
3/4 4-14	3/4 4-14
3/4 4-32	3/4 4-32
3/4 5-4	3/4 5-4
3/4 5-8	3/4 5-8
3/4 6-47	3/4 6-47
3/4 7-20	3/4 7-20
3/3 7-40	3/3 7-40
3/4 8-2	3/4 8-2
3/4 8-5	3/4 8-5
3/4 8-8	3/4 8-8
3/4 8-11	3/4 8-11
3/4 3-2*	3/4 3-2
3/4 5-3*	3/4 5-3
3/4 8-1*	3/4 8-1
3/4 8-6*	3/4 8-6

* Included for Convenience Only.

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.

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.

TABLE 3.3-1

REACTOR TRIP SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
1. Manual Reactor Trip	2	1	2	1, 2 and *	12
2. Power Range, Neutron Flux	4	2	3	1, 2	2#
3. Power Range, Neutron Flux High Positive Rate	4	2	3	1, 2	2#
4. Power Range, Neutron Flux, High Negative Rate	4	2	3	1, 2	2#
5. Intermediate Range, Neutron Flux	2	1	2	1, 2 and *	3
6. Source Range, Neutron Flux					
A. Startup	2	1	2	2## and *	4
B. Shutdown	2	0	1	3, 4 and 5	5
7. Overtemperature ΔT					
Four Loop Operation	4	2	3	1, 2	2#
Three Loop Operation	4	1**	3	1, 2	9
8. Overpower ΔT					
Four Loop Operation	4	2	3	1, 2	2#
Three Loop Operation	4	1**	3	1, 2	9

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.

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

*The provisions of Specification 4.0.6 are applicable.

3/4.4.6 REACTOR COOLANT SYSTEM LEAKAGE

LEAKAGE DETECTION SYSTEMS

LIMITING CONDITION FOR OPERATION

3.4.6.1 The following Reactor Coolant System leakage detection systems shall be OPERABLE:

a. One of the containment atmosphere particulate radioactivity monitoring channels (ERS-2301 or ERS-2401),

b. The containment sump level and flow monitoring system, and

c. Either the containment humidity monitor or one of the containment atmosphere gaseous radioactivity monitoring channels (ERS-2305 or ERS-2405).

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With only two of the above required leakage detection systems OPERABLE, operation may continue for up to 30 days provided grab samples of the containment atmosphere are obtained and analyzed at least once per 24 hours when the required gaseous and/or particulate radioactivity monitoring channels are inoperable; otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.4.6.1 The leakage detection systems shall be demonstrated OPERABLE by:

a. Containment atmosphere particulate and gaseous (if being used) monitoring system-performance of CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST at the frequencies specified in Table 4.3-3,

b. Containment sump level and flow monitoring system-performance of CHANNEL CALIBRATION at least once per 18 months,*

c. Containment humidity monitor (if being used) - performance of CHANNEL CALIBRATION at least once per 18 months.

*The provisions of Specification 4.0.6 are applicable.

RELIEF VALVES - OPERATING

LIMITING CONDITION FOR OPERATION

3.4.11 Three power operator relief valves (PORVs) and their associated block valves shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTION:

a. With one or more PORV(s) inoperable, within 1 hour either restore the PORV(s) to OPERABLE status or close the associated block valve(s) and remove power from the block valve(s); otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With one or more block valve(s) inoperable, within 1 hour either (1) restore the block valve(s) to OPERABLE status, or (2) close the block valve(s) and remove power from the block valve(s), or (3) close the associated PORV(s) and remove power from the associated solenoid valve(s); otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.*

c. 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**.

*When ACTION 3.4.11.b.(3) is applied, no report pursuant to Specification 6.9.1.9 is required for the PORV.
**The provisions of Specification 4.0.6 are applicable.

ECCS SUBSYSTEMS - $T_{avg} \geq 350°F$

LIMITING CONDITION FOR OPERATION

3.5.2 Two independent ECCS subsystems shall be OPERABLE with each subsystem comprised of:

a. One OPERABLE centrifugal charging pump,

b. One OPERABLE safety injection pump,

c. One OPERABLE residual heat removal heat exchanger,

d. One OPERABLE residual heat removal pump, and

e. An OPERABLE flow path capable of taking suction from the refueling water storage tank on a safety injection signal and transferring suction to the containment sump during the recirculation phase of operation.

APPLICABILITY: MODES 1, 2 and 3.

ACTION:

a. With one ECCS subsystem inoperable, restore the inoperable subsystem to OPERABLE status within 72 hours or be in HOT SHUTDOWN within the next 12 hours.

b. In the event the ECCS is actuated and injects water into the Reactor Coolant System, a Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2 within 90 days describing the circumstances of the actuation and the total accumulated actuation cycles to date.

SURVEILLANCE REQUIREMENTS

4.5.2 Each ECCS subsystem shall be demonstrated OPERABLE:**

a. At least once per 12 hours by verifying that the following valves are in the indicated positions with power to the valve operators removed:

Valve Number	Valve Function	Valve Position
a. IMO-390	a. RWST to RHR	a. Open
b. IMO-315	b. Low head SI to Hot Leg	b. Closed
c. IMO-325	c. Low head SI to Hot Leg	c. Closed
d. IMO-262*	d. Mini flow line	d. Open
e. IMO-263*	e. Mini flow line	e. Open
f. IMO-261*	f. SI Suction	f. Open
g. ICM-305*	g. Sump line	g. Closed
h. ICM-306*	h. Sump line	h. Closed

b. 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.

c. By a visual inspection which verifies that no loose debris (rags, trash, clothing, etc.) is present in the containment which could be transported to the containment sump and cause restriction of the pump suctions during LOCA conditions. This visual inspection shall be performed:

1. For all accessible areas of the containment prior to establishing CONTAINMENT INTEGRITY, and

2. Of the areas affected within containment at the completion of each containment entry when CONTAINMENT INTEGRITY is established.

*These valves must change position during the switchover from injection to recirculation flow following LOCA.

**The provisions of Specification 4.0.6 are applicable.

SURVEILLANCE REQUIREMENTS

4.5.3.1 The ECCS subsystem shall be demonstrated OPERABLE per the applicable Surveillance Requirements of 4.5.2.*

4.5.3.2 All charging pumps and safety injection pumps, except the above required OPERABLE charging pump, shall be demonstrated inoperable, by verifying that the motor circuit breakers have been removed from their electrical power supply circuits, at least once per 12 hours whenever the temperature of one or more of the RCS cold legs is less than or equal to 152°F as determined at least once per hour when any RCS cold leg temperature is between 152°F and 200°F.

*The provisions of Specification 4.0.6 are applicable.

DIVIDER BARRIER SEAL

LIMITING CONDITION FOR OPERATION

3.6.5.9 The divider barrier seal shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With the divider barrier seal inoperable, restore the seal to OPERABLE status prior to increasing the Reactor Coolant System temperature above 200°F.

SURVEILLANCE REQUIREMENTS

4.6.5.9 The divider barrier seal shall be determined OPERABLE at least once per 18 months during shutdown by: *

a. Removing two divider barrier seal test coupons and verifying that the physical properties of the test coupons are within the acceptable range of values shown in Table 3.6-2.

b. Visually inspecting at least 95 percent of the seal's entire length and:

   1. Verifying that the seal and seal mounting bolts are properly installed, and

   2. Verifying that the seal material shows no visual evidence of deterioration due to holes, ruptures, chemical attack, abrasion, radiation damage, or changes in physical appearances.

*The provisions of Specification 4.0.6 are applicable.

3/4.7.7 SNUBBERS

LIMITING CONDITION FOR OPERATION

3.7.7.1 All snubbers listed in Table 3.7-9 shall be OPERABLE

APPLICABILITY: MODES 1, 2, 3 and 4. (MODES 5 and 6 for snubbers located on systems required OPERABLE in those MODES).

ACTION:

With one or more snubbers inoperable, within 72 hours replace or restore the inoperable snubber(s) to OPERABLE status and perform an engineering evaluation per Specification 4.7.7.1c on the supported component or declare the supported system inoperable and follow the appropriate ACTION statement for that system.

SURVEILLANCE REQUIREMENTS

4.7.7.1 Each snubber shall be demonstrated OPERABLE by performance of the following augmented inservice inspection program and the requirements of Specification 4.0.5.**

a. Visual Inspections

The first inservice visual inspection of snubbers shall be performed after four months but within 10 months of commencing POWER OPERATION and shall include all snubbers listed in Table 3.7-9. If less than two (2) snubbers are found inoperable during the first inservice visual inspection, the second inservice visual inspection shall be performed 12 months ± 25% from the date of the first inspection. Otherwise, subsequent visual inspections shall be performed in accordance with the following schedule:

No. Inoperable Snubbers per Inspection Period	Subsequent Visual Inspection Period*#
0	18 months ± 25%
1	12 months ± 25%
2	6 months ± 25%
3,4	124 days ± 25%
5,6,7	62 days ± 25%
8 or more	31 days ± 25%

The snubbers may be categorized into two groups: Those accessible and those inaccessible during reactor operation. Each group may be inspected independently in accordance with the above schedule.

*The inspection interval shall be lengthened more than one step at a time.
**The provisions of Specification 4.0.6 are applicable.
#The provisions of Specification 4.0.2 are not applicable.

SURVEILLANCE REQUIREMENTS (Continued)

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 inspection of deluge and preaction system spray headers to verify their integrity.

3. By inspection of each open head deluge nozzle to verify no blockage.

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

*The provisions of Specification 4.0.6 are applicable.

3/4.8 ELECTRICAL POWER SYSTEMS

3/4.8.1 A.C. SOURCES

OPERATING

LIMITING CONDITION FOR OPERATION

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

a. Two physically independent circuits between the offsite transmission network and the onsite Class 1E distribution system, and

b. Two separate and independent diesel generators each with:

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

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

   3. A separate fuel transfer pump.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With either an offsite circuit or diesel generator of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirements 4.8.1.1.1.a and 4:8.1.1.2.a.4 within one hour and at least once per 8 hours thereafter; restore at least two offsite circuits and two diesel generators 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.

b. With one offsite circuit and one diesel generator of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Surveillance Requirements 4.8.1.1.1.a and 4.8.1.1.2.a.4 within one hour and at least once per 8 hours thereafter; restore at least one of the inoperable sources to OPERABLE status within 12 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. Restore at least two offsite circuits and two diesel generators to OPERABLE status within 72 hours from the time of initial loss or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

ACTION (Continued)

c. With two of the above required offsite A.C. circuits inoperable, demonstrate the OPERABILITY of two diesel generators by performing Surveillance Requirement 4.8.1.1.2.a.4 within one hour and at least once per 8 hours thereafter, unless the diesel generators are already operating; restore at least one of the inoperable offsite sources to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours. With only one offsite source restored, restore at least two offsite circuits to OPERABLE status within 72 hours from time of initial loss or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

d. With two of the above required diesel generators inoperable, demonstrate the OPERABILITY of two offsite A.C. circuits by performing Surveillance Requirement 4.8.1.1.1.a within one hour and at least once per 8 hours thereafter; restore at least one of the inoperable diesel generators to OPERABLE status within 2 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. Restore at least two diesel generators to OPERABLE status within 72 hours from time of initial loss or be in least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.8.1.1.1 Each of the above required independent circuits between the offsite transmission network and the onsite Class 1E distribution system shall be:*

a. Determined OPERABLE at least once per 7 days by verifying correct breaker alignments, indicated power availability, and

b. Demonstrated OPERABLE at least once per 18 months by transferring the unit power source automatically from the normal auxiliary source to the preferred reserve source and by transferring manually to the alternate reserve source.

4.8.1.1.2 Each diesel generator shall be demonstrated OPERABLE:*

a. In accordance with the frequency specified in Table 4.8-1 on a STAGGERED TEST BASIS by:

1. Verifying the fuel level in the day fuel tank.

2. Verifying the fuel level in the fuel storage tank.

*The provisions of Specification 4.0.6 are applicable.

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 Specification 4.0.6 are applicable.

3/4.8.2 ONSITE POWER DISTRIBUTION SYSTEMS

A.C. DISTRIBUTION - OPERATING

LIMITING CONDITION FOR OPERATION

3.8.2.1 The following A.C. electrical busses shall be OPERABLE and energized with tie breakers open between redundant busses:

4160 volt Emergency Bus # T21A and T21B

4160 volt Emergency Bus # T21C and T21D

600 volt Emergency Bus # 21A and 21B

600 volt Emergency Bus # 21C and 21D

120 volt A.C. Vital Bus # Channel I

120 volt A.C. Vital Bus # Channel II

120 volt A.C. Vital Bus # Channel III

120 volt A.C. Vital Bus # Channel IV

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With less than the above complement of A.C. busses OPERABLE, restore the inoperable bus to OPERABLE status within 8 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.8.2.1 The specified A.C. busses shall be determined OPERABLE with tie breakers open between redundant busses at least once per 7 days by verifying correct breaker alignment and indicated power availability.

D.C. DISTRIBUTION - OPERATING

LIMITING CONDITION FOR OPERATION

3.8.2.3 The following D.C. bus trains shall be energized and OPERABLE with tie breakers between bus trains open:

TRAIN AB consisting of 250-volt D.C. bus AB, 250-volt D.C. battery bank No. 2 AB, and a full capacity charger.

TRAIN CD consisting of 250-volt D.C. bus CD, 250-volt D.C. battery bank No. 2 CD, and a full capacity charger.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION

a. With one 250-volt D.C. bus inoperable, restore the inoperable bus to OPERABLE status within 2 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With one 250-volt D.C. battery and/or its charger inoperable, restore the inoperable battery and/or charger to OPERABLE status within 2 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.8.2.3.1 Each D.C. bus train shall be determined OPERABLE and energized with the breakers open at least once per 7 days by verifying correct breaker alignment and indicated power availability.

4.8.2.3.2 Each 250-volt battery bank and charger shall be demonstrated OPERABLE:*

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

1. The electrolyte level of each pilot cell is between the minimum and maximum level indication marks,

*The provisions of Specification 4.0.6 are applicable.

D.C. DISTRIBUTION - SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.8.2.4 As a minimum, the following D.C. electrical equipment and bus shall be energized and OPERABLE:

1 - 250 volt D.C. bus, and

1 - 250 volt battery bank and charger associated with the above D.C. bus.

APPLICABILITY: MODES 5 and 6.

ACTION:

With less than the above complement of D.C. equipment and bus OPERABLE, establish CONTAINMENT INTEGRITY within 8 hours.

SURVEILLANCE REQUIREMENTS

4.8.2.4.1 The above required 250 volt D.C. bus shall be determined OPERABLE and energized at least once per 7 days by verifying correct breaker alignment and indicated power availability.

4.8.2.4.2 The above required 250 volt battery bank and charger shall be demonstrated OPERABLE per Surveillance Requirement 4.8.2.3.2.*

*The provisions of Specification 4.0.6 are applicable.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 78 TO FACILITY OPERATING LICENSE NO. DPR-74

INDIANA AND MICHIGAN ELECTRIC COMPANY

DONALD C. COOK NUCLEAR PLANT UNIT NO. 2

DOCKET NO. 50-316

Introduction

By letter dated December 13, 1985, the Indiana and Michigan Electric Company (IMEC) submitted a proposed license amendment to extend some 18 month surveillance testing requirements by 2 months to allow the Donald C. Cook Nuclear Plant, Unit No. 2 to complete the present fuel cycle and shutdown on or before February 28, 1986. The extension is for specified pieces of equipment and systems which must be tested during an extended outage. By letter dated December 19, 1985, the IMEC supplemented the request with information to further support a no significant hazards consideration. Much of this information also supports our safety review of the extension.

On January 6, 1986, the IMEC submitted a letter related to the proposed amendment in which the licensee requested that the proposed amendment and the notice of no significant hazards consideration be processed as an emergency Technical Specification change. This letter and the circumstances surrounding the need for an emergency change will be discussed later in this Safety Evaluation.

Background

The Technical Specification provision 4.0.2 defines the intervals for surveillance requirements testing as follows:

"a. A maximum allowable extension not to exceed 25% of the surveillance interval, and

b. A total maximum combined time for any 3 consecutive surveillance intervals not to exceed 3.25 times the specified surveillance interval."

Within many of the surveillance requirements for systems and components for the D. C. Cook Nuclear Plant, a frequency of 18 months (or sometimes plant refueling) is specified. Both units of the nuclear plant are currently on an 18 month refueling cycle, therefore, the Technical Specifications requirements may not coincide with the plant refueling outages whenever unplanned outages are experienced between refueling outages. Given an intermediate outage of sufficient duration, the licensee may perform the 18 month surveillance and stay within the provisions of 4.0.2. Over a period of time with many short duration outages between refuelings, the licensee may accumulate excessive interval times

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and be required to prematurely shutdown the plant to be in compliance with the Technical Specifications. Such is the case for the D. C. Cook Nuclear Plant, Unit No. 2. The first surveillance test is currently due no later than January 29, 1986, but the refueling outage is not scheduled to begin until about February 28, 1986.

Evaluation

For each of the systems or components involved in the proposed 2 month extension, the staff has evaluated the operability for the short period of time and any compensatory measures which might also provide an indication of continued operability. Each of these evaluations is as follows:

a) Reactor Trip System Instrumentation, Engineered Safety Feature Instrumentation, and Reactor Coolant System Pressure Relief and Block Valve Instrumentation

The monthly functional tests for these instruments as performed by the IMEC are more stringent than presently required by the Technical Specifications. Any problems identified during these tests are corrected so that the instrumentation may continue to be declared as operable. For most of these instruments, the actual time they will be needed during the proposed extension is for one month beyond their originally scheduled test date. We agree with the licensee that with more stringent monthly testing and the short duration of the extension where operability is required, these instruments are expected to function normally. We find the proposed extension is acceptable.

b) Containment Sump Level and Flow Monitoring Instrumentation

This instrumentation is one of the ways for determining reactor coolant leakage inside containment. Humidity monitor, radiation monitor, and to some degree the on and off operation of the sump pump also provide detection for reactor coolant leakage. The sump level and flow monitoring instrumentation has shown no indication of problems during surveillance required by the Technical Specifications and these instruments are also needed for only one month of the proposed extension. While these instruments are useful for mitigating the effects of accidents as well as detecting excessive leakage inside containment, they are not required to trip the reactor and shut the plant down safely. We, therefore, find the proposed extension for testing these instruments acceptable.

c) Alternate Power Supplies Including Diesel Generator and Batteries

The original scheduled testing for these systems is in early February, therefore, the proposed extension should cover less than a month where more than one train of supply is required and less than two full months where only one train of supply is required. The diesel generators were

run and paralleled to their busses on November 17 and December 2, 1985, which demonstrated their operability. The licensee has examined the batteries to insure there is no significant deterioration which would jeopardize operation for the extension period. The 18 month surveillance test on the batteries establishes confidence of operability for the following 18 month period, however, these batteries are to be replaced this refueling outage and the operability for the extension is all that is required. Due to the operability demonstrated recently on the diesel generators, the condition of the batteries, and the short time for the extension, we find the extension for these systems acceptable.

d) Emergency Core Cooling System

On November 11, 1984, a safety injection actuation occurred and all systems operated properly and all valves were correctly aligned. The surveillance tests originally scheduled for this system were to occur in late February 1986. This system will be required until early March 1986, therefore, the extension will cover about two weeks while the operability is required. The flow balance of the ECCS pumps is accomplished with throttle valves which have been locked in place since the last surveillance assuring that the flow balance has not changed. Therefore, the operability of the ECCS systems including valve lineups has been demonstrated on a more frequent basis than 18 months and the short period (about two weeks) of required operability during the proposed extension makes inoperability of the system unlikely. On this basis, we find the extension for the ECCS surveillance tests to be acceptable.

e) Reactor Coolant Pump Spray Headers, Divider Barrier Seal and Snubbers Accessible Only During Extended Outages

The spray header for the reactor coolant pump area is inside containment. The portion of the system to which the extension applies is entirely passive and is not expected to be subject to deterioration. It was originally scheduled for a surveillance test in mid February, therefore, the extension may cover about a month while operability is required, i.e., whenever equipment in the spray area is required to be operable. The divider barrier seal is also a passive system inside containment and the examination includes visual examination and tests on material coupons removed from the seal. The seal was last tested in March 1984 and showed the seal to be in good condition. We agree with the licensee that there is no reason to believe degradation has occurred.

The snubber surveillance tests were to begin in early February and include snubbers required to be operable in each of the six modes of operation. The extension applies to those snubbers which are inaccessible due to ALARA considerations or that can only be tested during an extended outage. For any snubber where the extension will apply and

the snubber is accessible, the licensee will visually inspect to assure there is no reason to believe the snubber is inoperable. This would include visually determining that oil reservoirs are still filled, snubbers are not binding as aligned, and there is no obvious material deterioration such as rust. For the short period of time the extension will be in effect, the number of snubbers relying on the extension will be small and the number of any undetected failed snubber should be very small if any occur at all. The visual examination should expose any obvious failed snubbers and appropriate action, in accordance with the Technical Specifications, can be taken. Based on the above evaluation of each of these systems and components, we find the proposed extension acceptable.

For all the above surveillance requirements which are affected by the extension, the licensee will use the test dates during the 1986 refueling outage as initiation dates to determine the intervals defined by Technical Specifications section 4.0.2. In discussions with the licensee the continuing problem was brought up covering the D. C. Cook 18 month fuel cycles as they may impact the intervals. That is, with any outages during subsequent fuel cycles, the licensee would be again someday in a similar situation needing an extension of the 18 month intervals. The licensee plans to initiate a program to address the surveillance requirements and request Technical Specification changes to frequency of testing which takes into account their plant specific conditions. We agree with this proposed approach as a means to avoid another extension of the 18 month intervals in the future.

Basis for Emergency Technical Specification Change

The licensee's initial submittal on December 13, 1985, was inadequate with regards to the justification of the no significant hazards consideration and a request was made for docketed information to support a notice in the Federal Register. By letter dated December 19, 1985, this additional information was submitted by the licensee, however, this soon proved to be insufficient time to process the application as an individual notice for the full 30 day comment period. Under normal circumstances a notice might have been issued for the full 30 day comment period but, while the notice was in preparation, we learned that the Office of the Federal Register would have difficultly in publishing the notice during the Christmas and New Year holidays due to reduced staff. This was brought to the licensee's attention and on January 6, 1986, the licensee requested by letter that the notice be published as an emergency notice to prevent shutdown on January 29, 1986. Based on our review of the licensee's actions, we do not believe the licensee intentionally delayed their submittals to create an emergency situation and take advantage of a shortened comment period. Our evaluation was sent to the local public docket room in Stevensville, Michigan and to the State of Michigan on or about January 7, 1986 (Reference memo D. L. Wigginton to Thomas Novak dated January 6, 1986 subject "Request for Emergency Notification of License Amendment for D. C. Cook Unit 2 - Assessment of Timely Submittal").

Final No Significant Hazards Consideration Determination

In our review of the proposed extension of the 18 month surveillance requirements, we have considered the possible inoperability of the systems and components for the short period they are required to function during the extension. The surveillance requirements are to determine operability, however, if operability has been demonstrated more frequently than the 18 month requirement, the confidence for operability is quite high for the proposed extension. For the active systems or components, there is no change to equipment, setpoints, or operation for which operability has been sufficiently demonstrated less frequently than 18 months, and therefore, the proposed amendment would not involve a significant increase in the probability or consequences of an accident previously evaluated.

For the passive systems, we agree that any additional deterioration of spray headers or the divider barrier seal for 2 months will be insignificant and the licensee will visually inspect the batteries and most of the snubbers involved. There may be some increase in the probability of non-inspected snubbers to fail, but this increase is not significant and the consequences of previously evaluated accidents are unaffected by the proposed extension.

Since accidents which might be caused by inoperability or the possible failure of a few snubbers during the extended inspection interval are the same as those previously evaluated, the proposed amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated. And lastly, since operability has been sufficiently demonstrated and the licensee will inspect most of the affected snubbers during the remainder of the interval, the reduction in safety margin is considered to be insignificant. Therefore, based on these considerations the Commission has made a final determination that the amendment request involves no significant hazards consideration.

Environmental Consideration

This amendment involves a change in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and a change in surveillance requirements. The staff has determined that this amendment involves 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 this amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, this amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR Section 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 this amendment.

Conclusion

We have 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 this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributors:

D. Wigginton

Dated: January 28, 1986