ATTACHMENT 1 TO AEP:NRC:1143A

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SNUBBER T/S CHANGE UPDATE



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INDEX

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SECTION	PAGE
3/4.7 PLANT SYSTEMS (Continued)	
3/4.7.8 HYDRAULIC SNUBBERS	B 3/4 7-5a
3/4.7.9 FIRE SUPPRESSION SYSTEMS	B 3/4 7-7
3/4.7.10 FIRE RATED ASSEMBLIES	в 3/4 7-9
3/4.8 ELECTRICAL POWER SYSTEMS	B 3/4 8-1
3/4.9 REFUELING OPERATIONS	
3/4.9.1 BORON CONCENTRATION	B 3/4 9-1
3/4.9.2 INSTRUMENTATION	B 3/4 9-1
3/4.9.3 DECAY TIME	B 3/4 9-1
3/4.9.4 CONTAINMENT BUILDING PENETRATIONS	B 3/4 9-1
3/4.9:5 COMMUNICATIONS	B 3/4 9-1
3/4.9.6 MANIPULATOR CRANE OPERABILITY	в 3/4 9-2
3/4.9.7 CRANE TRAVEL - SPENT FUEL STORAGE BUILDING	B 3/4 9-2
3/4.9.8 RESIDUAL HEAT REMOVAL AND COOLANT CIRCULATION	B 3/4 9-2
3/4.9.9 CONTAINMENT PURGE AND EXHAUST ISOLATION SYSTEM	в 3/4 9-2
3/4.9.10 AND 3/4.9.11 WATER LEVEL-REACTOR VESSEL AND STORAGE	
POOL	B 3/4 9-3
3/4.9.12 STORAGE POOL VENTILATION SYSTEM	B 3/4 9-3
3/4.9.13 SPENT FUEL CASK MOVEMENT	B 3/4 9-3
3/4.9.14 SPENT FUEL CASK DROP PROTECTION SYSTEM	B 3/4 9-3

3/4.10 SPECIAL TEST EXCEPTIONS

3/4.10.1	SHUTDOWN MARGIN	B 3/4 10-1
3/4.10.2	GROUP HEIGHT, INSERTION AND POWER DISTRIBUTION	
	LIMITS	B 3/4 10-1

COOK NUCLEAR PLANT - UNIT 1

XIV

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TABLE 3.7-4 SNUBBER VISUAL INSPECTION INTERVAL

NUMBER OF UNACCEPTABLE SNUBBERS

Population or Category <u>(Notes_1_and_2)</u>	Column A Extend Interval (Notes 3 and 6)	Column B Repeat Interval <u>(Notes 4 and 6)</u>	Column C Reduce Interval <u>(Notes 5 and 6)</u>
1	0	0	1
80	0	0	2
100	0	1	4
150	0	3	8
200	2	5	13
300	5	- 12	25
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400	8	18	36
500	12	24	48
750	20	40	78
1000 or greater	29	56	109

- Note 1: The next visual inspection interval for a snubber population or category size shall be determined based upon the previous inspection interval and the number of unacceptable snubbers found during that interval. Snubbers may be categorized, based upon their accessibility during power operation, as accessible or inaccessible. These categories may be examined separately or jointly. However, the licensee must make and document that decision before any inspection and shall use that decision as the basis upon which to determine the next inspection interval for that category.
- Note 2: Interpolation between population or category sizes and the number of unacceptable snubbers is permissible. Use next lower integer for the value of the limit for Columns A, B, or C if that integer includes a fractional value of unacceptable snubbers as determined by interpolation.

COOK NUCLEAR PLANT - UNIT 1

3/4 7-31

AMENDMENT NO.

3/4.7.9 FIRE SUPPRESSION SYSTEMS

FIRE SUPPRESSION WATER SYSTEM

LIMITING CONDITION FOR OPERATION

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

- a. Three fire suppression system pumps, * each with a capacity of 2500 gpm, with their discharge aligned to the fire suppression header,
- b. Two fire water tanks, * each with a minimum usable volume of 565,000 gallons (34.0 feet level indication).
- c. An OPERABLE flow path capable of taking suction from either one of the fire water tanks and transferring the water through distribution piping (with OPERABLE sectionalizing valves) up to the yard hydrant curb control valves, to the hose station valve(s) and water suppression system controlling valve(s). The hose station valve(s) and the water suppression system controlling valve(s) that are required to be in the flow path are given in Specifications 3.7.9.5 and 3.7.9.2, respectively.

APPLICABILITY: At all times.

ACTION:

- a. With one pump inoperable, restore the inoperable pump to OPERABLE status within 7 days or provide an alternate backup pump.
- b. With one fire water tank inoperable, restore the inoperable tank to OPERABLE status within 30 days or establish a backup water system supply.
- c. With the fire suppression water system otherwise inoperable:
 - 1. Restore the fire suppression water distribution system to OPERABLE status within 24 hours, or
 - 2. Establish a backup fire suppression water system within 24 hours.
- d. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

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

COOK NUCLEAR PLANT - UNIT 1 3/4 7-33 AMENDMENT NO. 79, 130, 171

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SURVEILLANCE REQUIREMENTS

- 4.7.9.1.1 The fire suppression water system shall be demonstrated OPERABLE:
 - a. At least once per 7 days by verifying the water supply contained in the fire water tanks.
 - b. At least once per 31 days on a STAGGERED TEST BASIS by starting each pump and operating it for at least 15 minutes on recirculation flow.
 - c. At least once per 31 days by verifying that each valve (manual, power operated, or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position.
 - d. At least once per 6 months by performance of a system flush of above ground internal distribution headers and fire hydrants.
 - e. At least once per 12 months by cycling each testable valve in the flow path through at least one complete cycle of full travel.
 - f. At least once per 18 months by performing a system functional test which includes simulated automatic actuation of the system throughout its operating sequence, and:
 - 1. Verifying that each automatic valve in the flow path actuates to its correct position,
 - 2. Verifying that each pump develops a flow of at least 2500 gpm at a system head of at least 300 feet of water by observing three points (minimum, rated, and peak) on the pump's performance curve,
 - 3. Cycling each valve in the flow path that is not testable during plant operation through at least one complete cycle of full travel, and
 - 4. Verifying that each pump starts in its preplanned sequence to maintain the fire suppression water system pressure greater than or equal to 100 psig.
 - g. At least once per 3 years by performing a series of flow tests so that every fire main segment (excluding individual system supplies) has been verified to be clear of obstruction by a full flow test.

COOK NUCLEAR PLANT - UNIT 1

3/4 7-34

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SURVEILLANCE REQUIREMENTS (Continued)

4.7.9.1.2 The fire pump diesel engines shall be demonstrated OPERABLE:

- a. At least once per 31 days by verifying:
 - 1. The fuel storage tanks contain at least 160 gallons of fuel, and
 - 2. The diesels start from ambient conditions and operate for at least 30 minutes.
- b. At least once per 92 days by verifying that a sample of diesel fuel from the fuel storage tanks obtained in accordance with ASTM-D4057-81 is within the acceptable limits specified in Table 1 of ASTM-D975-81 when checked for viscosity, water and sediment.
- c. At least once per 18 months by subjecting the diesels to an inspection in accordance with procedures prepared in conjunction with the manufacturer's recommendations for this class of standby service.

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

- a. At least once per 7 days by verifying that:
 - 1. The electrolyte level of each battery is above the plates, and
 - 2. The output battery voltage of each bank is greater than 24 volts.
- b. At least once per 92 days by verifying that the specific gravity is appropriate for continued service of each battery.
- c. At least once per 18 months by verifying that:
 - 1. The batteries, cell plates and battery packs show no visual indication of physical damage or abnormal deterioration, and
 - 2. The battery-to-battery and terminal connections are clean, tight, free of corrosion, and coated with anti-corrosion material.

3/4 7-35

SURVEILLANCE REQUIREMENTS (Continued)

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

- a. At least once per 12 months by cycling each testable valve in the flow path through at least one complete cycle of full travel as provided by Technical Specification 4.7.9.1.1.e.
- b. At least once per 18 months:
 - 1. By performing a system functional test which includes simulated automatic actuation of the system, and:
 - a) Verifying that the automatic values 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.

COOK NUCLEAR PLANT - UNIT 1

3/4 7-37 AMENDMENT NO. 100, 130, 144, 165, 171

FIRE HOSE STATIONS

LIMITING CONDITION FOR OPERATION

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

<u>APPLICABILITY</u>: 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 value 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.*

3/4 7-43

^{&#}x27;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.

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BASES (Continued)

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

3/4.7.9 FIRE SUPPRESSION SYSTEMS

The OPERABILITY of the fire suppression systems ensures that adequate fire suppression capability is available to confine and extinguish fires occurring in any portion of the facility where safety related equipment is located. The fire suppression systems consist of the water system, spray and/or sprinklers, CO_2 , Halon and fire hose stations. The collective capability of the fire suppression systems is adequate to minimize potential damage to safety-related equipment and is a major element in the facility fire protection program.

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

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

In the event that portions of the fire suppression systems are inoperable, alternate backup fire fighting equipment is required to be made available in the affected areas until the inoperable equipment is restored to service. When the inoperable fire fighting equipment is intended for use as a backup means of fire suppression, a longer period of time is allowed to provide an alternate means of fire fighting than if the inoperable equipment is the primary means of fire suppression. Backup fire protection equipment will normally take the form of permanently mounted fire extinguishers and/or fire hose stations in or near the area, or fire hoses routed to the affected area. In the event that the fire water tanks become inoperable, Lake Michigan may serve as their backup. Two manual, diesel-engine driven, vertical-turbine fire pumps rated at 2000 gpm, which take suction off of Lake Michigan and provide water to the fire suppression header, are administratively controlled. One of these pumps may serve as a backup to one of the fire suppression pumps that take suction off of the tanks. However, it is not our intent to rely on backup systems or other compensatory measures for an extended period of time and action will be taken to restore the inoperable portions of the fire suppression system to OPERABLE status within a reasonable period.

BASES

3/4.4.7.9 (Continued)

The surveillance requirements provide assurance that the minimum OPERABILITY requirements of the fire suppression systems are met. While performing the surveillances specified in 4.7.9.1 the fire suppression water system is still capable of performing its intended function. Consequently, it is not necessary to enter the ACTION STATEMENT specified in 3.7.9.1 while the SURVEILLANCES specified in 4.7.9.1.1 are being performed, unless the tested equipment fails the SURVEILLANCE. In addition, an allowance is made for ensuring a sufficient volume of Halon and CO_2 in the Halon and CO_2 storage tanks by verifying either the weight, level, or pressure of the tanks.

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

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

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

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

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

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

COOK NUCLEAR PLANT - UNIT 1

B 3/4 7-8 AMENDMENT NO. 130, 131, 171 July 15, 1986 Bases Clarification

INDEX

BASES	•			
SECTION		<u>P</u>	<u>AGE</u>	
	ACTOR COOLANT SYSTEM (Continued)			
3/4.4.9	PRESSURE/TEMPERATURE LIMITS	в	3/4	4-6
3/4.4.10	STRUCTURAL INTEGRITY	B	3/4	4-10
3.4.4.11	RELIEF VALVES	В	3/4	4-11
3/4.4.12	REACTOR COOLANT VENT SYSTEM	B	3/4	4-11
3/4.5	EMERGENCY CORE COOLING SYSTEMS (ECCS)			
3/4.5.1	ACCUMULATORS	B	3/4	5-1
3/4.5.2	and 3/4.5.3 ECCS SUBSYSTEMS	В	3/4	5-1
3/4.5.4	BORON INJECTION SYSTEM	В	3/4	5-2
3/4.5.5	REFUELING WATER STORAGE TANK (RWST)	В	3/4	5-3
3/4.6	CONTAINMENT SYSTEMS			
3/4.6.1	PRIMARY CONTAINMENT	B	3/4	6-1
3/4.6.2	DEPRESSURIZATION AND COOLING SYSTEMS	В	3/4	6-3
3/4.6.3	CONTAINMENT ISOLATION VALVES	В	3/4	6-3
3/4.6.4	COMBUSTIBLE GAS CONTROL	в	3/4	6-3
3/4.6.5	ICE CONDENSER	В	3/4	6-4
3/4.7	PLANT SYSTEMS			
3/4.7.1	TURBINE CYCLE	В	3/4	7-1
3/4.7.2	STEAM GENERATOR PRESSURE/TEMPERATURE LIMITATION	В	3/4	7-4
3/4.7.3	COMPONENT COOLING WATER SYSTEM	в	3/4	7-4
3/4.7.4	ESSENTIAL SERVICE WATER SYSTEM	B	3/4	7-4
3/4.7.5	CONTROL ROOM EMERGENCY VENTILATION SYSTEM	B	3/4	7-4a
3/4.7.6	ESF VENTILATION SYSTEM	В	3/4	7-5
3/4.7.7	HYDRAULIC SNUBBERS	в	3/4	7-5

COOK NUCLEAR PLANT - UNIT 2

i.

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XIII

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INDEX

BASES	
SECTION	PAGE
3/4.7 PLANT_SYSTEMS (Continued)	
3/4.7.8 SEALED SOURCE CONTAMINATION	B 3/4 7-6
3/4.7.9 FIRE SUPPRESSION SYSTEMS	в 3/4 7-6
3/4.7.10 FIRE-RATED ASSEMBLIES	в 3/4 7-9
3/4.8 ELECTRICAL POWER SYSTEMS	B 3/4 8-1
3/4.9 REFUELING OPERATIONS	
3/4.9.1 BORON CONCENTRATION	в 3/4 9-1
3/4.9.2 INSTRUMENTATION	в 3/4 9-1
3/4.9.3 DECAY TIME	в 3/4 9-1
3/4.9.4 CONTAINMENT BUILDING PENETRATIONS	B 3/4 9-1
3/4.9.5 COMMUNICATIONS	B 3/4 9-1
3/4.9.6 MANIPULATOR CRANE OPERABILITY	в 3/4 9-2
3/4.9.7 CRANE TRAVEL - SPENT FUEL STORAGE BUILDING	B 3/4 9-2
3/4.9.8 RESIDUAL HEAT REMOVAL AND COOLANT CIRCULATION	в 3/4 9-2
3/4.9.9 CONTAINMENT PURGE AND EXHAUST ISOLATION SYSTEM	B 3/4 9-3
3/4.9.10 and 3/4.9.11 WATER LEVEL - REACTOR VESSEL	
AND STORAGE POOL	в 3/4 9-3
3/4.9.12 STORAGE POOL VENTILATION SYSTEM	B 3/4 9-3
3/4.9.13 SPENT FUEL CASK MOVEMENT	в 3/4 9-3
3/4.9.14 SPENT FUEL CASK DROP PROTECTION SYSTEM	B 3/4 9-3
3/4.10 SPECIAL TEST EXCEPTIONS	,
3/4.10.1 SHUTDOWN MARGIN	в 3/4 10 - 1
3/4.10.2 GROUP HEIGHT, INSERTION AND POWER DISTRIBUTION LIMITS.	B 3/4 10-1

COOK NUCLEAR PLANT - UNIT 2

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<u>3/4.7.9 FIRE SUPPRESSION SYSTEMS</u>

FIRE SUPPRESSION WATER SYSTEM

LIMITING CONDITION FOR OPERATION

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

- a. Three fire suppression system pumps, * each with a capacity of 2500 gpm, with their discharge aligned to the fire suppression header,
- b. Two fire water tanks, * each with a minimum usable volume of 565,000 gallons (34.0 feet level indication)
- c. An OPERABLE flow path capable of taking suction from either one of the fire water tanks and transferring the water through distribution piping (with OPERABLE sectionalizing valves) up to the yard hydrant curb control valves, to the hose station valve(s) and water suppression system controlling valve(s). The hose station valve(s) and the water suppression system controlling valve(s) that are required to be in the flow path are given in Specifications 3.7.9.5 and 3.7.9.2, respectively.

APPLICABILITY: At all times.

ACTION:

- a. With one pump inoperable, restore the inoperable pump to OPERABLE status within 7 days or provide an alternate backup pump.
- b. With one fire water tank inoperable, restore the inoperable tank to OPERABLE status within 30 days or establish a backup water system supply.
- c. With the fire suppression water system otherwise inoperable:
 - 1. Restore the fire suppression water distribution system to OPERABLE status within 24 hours, or
 - 2. Establish a backup fire suppression water system within 24 hours.
- d. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

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

COOK NUCLEAR PLANT - UNIT 2

3/4 7-27

AMENDMENT NO. 61, 115, 154

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SURVEILLANCE REQUIREMENTS

- 4.7.9.1.1 The fire suppression water system shall be demonstrated OPERABLE:
 - a. At least once per 7 days by verifying the water supply contained in the fire water tanks.
 - b. At least once per 31 days on a STAGGERED TEST BASIS by starting each pump and operating it for at least 15 minutes on recirculation flow.
 - c. At least once per 31 days by verifying that each valve (manual, power operated, or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position.
 - d. At least once per 6 months by performance of a system flush of above ground internal distribution headers and fire hydrants.
 - e. At least once per 12 months by cycling each testable valve in the flow path through at least one complete cycle of full travel.
 - f. At least once per 18 months by performing a system functional test . which includes simulated automatic actuation of the system throughout its operating sequence, and:
 - 1. Verifying that each automatic value in the flow path actuates to its correct position,
 - 2. Verifying that each pump develops a flow of at least 2500 gpm at a system head of at least 300 feet of water by observing three points (minimum, rated and peak) on the pump's performance curve,
 - 3. Cycling each value 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.
 - g. At least once per 3 years by performing a series of flow tests so that every fire main segment (excluding individual system supplies) has been verified to be clear of obstructions by a full flow test.

3/4 7-28

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SURVEILLANCE REQUIREMENTS (Continued)

4.7.9.1.2 The fire pump diesel engines shall be demonstrated OPERABLE:

- a. At least once per 31 days by verifying:
 - 1. The fuel storage tanks contain at least 160 gallons of fuel, and
 - 2. The diesels start from ambient conditions and operate for at least 30 minutes.
- b. At least once per 92 days by verifying that a sample of diesel fuel from the fuel storage tanks obtained in accordance with ASTM-D4057-81 is within the acceptable limits specified in Table 1 of ASTM-D975-81 when checked for viscosity, water and sediment.
- c. At least once per 18 months by subjecting the diesels to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendations for this class of standby service.

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

- a. At least once per 7 days by verifying that:
 - 1. The electrolyte level of each battery is above the plates, and
 - 2. The output battery voltage of each bank is greater than 24 volts.
- b. At least once per 92 days by verifying that the specific gravity is appropriate for continued service of each battery.
- c. At least once per 18 months by verifying that:
 - 1. The batteries, cell plates and battery packs show no visual indication of physical damage or abnormal deterioration, and
 - 2. The battery-to-battery and terminal connections are clean, tight, free of corrosion, and coated with anti-corrosion material.

3/4 7-29

SURVEILLANCE_REQUIREMENTS (Continued)

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

- a. At least once per 12 months by cycling each testable valve in the flow path through at least one complete cycle of full travel as provided by Technical Specification 4.7.9.1.1.e.
- b. At least once per 18 months:
 - 1. By performing a system functional test which includes simulated automatic actuation of the system, and:
 - a) Verifying that the automatic valves in the flow path actuate to their correct positions on a test signal, and*
 - b) Cycling each valve in the flow path that is not testable during plant operation through at least one complete cycle of full travel.
 - 2. By visual inspection of deluge and preaction system piping (this is not required for systems supervised by air) to verify their integrity.
 - 3. By visual inspection of each open head deluge nozzle to verify that there is no blockage.
- c. At least once per 3 years by performing an air flow test through the piping of each open head deluge system and verifying each open head deluge nozzle is unobstructed.

COOK NUCLEAR PLANT - UNIT 2

3/4 7-31 AMENDMENT NO. 78, 115, 131, 150 154

^{*}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.

FIRE HOSE STATIONS

LIMITING CONDITION FOR OPERATION

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

<u>APPLICABILITY</u>: 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 value 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.

ATTACHMENT 2 TO AEP:NRC:1143A

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OATH OF AFFIRMATION STATEMENT FOR AEP:NRC:0659V

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STATE OF OHIO) COUNTY OF FRANKLIN)

> R. F. Hering, being duly sworn, deposes and says that he is the Vice President of licensee Indiana Michigan Power Company, that he has read the foregoing application for SECTION 6 TECHNICAL SPECIFICATION CHANGE REQUEST and he knows the contents thereof; and that said contents are true to the best of his knowledge and belief.

NF. Hiring Subscribed and sworn to me before this ______ day of _ , 19 <u>93</u> ines NOTARY PUBLIC

RITA D. HILL NOTARY PUBLIC. STATE OF OHIO MY COMMISSION EXPIRES 2-28-94



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