Attachment 2 to AEP:NRC:0692CC

Existing Technical Specifications
for Donald C. Cook Nuclear Plant Units 1 and 2
Marked to Reflect Proposed Changes

PLANT SYSTEMS

3/4.7.9 FIRE SUPPRESSION SYSTEMS
FIRE SUPPRESSION WATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.9.1 The fire suppression water system shall be OPERABLE with:

Insert A

a. Two* high ~~demand~~ 2000 GPM pumps, one of which shall be a ~~diesel~~ driven pump, with their discharge aligned to the fire suppression header.

b. An OPERABLE open flow path capable of taking suction from Lake Michigan and transferring the water through distribution piping (with OPERABLE sectionalizing valves) up to the yard hydrant curb control valves and up to the hose station valve(s) or water suppression system controlling valve(s) required to be OPERABLE per Specifications 3.7.9.5 and 3.7.9.2, respectively.

APPLICABILITY: At all times.

ACTION:

Insert B

a. With only one pump OPERABLE, restore an inoperable pump (diesel, if required), and equipment to OPERABLE status within 7 days or establish a backup fire suppression water system within the next 7 days. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

~~b.~~ 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

~~*Four High Demand Fire Pumps (two per Unit) are shared between Units 1 and 2.~~

Insert A:

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

a. Three of the five fire suppression system pumps OPERABLE, two of which must be the following:

1. One diesel-engine driven pump having a capacity of 2500 gpm capable of taking suction from either of the fire water storage tanks, with its discharge aligned to the fire distribution piping.

2. One fire suppression system pump having a capacity of 2000 gpm capable of taking suction from Lake Michigan and its discharge capable of being manually aligned to the fire distribution piping.

b. 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 and up to the hose station valve(s) or 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.

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

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

Insert B

a. With less than the minimum number of pumps OPERABLE, take the ACTION shown in Table 3.7-5.

b. With one fire water tank inoperable, restore the inoperable tank to OPERABLE status within 30 days or establish a backup fire suppression water system within the next 7 days.

a At least once per [redacted] days by verifying the [redacted]aterSupply contained in the fire water tanks

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS

4.7.9.1.1 The fire suppression water system shall be demonstrated OPERABLE:

g.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.

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

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

g.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.

g.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, that take suction from the fire water tanks

2. Verifying that each pump develops a flow of at least ~~2000~~ 2590 gpm at a system head of at least 300 feet of water by observing three points (minimum, rated, and peak) on the pump's performance curve.

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

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

g.h 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.

g. At least once per 18 months by verifying that each pump that takes suction from Lake Michigan develops a flow of at least 2000 gpm at a system head of at least 300 feet of water by observing three points (minimum, rated and peak) on the pump's performance curve.

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 starts from ambient conditions and operates for at least 30 minutes.

b. At least once per 92 days by verifying that a sample of diesel fuel from the fuel storage 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~~ 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.

Proposing to Add

TABLE 3.7-5

FIRE PUMP OPERABILITY REQUIREMENTS

With the following minimum combination of pumps OPERABLE:					Take this ACTION:
East 2500 gpm diesel	West 2500 gpm diesel	2500 gpm electric	Unit 1 2000 gpm diesel	Unit 2 2000 gpm diesel	
x	x				a
	x	x			a
x		x			a
	x		x		b
x			x		b
x				x	b
	x			x	b
		x	x		c
			x	x	c
		x		x	c
		x	x	x	d
x					e
	x				e
		x			e
			x		e
				x	e
x	x	x			f

Proposing to Add

TABLE NOTATION*

a. Restore one of the inoperable 2000 gpm diesel-driven pumps within 7 days.

b. Restore at least one of the inoperable pumps within 7 days.

c. With both 2500 gpm diesel-driven pumps inoperable, restore one of the inoperable pumps within 7 days.

d. With both 2500 gpm diesel-driven pumps inoperable, restore one of the inoperable pumps within 14 days.

e. Restore one of the inoperable pumps within 4 days. ACTIONS a, b, c, d, and f are still applicable.

f. Restore one of the inoperable 2000 gpm diesel-driven pumps within 14 days.

* The times specified by these action statements are not additive.

BASES

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

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

3/4.7.8 SEALED SOURCE CONTAMINATION

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

3/4.7.9 FIRE SUPPRESSION SYSTEMS

The OPERABILITY of the fire suppression systems ensures that adequate fire suppression capability is available to confine and extinguish fires occurring in any portion of the facility where safety related equipment is located. The fire suppression systems consists of the water system, spray and/or sprinklers, CO2, 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 System 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.

make into QRs

[illegible]

[illegible]	[illegible]	[illegible]
	[illegible]	
[illegible]	[illegible]	[illegible]

* In the event that the fire water tanks become inoperable Lake Michigan may serve as their backup

BASES

3/4.7.9 FIRE SUPPRESSION SYSTEMS

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

In the event that one or more CO_2 Suppression System requiring automatic actuation must be isolated for personal protection to permit entry for routine tours, maintenance, construction, or surveillance testing in the protected area, the fire detection system(s) required to be operable by Specification 3.3.3.7 shall be verified to be operable. Isolation of an automatic CO_2 suppression system temporarily puts this system in a manual actuation mode.

Reliance on the fire detection system, in conjunction with the ability to manually discharge the CO_2 suppression system will provide adequate fire protection for periods when personnel are required to work in these areas.

In the event that portions of the fire suppression systems are inoperable, alternate backup fire-fighting equipment is required to be made available in the affected areas until the inoperable equipment is restored to service. When the inoperable fire fighting equipment is intended for use as a backup means of fire suppression, a longer period of time is allowed to provide an alternate means of fire fighting than if the inoperable equipment is the primary means of fire suppression. Backup fire protection equipment will normally take the form of permanently mounted fire extinguishers and/or fire hose stations in or near the area, or fire hoses routed to the affected area. However, it is not our intent to rely on backup systems or other compensatory measures for an extended period of time and action will be taken to restore the inoperable portions of the fire suppression system to OPERABLE status within a reasonable period.

The surveillance requirements provide assurance that the minimum OPERABILITY requirements of the fire suppression systems are met. An allowance is made for ensuring a sufficient volume of Halon and CO_2 in the storage tanks by verifying either the weight, level, or pressure of the tanks.

Insert C

Insert C:

The fire suppression water system has five fire pumps common to both units which discharge into underground ring headers. There are two diesel-engine-driven, vertical-turbine fire pumps rated at 2000 gpm, each taking suction from Lake Michigan; 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.

Requiring one of the 2000 gpm diesel-driven pumps that takes suction from Lake Michigan and one of the 2500 gpm diesel driven pumps that takes suction from a fire water storage tank to be OPERABLE ensures the capability of obtaining water from both sources. This conservatism results in enhanced system reliability and reduced risk from external events.

Technical Specification 3.7.9.1 requires three fire water pumps to be OPERABLE for the fire suppression water system to be OPERABLE. One of these pumps must be a 2500 gpm diesel-driven pump capable of taking suction from either fire water storage tank and one a 2000 gpm fire suppression pump capable of taking suction from Lake Michigan. The third pump may take suction from either water source.

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

PLANT SYSTEMS

3/4.7.9 FIRE SUPPRESSION SYSTEMS
FIRE SUPPRESSION WATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.9.1 The fire suppression water system shall be OPERABLE with:

Insert A

a. ~~Two high demand 2000 GPM pumps, one of which shall be a diesel driven pump,~~ with their discharge aligned to the ~~fire suppression~~ header.

b. An OPERABLE open flow path ~~capable~~ of taking suction from Lake Michigan and transferring ~~the~~ water through distribution piping (with OPERABLE ~~sectionalizing~~ valves) up to the ~~yard~~ hydrant curb control valves and up to the hose station valve(s) or ~~water~~ suppression system controlling valve(s) required to be OPERABLE ~~per~~ Specifications 3.7.9.5 and 3.7.9.2, respectively.

APPLICABILITY: At all times.

ACTION:

Insert B

a. ~~With only one pump operable, restore an inoperable pump (diesel, if required), and equipment to OPERABLE status within 7 days or establish a backup fire suppression water system within the next 7 days. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.~~

C

b. 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.

~~*Four High Demand Fire Pumps (two per unit) are shared between Units 1 and 2.~~

[illegible]

[illegible]

[illegible]

[illegible]

Insert A:

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

a. Three of the five fire suppression system pumps OPERABLE, two of which must be the following:

1. One diesel-engine driven pump having a capacity of 2500 gpm capable of taking suction from either of the fire water storage tanks, with its discharge aligned to the fire distribution piping.

2. One fire suppression system pump having a capacity of 2000 gpm capable of taking suction from Lake Michigan and its discharge capable of being manually aligned to the fire distribution piping.

b. 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 and up to the hose station valve(s) or 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.

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

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

Insert B

a. With less than the minimum number of pumps OPERABLE, take the ACTION shown in Table 3.7-5.

b. With one fire water tank inoperable, restore the inoperable tank to OPERABLE status within 30 days or establish a backup fire suppression water system within the next 7 days.

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

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS

4.7.9.1.1 The fire suppression water system shall be demonstrated OPERABLE:

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 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~~ that take suction from the fire water tanks to its correct position,

2. Verifying that each pump develops a flow of at least ~~3000~~ 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 high pressure pump starts in its preplanned sequence to maintain the fire suppression water system pressure greater than 100 psig.

h. 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.

g. At least once per 18 months by verifying that each pump that takes suction from Lake Michigan develops a flow of at least 2000 gpm at a system head of at least 300 feet of water by observing three points (minimum, rated and peak) on the pump's performance curve.

Proposed

TABLE 3.7-5

FIRE PUMP OPERABILITY REQUIREMENTS

With the following minimum combination of pumps OPERABLE:					Take this ACTION:
East 2500 gpm diesel	West 2500 gpm diesel	2500 gpm electric	Unit 1 2000 gpm diesel	Unit 2 2000 gpm diesel	
x	x				a
	x	x			a
x		x			a
	x		x		b
x			x		b
x				x	b
	x			x	b
		x	x		c
			x	x	c
		x		x	c
		x	x	x	d
x					e
	x				e
		x			e
			x		e
				x	e
x	x	x			f

Proposing to Add

TABLE NOTATION*

a. Restore one of the inoperable 2000 gpm diesel-driven pumps within 7 days.

b. Restore at least one of the inoperable pumps within 7 days.

c. With both 2500 gpm diesel-driven pumps inoperable, restore one of the inoperable pumps within 7 days.

d. With both 2500 gpm diesel-driven pumps inoperable, restore one of the inoperable pumps within 14 days.

e. Restore one of the inoperable pumps within 4 days. ACTIONS a, b, c, d, and f are still applicable.

f. Restore one of the inoperable 2000 gpm diesel-driven pumps within 14 days.

* The times specified by these action statements are not additive.

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 contains at least 160 gallons of fuel, and

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

b. At least once per 92 days by verifying that a sample of diesel fuel from the fuel storage 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~~ the manufacturer's recommendations for this class of standby service.

4.7.9.1.3 The fire pump diesel starting battery bank 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.

[illegible]

[illegible]

[illegible]

[illegible]

* In the event that the fire water tanks become inoperable Lake Michigan may serve as their backup.

BASES

other tasks (e.g., an operator on tour) provided that such personnel fulfilled the above stated requirements. As a minimum, each area affected by an isolated low pressure CO_2 system must be visited every twenty-five (25) to thirty-five (35) minutes by the Roving Fire Watch Patrol. Such measures will provide the necessary level of fire protection while affording necessary provisions for personnel safety.

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 areas. However, it is not our intent to rely on backup systems or other compensatory measures for an extended period of time and action will be taken to restore the inoperable portions of the fire suppression system to OPERABLE status within a reasonable period.

The surveillance requirements provide assurance that the minimum OPERABILITY requirements of the fire suppression systems are met. An allowance is made for ensuring a sufficient volume of Halon and CO_2 in the storage tanks by verifying either the weight, level or pressure of the tanks.

Insert C

In the event the fire suppression water system becomes inoperable, immediate corrective measures must be taken since this system provides the major fire suppression capability of the plant. The requirement for a twenty-four hour report to the Commission provides for prompt evaluation of the acceptability of the corrective measures to provide adequate fire suppression capability for continued protection of the nuclear plant.

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

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

Insert C:

The fire suppression water system has five fire pumps common to both units which discharge into underground ring headers. There are two diesel-engine-driven, vertical-turbine fire pumps rated at 2000 gpm, each taking suction from Lake Michigan; 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.

Requiring one of the 2000 gpm diesel-driven pumps that takes suction from Lake Michigan and one of the 2500 gpm diesel driven pumps that takes suction from a fire water storage tank to be OPERABLE ensures the capability of obtaining water from both sources. This conservatism results in enhanced system reliability and reduced risk from external events.

Technical Specification 3.7.9.1 requires three fire water pumps to be OPERABLE for the fire suppression water system to be OPERABLE. One of these pumps must be a 2500 gpm diesel-driven pump capable of taking suction from either fire water storage tank and one a 2000 gpm fire suppression pump capable of taking suction from Lake Michigan. The third pump may take suction from either water source.

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

Attachment 3 to AEP:NRC:0692CC

Proposed Technical Specifications
for Donald C. Cook Nuclear Plant Units 1 and 2

[illegible]

[illegible]

[illegible]

PLANT SYSTEMS

3/4.7.9 FIRE SUPPRESSION SYSTEMS

FIRE SUPPRESSION WATER SYSTEM

LIMITING CONDITION FOR OPERATION

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

a. Three of the five fire suppression system pumps OPERABLE, two of which must be the following:

1. One diesel-engine driven pump having a capacity of 2500 gpm capable of taking suction from either of the fire water storage tanks, with its discharge aligned to the fire distribution piping.

2. One fire suppression system pump having a capacity of 2000 gpm capable of taking suction from Lake Michigan and its discharge capable of being manually aligned to the fire distribution piping.

b. 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 and up to the hose station valve(s) or 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.

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

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

APPLICABILITY: At all times.

ACTION:

a. With less than the minimum number of pumps OPERABLE, take the ACTION shown in Table 3.7-5.

ACTION (Continued)

b. With one fire water tank inoperable, restore the inoperable tank to OPERABLE status within 30 days or establish a backup fire suppression water system within the next 7 days.

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.

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 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 that takes suction from the fire water tanks 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,

SURVEILLANCE REQUIREMENTS (Continued)

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

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

g. At least once per 18 months by verifying that each pump that takes suction from Lake Michigan develops a flow of at least 2000 gpm at a system head of at least 300 feet of water by observing three points (minimum, rated and peak) on the pump's performance curve.

h. 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.

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.

SURVEILLANCE REQUIREMENTS (Continued)

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.

TABLE 3.7-5

FIRE PUMP OPERABILITY REQUIREMENTS

With the following minimum combination of pumps OPERABLE:					Take this ACTION:
East 2500 gpm diesel	West 2500 gpm diesel	2500 gpm electric	Unit 1 2000 gpm diesel	Unit 2 2000 gpm diesel	
x	x				a
	x	x			a
x		x			a
	x		x		b
x			x		b
x				x	b
	x			x	b
		x	x		c
			x	x	c
		x		x	c
		x	x	x	d
x					e
	x				e
		x			e
			x		e
				x	e
x	x	x			f

TABLE NOTATION*

a. Restore one of the inoperable 2000 gpm diesel-driven pumps within 7 days.

b. Restore at least one of the inoperable pumps within 7 days.

c. With both 2500 gpm diesel-driven pumps inoperable, restore one of the inoperable pumps within 7 days.

d. With both 2500 gpm diesel-driven pumps inoperable, restore one of the inoperable pumps within 14 days.

e. Restore one of the inoperable pumps within 4 days. ACTIONS a, b, c, d, and f are still applicable.

f. Restore one of the inoperable 2000 gpm diesel-driven pumps within 14 days.

* The times specified by these action statements are not additive.

BASES

3/4.7.9 FIRE SUPPRESSION SYSTEMS

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

In the event that one or more CO_2 suppression systems requiring automatic actuation must be isolated for personal protection to permit entry for routine tours, maintenance, construction, or surveillance testing in the protected area, the fire detection system(s) required to be OPERABLE by Specification 3.3.3.7 shall be verified to be OPERABLE. Isolation of an automatic CO_2 suppression system temporarily puts this system in a manual actuation mode.

Reliance on the fire detection system, in conjunction with the ability to manually discharge the CO_2 suppression system will provide adequate fire protection for periods when personnel are required to work in these areas.

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

The surveillance requirements provide assurance that the minimum OPERABILITY requirements of the fire suppression systems are met. An allowance is made for ensuring a sufficient volume of Halon and CO_2 in the storage tanks by verifying either the weight, level, or pressure of the tanks.

The fire suppression water system has five fire pumps common to both units which discharge into underground ring headers. There are two diesel-engine-driven, vertical-turbine fire pumps rated at 2000 gpm, each taking suction from Lake Michigan; 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

[illegible]

BASES

3/4.4.7.9 (Continued)

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.

Requiring one of the 2000 gpm diesel-driven pumps that takes suction from Lake Michigan and one of the 2500 gpm diesel driven pumps that takes suction from a fire water storage tank to be OPERABLE ensures the capability of obtaining water from both sources. This conservatism results in enhanced system reliability and reduced risk from external events.

Technical Specification 3.7.9.1 requires three fire water pumps to be OPERABLE for the fire suppression water system to be OPERABLE. One of these pumps must be a 2500 gpm diesel-driven pump capable of taking suction from either fire water storage tank and one a 2000 gpm fire suppression pump capable of taking suction from Lake Michigan. The third pump may take suction from either water source.

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

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

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

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

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

3/4.7.9 (Continued)

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

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

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

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

3/4.7.10 FIRE RATED ASSEMBLIES

The OPERABILITY of the fire barriers and barrier penetrations ensure that fire damage will be limited. These design features minimize the possibility of a single fire involving more than one fire area prior to detection and extinguishment. The fire barriers and fire barrier penetration sealing devices are periodically inspected to verify their OPERABILITY. The functional testing of the fire dampers is provided to ensure that the dampers remain functional. The ventilation seals area seals around ventilation duct work penetrating fire barriers. It is not our intent to rely on backup systems or other compensatory measures for an extended period of time and action will be taken to restore the inoperable portions of the fire rated assembly to OPERABLE status within a reasonable period.

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

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 of the five fire suppression system pumps OPERABLE, two of which must be the following:

1. One diesel-engine driven pump having a capacity of 2500 gpm capable of taking suction from either of the fire water storage tanks, with its discharge aligned to the fire distribution piping.

2. One fire suppression system pump having a capacity of 2000 gpm capable of taking suction from Lake Michigan and its discharge capable of being manually aligned to the fire distribution piping.

b. 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 and up to the hose station valve(s) or 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.

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

d. An OPERABLE isolated flow path capable of taking suction from Lake Michigan and transferring the water through distribution piping (with OPERABLE sectionalizing valves) up to the yard hydrant curb control valves and up to the hose station valve(s) or water suppression system controlling valve(s). The hose station valve(s) and water suppression system controlling valve(s) that are required to be OPERABLE are given in Specification 3.7.9.5 and 3.7.9.2 respectively.

APPLICABILITY: At all times.

ACTION:

a. With less than the minimum number of pumps OPERABLE, take the ACTION shown in Table 3.7-5.

ACTION (Continued)

b. With one fire water tank inoperable, restore the inoperable tank to OPERABLE status within 30 days or establish a backup fire suppression water system within the next 7 days.

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.

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 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 that takes suction from the fire water tanks 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,

SURVEILLANCE REQUIREMENTS (Continued)

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

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

g. At least once per 18 months by verifying that each pump that takes suction from Lake Michigan develops a flow of at least 2000 gpm at a system head of at least 300 feet of water by observing three points (minimum, rated and peak) on the pump's performance curve.

h. 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.

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.

SURVEILLANCE REQUIREMENTS (Continued)

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.

TABLE 3.7-5

FIRE PUMP OPERABILITY REQUIREMENTS

With the following minimum combination of pumps OPERABLE:					Take this ACTION:
East 2500 gpm diesel	West 2500 gpm diesel	2500 gpm electric	Unit 1 2000 gpm diesel	Unit 2 2000 gpm diesel	
x	x				a
	x	x			a
x		x			a
	x		x		b
x			x		b
x				x	b
	x			x	b
		x	x		c
			x	x	c
		x		x	c
		x	x	x	d
x					e
	x				e
		x			e
			x		e
				x	e
x	x	x			f

TABLE NOTATION*

a. Restore one of the inoperable 2000 gpm diesel-driven pumps within 7 days.

b. Restore at least one of the inoperable pumps within 7 days.

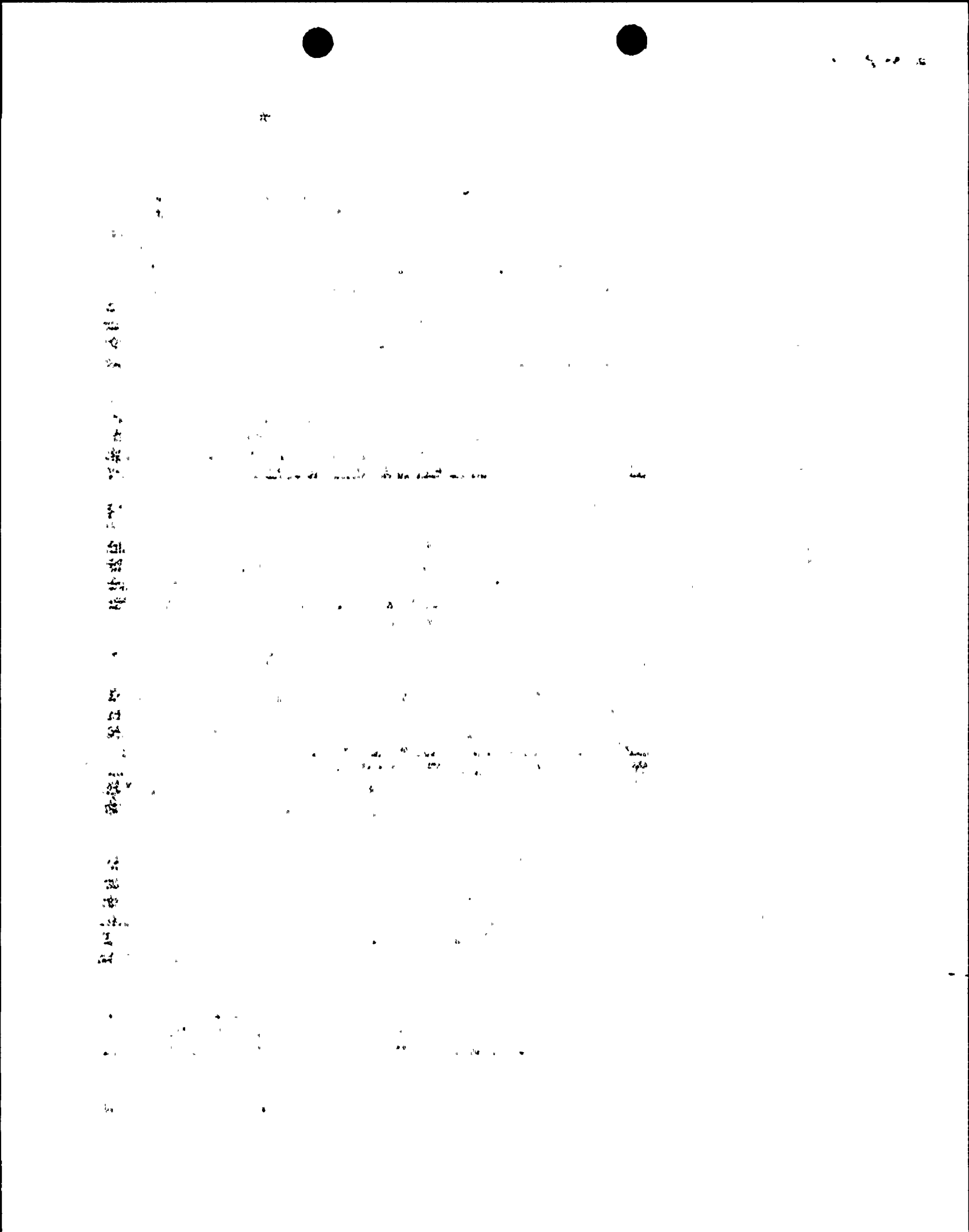
c. With both 2500 gpm diesel-driven pumps inoperable, restore one of the inoperable pumps within 7 days.

d. With both 2500 gpm diesel-driven pumps inoperable, restore one of the inoperable pumps within 14 days.

e. Restore one of the inoperable pumps within 4 days. ACTIONS a, b, c, d, and f are still applicable.

f. Restore one of the inoperable 2000 gpm diesel-driven pumps within 14 days.

* The times specified by these action statements are not additive.



BASES

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

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

3/4.7.8 SEALED SOURCE CONTAMINATION

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

3/4.7.9 FIRE SUPPRESSION SYSTEMS

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

In the event that one or more CO_2 suppression systems requiring automatic actuation must be isolated for personal protection to permit entry for routine tours, maintenance, construction, or surveillance testing in the protected area, the fire detection system(s) required to be OPERABLE by Specification 3.3.3.7 shall be verified to be OPERABLE. Isolation of an automatic CO_2 suppression system temporarily puts this system in a manual actuation mode.

Reliance on the fire detection system, in conjunction with the ability to manually discharge the CO_2 suppression system, will provide adequate fire protection for periods when personnel are required to work in these areas.

3/4.7.9 (Continued)

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

The surveillance requirements provide assurance that the minimum OPERABILITY requirements of the fire suppression systems are met. An allowance is made for ensuring a sufficient volume of Halon and CO_2 in the storage tanks by verifying either the weight, level, or pressure of the tanks.

The fire suppression water system has five fire pumps common to both units which discharge into underground ring headers. There are two diesel-engine-driven, vertical-turbine fire pumps rated at 2000 gpm, each taking suction from Lake Michigan; 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.

Requiring one of the 2000 gpm diesel-driven pumps that takes suction from Lake Michigan and one of the 2500 gpm diesel-driven pumps that takes suction from a fire water storage tank to be OPERABLE ensures the capability of obtaining water from both sources. This conservatism results in enhanced system reliability and reduced risk from external events.

Technical Specification 3.7.9.1 requires three fire water pumps to be OPERABLE for the fire suppression water system to be OPERABLE. One of these pumps must be a 2500 gpm diesel-driven pump capable of taking suction from either fire water storage tank and one a 2000 gpm fire suppression pump capable of taking suction from Lake Michigan. The third pump may take suction from either water source.

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

[illegible]

[illegible]

[illegible]

[illegible]

BASES

3/4.7.9 (Continued)

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

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

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

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

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

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

[illegible]

[illegible]

[illegible]

BASES

3/4.7.9 (Continued)

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

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

3/4.7.10 FIRE RATED ASSEMBLIES

The OPERABILITY of the fire barriers and barrier penetrations ensures that fire damage will be limited. These design features minimize the possibility of a single fire involving more than one fire area prior to detection and extinguishment. The fire barriers and fire barrier penetration sealing devices are periodically inspected to verify their OPERABILITY. The functional testing of the fire dampers is provided to ensure that the dampers remain functional. The ventilation seals are seals around ventilation duct work penetrating fire barriers. It is not our intent to rely on backup systems or other compensatory measures for an extended period of time and ACTION will be taken to restore the inoperable portions of the fire rated assembly to OPERABLE status within a reasonable period.

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