

JAN 23 1978

Dockets Nos. 50-266
and 50-301

Wisconsin Electric Power Company
Wisconsin Michigan Power Company
ATTN: Mr. Sol Burstein
Executive Vice President
231 West Michigan Street
Milwaukee, Wisconsin 53201

Gentlemen:

The Commission has issued the enclosed Amendments Nos. 32 and 36 to Facility Operating Licenses Nos. DPR-24 and DPR-27 for the Point Beach Nuclear Plant, Units Nos. 1 and 2. The amendments consist of changes to the Technical Specifications and are in accordance with your application dated July 28, 1977 as revised by letters dated October 5 and December 12, 1977.

These amendments consist of changes in the Technical Specifications that incorporate the Fire Protection System into the Limiting Conditions for Operation, Surveillance Requirements and Administrative Controls.

In order to achieve expeditious implementation of the Fire Protection Technical Specifications, Specification 15.6.2.2.f. is being issued at this time with the minimum number of on-site fire brigade members specified as 4 as you proposed. This number is less than the minimum number given in the generic staff position, Minimum Fire Brigade Shift Size, which was an attachment to the Safety Evaluation Report issued with our letter to you dated November 23, 1977. However, we are presently evaluating your justification for this smaller brigade size and when the evaluation is completed the minimum number will be increased if we do not agree with your position.

These amendments revise: (1) Specification 15.6.4.2 to reflect the title change of the Fire Protection Supervisor (the title had been Fire Protection Program Manager), (2) Figure 15.6.2-4 to indicate the Fire Protection Supervisor is no longer the Assistant to the Operations Superintendent, and (3) Specification 15.6.8.1.8 to clarify when the fire protection procedures must be provided (as agreed to by the licensee). Since these revisions are administrative matters, the staff finds them acceptable.

DL

OFFICE >						
SURNAME >						
DATE >						

All other Specifications are the same as those transmitted to you on November 23, 1977, and are supported by the Safety Evaluation which was attached to that letter.

Copies of the related FEDERAL REGISTER Notice also are enclosed.

Sincerely,

Original signed by

George Lear, Chief
 Operating Reactors Branch #3
 Division of Operating Reactors

Enclosures:

1. Amendment No. 3² to License DPR-24
2. Amendment No. 3⁶ to License DPR-27
3. FEDERAL REGISTER Notice

cc w/enclosures:
 See next page

*SEE PREVIOUS YELLOW FOR CONCURRENCES

OFFICE >	ORB #3	ORB #3 <i>W</i>	ORB #1	R.B. OELD <i>L. Brenner</i>	ORB #3
SURNAME >	CParrish*	*PWagner:acr	*TWambach		GLear <i>GLear</i>
DATE >	1/4/78	1/5/78	1/10/78	1/16/78	1/20/78 <i>1/21/78</i>

All other Specifications are the same as those transmitted to you on November 23, 1977, and are supported by the Safety Evaluation contained therein.

Copies of the related Federal Register Notice also are enclosed.

Sincerely,

George Lear, Chief
 Operating Reactors Branch #3
 Division of Operating Reactors

Enclosures:

1. Amendment No. to License DPR-24
2. Amendment No. to License DPR-27
3. Federal Register Notice

cc w/enclosures:
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cc:

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Federal Activities Branch
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

WISCONSIN ELECTRIC POWER COMPANY
WISCONSIN MICHIGAN POWER COMPANY

DOCKET NO. 50-266

POINT BEACH NUCLEAR PLANT, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 32
License No. DPR-24

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Wisconsin Electric Power Company and Wisconsin Michigan Power Company (the licensees) dated July 28, 1977 as revised by letters dated October 5 and December 12, 1977, 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 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 3.B. of Facility Operating License No. DPR-24 is hereby amended to read as follows:

(B) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 32, are hereby incorporated in the license. The licensees 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



George Lear, Chief
Operating Reactors Branch #3
Division of Operating Reactors

Attachment:
Changes to the Technical
Specifications

Date of Issuance: January 23, 1978

ATTACHMENT TO LICENSE AMENDMENT NO. 32

TO THE TECHNICAL SPECIFICATIONS

FACILITY OPERATING LICENSE NO. DPR-24

DOCKET NO. 50-266

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages. The revised page is identified by Amendment number and contains vertical lines indicating the area of change.

<u>Remove</u>	<u>Replace</u>
15i	15i
-	15ii
15.1-5	15.1-5
-	15.3.14-1
-	15.3.14-2
-	15.3.14-3
-	15.3.14-4
Table 15.4.1-2 (Cont)	Table 15.4.1-2 (Cont)
-	15.4.15-1
-	15.4.15-2
-	15.4.15-3
-	15.6.2-2
Figure 15.6.2-2	Figure 15.6.2-2
-	Figure 15.6.2-3
-	Figure 15.6.2-4
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-	15.6.5-9
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1. Degree of Redundancy

Degree of redundancy is defined as the difference between the number of operable channels and the minimum number of channels which when tripped will cause an automatic shutdown.

m. Reactor Critical

The reactor is said to be critical when the neutron chain reaction is self-sustaining and $k_{\text{eff}} = 1.0$.

n. Low Power Operation

The reactor is in the low power operating condition when the reactor is critical and the average neutron flux of the power range instrumentation indicates less than or equal to 2% of rated power.

o. Fire Suppression Water System

A FIRE SUPPRESSION WATER SYSTEM shall consist of: a water source; pump(s); and distribution piping with associated sectionalizing control or isolation valves. Such valves shall include yard post indicating valves and the first valve ahead of the water flow alarm device on each sprinkler, hose standpipe or spray system riser.

15.3.14 Fire Protection System

Applicability

Applies to the operability of the fire protection system components which provide fire suppression capability for equipment required for safe plant shutdown at all times when those systems are required to be operable.

Objective

To specify the functional requirements for fire protection system components which would be employed to mitigate the consequences of fires which could affect equipment required for safe plant shutdown.

Specification

A. Fire Suppression Water System

One of the following conditions shall be provided:

1. Both fire pumps shall be operable at rated capacity.
2. With one fire pump inoperable, the other fire pump shall be demonstrated operable once per day; or,
3. With both fire pumps inoperable,
 - a. Establish a backup FIRE SUPPRESSION WATER SYSTEM within 24 hours.
 - b. Furnish prompt notification with written followup to the Commission pursuant to Specification 15.6.9.2 outlining the actions taken and the plans and schedule for restoring the system to OPERABLE status.
 - c. If a. above cannot be fulfilled, place the reactor in Hot Standby within the next 6 hours and in Cold Shutdown within the following thirty (30) hours.

B. Spray and/or Sprinkler Systems

The following systems shall be operable.

Diesel Generator 3D Dry Pipe Sprinkler System

Diesel Generator 4D Dry Pipe Sprinkler System

1. With an above listed system inoperable, local hose station fire suppression equipment for the affected area shall be verified operable within 1 hour.
2. Additional portable fire suppression equipment shall be provided for the affected area.
3. A fire watch inspection shall be performed in the affected area twice per shift. Activity within the affected area shall be restricted to that which is necessary for continued operation.

C. Fire Hose Stations

The following hose stations shall be operable:

HR-13 South Wall Control Building Elev. 8'-0"

HR-15 South Wall Control Building Elev. 44'-0"

HR-16 North Wall Control Building Elev. 8'-0"

HR-18 North Wall Control Building Elev. 44'-0"

HR-31 West Wall Auxiliary Building Elev. 8'-0"

1. With a hose station inoperable, backup portable fire suppression equipment for the affected area shall be verified operable within 1 hour.
2. Appropriate backup portable fire suppression equipment shall be provided for the affected area.

D. Fire Detection

The fire detection instrumentation for each fire detection zone shown in Table 15.3.14-1 shall be operable.

1. With a fire detection instrument inoperable, the affected area shall be inspected to assure that potential fire hazards are minimized.

2. A fire watch inspection shall be performed in the affected area once per hour. Activity in the affected area shall be restricted to that which is necessary for continued operation.

E. Fire Barrier Penetration Fire Seals

All penetration fire barriers protecting safety related areas shall be functional.

1. In the event of a penetration fire barrier impairment a continuous fire watch shall be established on at least one side of the affected penetration within 1 hour.

Basis

The overall fire protection program at Point Beach Nuclear Plant utilizes the principles of defense in depth. This includes minimization of combustibles, early warning fire detection, primary and backup fire suppression capability and priority maintenance procedures to restore inoperable equipment to operable status as soon as possible. Collectively these measures provide adequate capability to minimize potential damage to safety related equipment and to allow for safe plant shutdown in the event of a potential fire occurrence.

Should a portion or component of the fire protection system be inoperable, these specifications provide assurance that alternate methods of fire protection are strengthened and that the capability to mitigate the consequences of a potential fire is maintained.

TABLE 15.3.14-1

<u>Area</u>	<u>Quantity</u>	<u>Elevation</u>	<u>Type</u>
1. Cable Spreading Room	2	26'-0"	Smoke
2. Switchgear Room	1	8'-0"	Smoke
3. Diesel Generator 3D Room	1	8'-0"	Smoke
4. Diesel Generator 4D Room	1	8'-0"	Smoke
5. Fuel Oil Pumphouse	1	25'-7"	Smoke
6. Unit 1 Electrical Equip. Room	1	46'-0"	Smoke
7. Unit 2 Electrical Equip. Room	1	46'-0"	Smoke
8. Circulating Water Pumphouse	6	7'-0"	Smoke

TABLE 15.4.1-2 (CONTINUED)

	Test	Frequency	FSAR Section Reference	
(14)	Refueling System Interlocks	Functioning	Each refueling shutdown	9.4.5
(15)	Service Water System	Functioning	Each refueling shutdown	9.5.5
(16)	Primary System Leakage	Evaluate	Monthly ⁽⁶⁾	4
(17)	Diesel Fuel Supply	Fuel inventory	Daily	8.2.3
(18)	Turbine Stop and Governor Valves	Functioning	Monthly ⁽⁶⁾ (9)	10
(19)	Low Pressure Turbine Rotor Inspection ⁽⁵⁾	Visual and magnetic particle or liquid penetrant	Every five years	10
(20)	Boric Acid System	Storage Tank Temperature	Daily	
(21)	Boric Acid System	Visual observation of piping temperatures (all $\geq 145^{\circ}\text{F}$)	Daily	
(22)	Boric Acid Piping Heat Tracing	Electrical circuit operability	Monthly	

- (1) A radiochemical analysis for this purpose shall consist of a quantitative measurement of each radionuclide with half life of >30 minutes such that at least 95% of total activity of primary coolant is accounted for.
- (2) E determination will be started when the gross activity analysis of a filtered sample indicates $\geq 10 \mu\text{c/cc}$ and will be redetermined if the primary coolant gross radioactivity of a filtered sample increases by more than $10 \mu\text{c/cc}$.
- (3) Drop tests shall be conducted at rated reactor coolant flow. Rods shall be dropped under both cold and hot conditions, but cold drop tests need not be timed.
- (4) Drop tests will be conducted in the hot condition for rods on which maintenance was performed.
- (5) As accessible without disassembly of rotor.
- (6) Not required during periods of refueling shutdown.
- (7) At least once per week during periods of refueling shutdown.
- (8) At least three times per week (with maximum time of 72 hours between samples) during periods of refueling shutdown.
- (9) a. The monthly functional test interval for Point Beach Unit No. 2 for February 1976 is extended seven days to February 26, 1976.
 b. The requirement of the monthly functional test for Point Beach Unit No. 1 is waived for the one month period of September, 1977.

15.4.15 Fire Protection System

Applicability

Applies to the periodic inspection and testing requirements of fire protection equipment.

Objective

To verify the operability of fire protection equipment.

Specification

Testing of fire protection system equipment, as a minimum, shall be done as follows:

A. Fire Suppression Water System

<u>Test</u>	<u>Frequency</u>
1. Verify valves in the Flow Path (automatic and manual) in the correct position.	Monthly
2. Fire Pump Functional Test	Monthly
3. Fire Pump Capacity Test	Yearly
4. Automatic system and valve actuation and flowpath valve cycle tests	Yearly
5. System flow Test (In accordance with Ch. 5, Sect. 11 F.P. Handbook)	3 Years

B. Spray and/or Sprinkler Systems

<u>Test</u>	<u>Frequency</u>
1. Complete Cycle of Each Testable Valve	Yearly
2. Simulated System Functional Test	Yearly
3. Visually inspect headers and nozzles	18 mo.
4. Air flow test to verify open head nozzles unobstructed	3 years

C. Fire Hose Stations

<u>Test</u>	<u>Frequency</u>
1. Visual Inspection	Monthly
2. Hose Hydro-Test	Yearly
3. Partially open each hose station valve to verify operability and no blockage	3 years

D. Fire Detection

<u>Test</u>	<u>Frequency</u>
1. Channel Functional Test	2 mo.

E. Fire Barrier Penetration Fire Seals

<u>Test</u>	<u>Frequency</u>
1. Visual Inspection	18 mo. and following repairs or maintenance

F. Fire Pump Diesel Engine

<u>Test</u>	<u>Frequency</u>
1. a. Verify 200 gallons of fuel in fuel storage tank	Monthly
b. Verify diesel starts from ambient conditions and operates for at least 20 minutes.	Monthly
2. Sample diesel fuel per ASTM-D270-65 and verify acceptable per Table 1 of ASTM-D975-74 with respect to viscosity, water content and sediment.	Quarterly
3. a. Inspect diesel per procedures prepared in conjunction with its manufacturer's recommendations	18 months
b. Verify diesel starts from ambient conditions and operates for >20 minutes while loaded with the fire pump	18 months

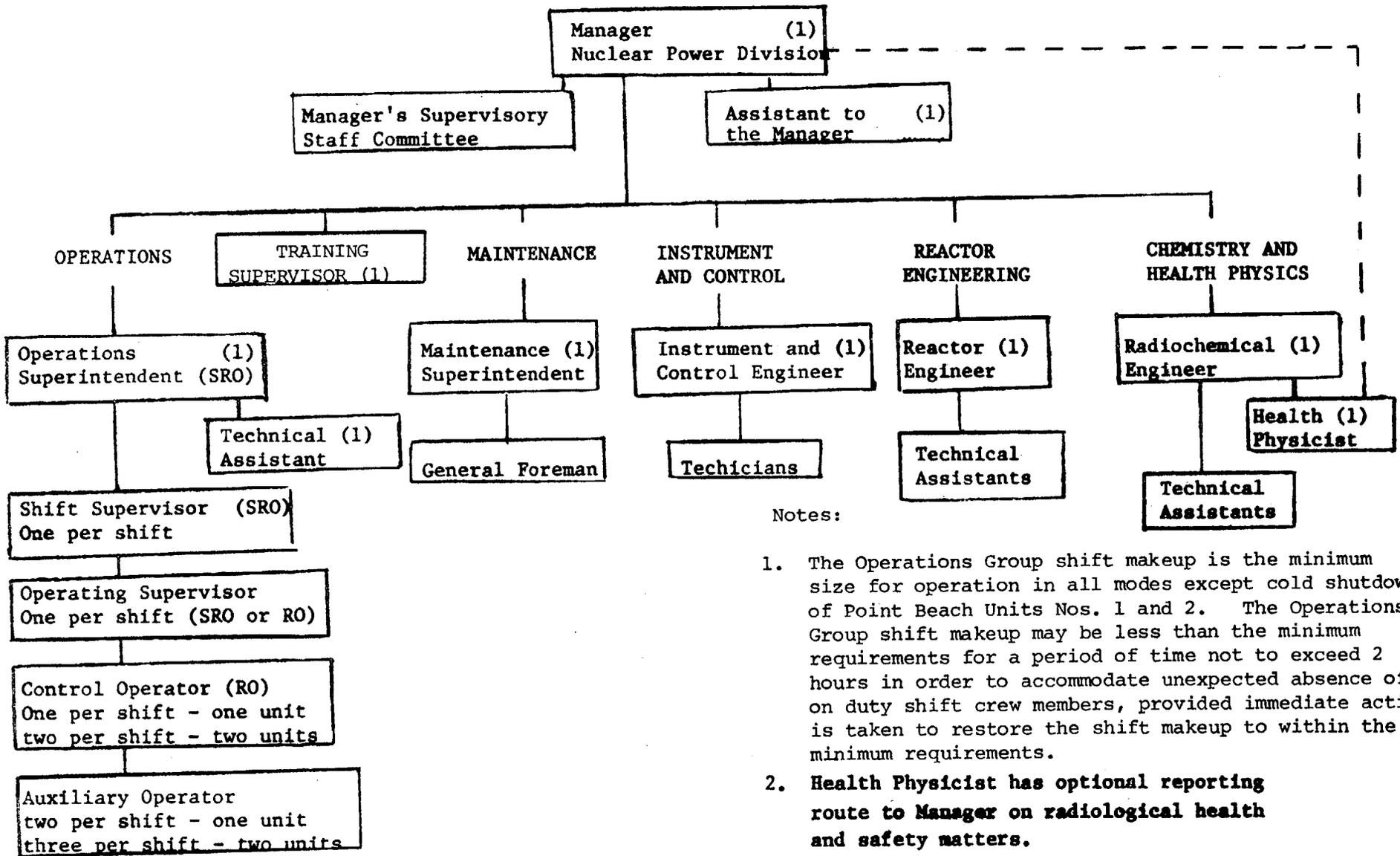
G. Fire Pump Diesel Battery and Charger

<u>Test</u>	<u>Frequency</u>
1. a. Verify electrolyte level above the plates	Weekly
b. Verify that the overall battery voltage is \geq 24 volts	Weekly
2. Verify the specific gravity is appropriate for continued service of the battery	Quarterly
3. a. Verify that the battery, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration	18 months
b. Verify that the battery to battery and terminal connections are clean, tight, free of corrosion and coated with anti-corrosion material	18 months

Basis

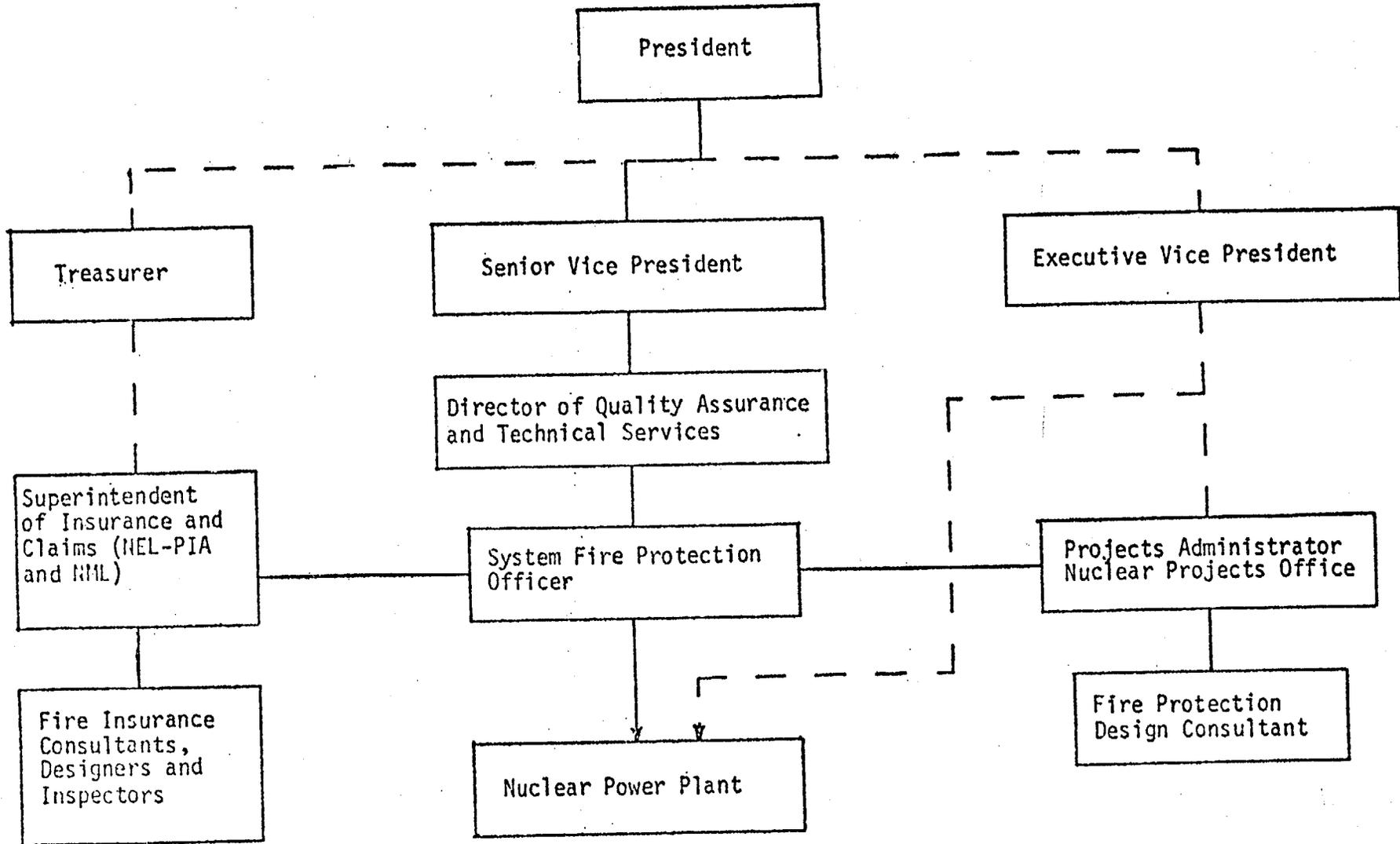
Normally, the fire protection system is not in use. However, the system components are required to perform as designed in the event of a fire emergency. The National Fire Protection Association and the plant insurance carrier have specified periodic tests and inspections to demonstrate fire protection equipment operability. The listed tests and inspections include and exceed the requirements of these organizations. Testing more frequently than that listed is not considered necessary to insure operability and performance.

15.6.2.2.f. A Fire Brigade of at least 4 members shall be maintained onsite at all times. This excludes 3 members of the minimum shift crew necessary for safe shutdown of the plant and any personnel required for other essential functions during a fire emergency.



Notes:

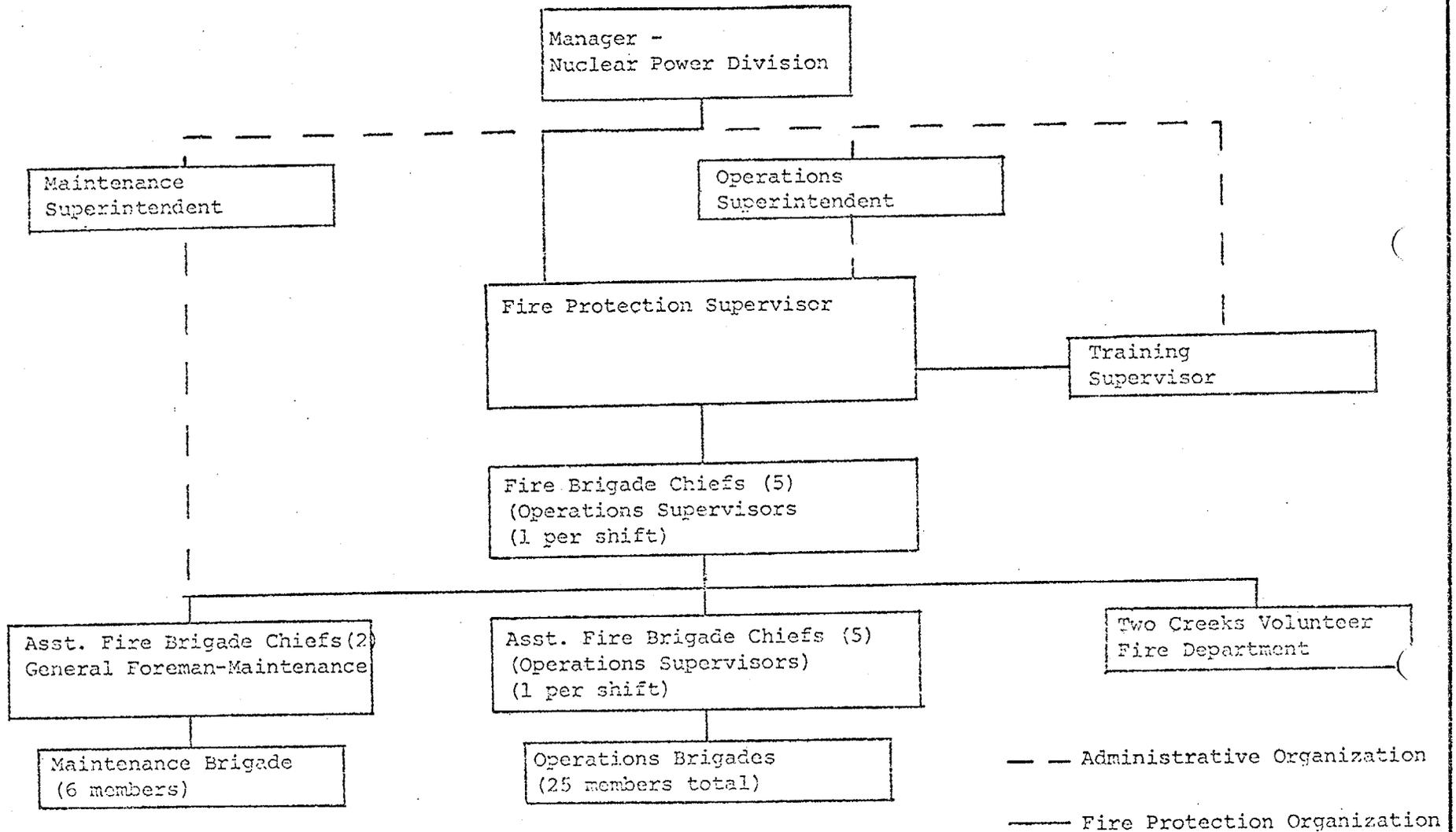
1. The Operations Group shift makeup is the minimum size for operation in all modes except cold shutdown of Point Beach Units Nos. 1 and 2. The Operations Group shift makeup may be less than the minimum requirements for a period of time not to exceed 2 hours in order to accommodate unexpected absence of on duty shift crew members, provided immediate action is taken to restore the shift makeup to within the minimum requirements.
2. Health Physicist has optional reporting route to Manager on radiological health and safety matters.
3. SRO - NRC Senior Reactor Operator License
RO - NRC Reactor Operator License



WISCONSIN ELECTRIC POWER COMPANY
OFF-SITE MANAGEMENT
FIRE PROTECTION ORGANIZATION

-- Administrative Organization
— Fire Protection Organization

Figure 15.6.2-3



POINT BEACH NUCLEAR PLANT
FIRE PROTECTION ORGANIZATION

Figure 15.6.2-4

15.6.3 FACILITY STAFF QUALIFICATIONS

15.6.3.1 Each member of the facility staff shall meet or exceed the minimum qualifications of ANSI N18.1-1971 for comparable positions.

15.6.4 TRAINING

15.6.4.1 A retraining and replacement training program for the facility staff shall be maintained under the direction of the Training Supervisor and shall meet or exceed the requirements and recommendations of Section 5.5 of ANSI N18.1-1971 and Appendix "A" of 10 CFR Part 55.

15.6.4.2 A training program for the Fire Brigade shall be maintained under the direction of the Fire Protection Supervisor and shall meet or exceed the requirements of Section 27 of the NFPA Code-1976, except that the meeting frequency may be quarterly.

15.6.5 REVIEW AND AUDIT

15.6.5.1 Duty and Call Superintendents

- a. To assist and counsel the Shift Supervisor in case of Significant Operating Events, a Duty and Call Superintendent Group has been established. The Duty and Call Superintendent Group shall consist of any qualified person designated by the Manager - Nuclear Power Division.
- b. In the event of a reportable occurrence, the Shift Supervisor shall communicate with at least one Duty and Call Superintendent before taking other than the immediate on-the-spot action required. One Duty and Call Superintendent will be assigned to be "on call" at all times. The Duty and Call Superintendent provides continuously available counsel, call out backups, and review to the Shift Supervisor.

15.6.5.2 Manager's Supervisory Staff

FUNCTION

15.6.5.2.1 The Manager's Supervisory Staff (MSS) shall function to advise the Manager - Nuclear Power Division on all matters related to nuclear safety.

- b) Review all proposed tests and experiments related to Safety and the results thereof when applicable.
- c) Review all proposed changes to Technical Specifications.
- d) Review all proposed changes or modifications to plant systems or equipment where changes would require a change in operating or emergency procedures or that affect nuclear safety.
- e) Periodically review plant operations for industrial and nuclear safety hazards.
- f) Investigate violations or suspected violations of Technical Specifications, such investigations to include reports, evaluations, and recommendations to prevent recurrence, to the Vice President - Nuclear Plant and to the Chairman of the Off-Site Review Committee.
- g) Perform special reviews and investigations and prepare reports thereon as requested by the Chairman of the Off-Site Review Committee.
- h) Investigate, review, and report on all reportable occurrences.
- i) Cause to be conducted periodic drills on emergency procedures, including evacuation (partial or complete) of the site and check adequacy of communications with off-site support groups.
- j) Review the Facility Fire Protection Program and implementing procedures at least once per 24 months.

AUTHORITY

- 15.6.5.2.7
- a) The Supervisory Staff shall serve as advisory to the Manager - Nuclear Power Division.
 - b) The Supervisory Staff shall recommend to the Manager approval or disapproval of proposals under items a) through d) above. In the event of disagreement between a majority of the

15.6.5.4

Fire Protection Audits

- a) An independent fire protection and loss prevention inspection and audit shall be performed annually utilizing either qualified offsite licensee personnel or an outside fire protection firm.
- b) An inspection and audit of the fire protection and loss prevention program shall be performed by an outside qualified fire consultant at intervals no greater than 3 years.

15.6.8

PLANT OPERATING PROCEDURES

15.6.8.1 The plant shall be operated and maintained in accordance with approved procedures. Major procedures, supported by appropriate minor procedures (such as checkoff lists, operating instructions, data sheets, alarm responses, chemistry analytical procedures, etc.) shall be provided for the following operations where these operations involve nuclear safety of the plant:

1. Normal sequences of startup, operation and shutdown of components, systems and overall plant.
2. Refueling.
3. Specific and foreseen potential malfunctions of systems or components including abnormal reactivity changes.
4. Security Plan Implementation
5. Emergencies which could involve release of radioactivity.
6. Nuclear core testing.
7. Surveillance and Testing of safety related equipment.
8. Fire Protection Implimentation (to be provided by March 31, 1978).

15.6.8.2 Approval of Procedures

- A. All major procedures of the categories listed in 15.6.8.1 (except 15.6.8.1.4) and 15.6.11.1, and modifications to the intent thereof, shall be reviewed by the Manager's Supervisory Staff and approved by the Manager - Nuclear Power Division prior to implementation.
- B. Minor procedures (checkoff lists, operating instructions, data sheets, alarm responses, chemistry analytical procedures, technical instructions, special and routine maintenance procedures, laboratory manuals, etc.) shall, prior to initial use, be reviewed by the Manager's Supervisory Staff and approved by the Manager - Nuclear Power Division.

15.6.8-1



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

WISCONSIN ELECTRIC POWER COMPANY
WISCONSIN MICHIGAN POWER COMPANY

DOCKET NO. 50-301

POINT BEACH NUCLEAR PLANT, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 36
License No. DPR-27

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Wisconsin Electric Power Company and Wisconsin Michigan Power Company (the licensees) dated July 28, 1977 and revised by letters dated October 5 and December 12, 1977, 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 3.B. of Facility Operating License No. DPR-27 is hereby amended to read as follows:

(B) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 36, are hereby incorporated in the license. The licensees 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



George Lear, Chief
Operating Reactors Branch #3
Division of Operating Reactors

Attachment:
Changes to the Technical
Specifications

Date of Issuance: January 23, 1978

ATTACHMENT TO LICENSE AMENDMENT NO. 36

TO THE TECHNICAL SPECIFICATIONS

FACILITY OPERATING LICENSE NO. DPR-27

DOCKET NO. 50-301

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages. The revised page is identified by Amendment number and contains vertical lines indicating the area of change.

<u>Remove</u>	<u>Replace</u>
15i	15i
-	15ii
15.1-5	15.1-5
-	15.3.14-1
-	15.3.14-2
-	15.3.14-3
-	15.3.14-4
Table 15.4.1-2 (Cont)	Table 15.4.1-2 (Cont)
-	15.4.15-1
-	15.4.15-2
-	15.4.15-3
15.6.2-2	15.6.2-2
-	Figure 15.6.2-2
-	Figure 15.6.2-3
-	Figure 15.6.2-4
15.6.3/4/5-1	15.6.3/4/5-1
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1. Degree of Redundancy

Degree of redundancy is defined as the difference between the number of operable channels and the minimum number of channels which when tripped will cause an automatic shutdown.

m. Reactor Critical

The reactor is said to be critical when the neutron chain reaction is self-sustaining and $k_{eff} = 1.0$.

n. Low Power Operation

The reactor is in the low power operating condition when the reactor is critical and the average neutron flux of the power range instrumentation indicates less than or equal to 2% of rated power.

o. Fire Suppression Water System

A FIRE SUPPRESSION WATER SYSTEM shall consist of: a water source; pump(s); and distribution piping with associated sectionalizing control or isolation valves. Such valves shall include yard post indicating valves and the first valve ahead of the water flow alarm device on each sprinker, hose standpipe or spray system riser.

15.3.14 Fire Protection System

Applicability

Applies to the operability of the fire protection system components which provide fire suppression capability for equipment required for safe plant shutdown at all times when those systems are required to be operable.

Objective

To specify the functional requirements for fire protection system components which would be employed to mitigate the consequences of fires which could affect equipment required for safe plant shutdown.

Specification

A. Fire Suppression Water System

One of the following conditions shall be provided:

1. Both fire pumps shall be operable at rated capacity.
2. With one fire pump inoperable, the other fire pump shall be demonstrated operable once per day; or,
3. With both fire pumps inoperable,
 - a. Establish a backup FIRE SUPPRESSION WATER SYSTEM within 24 hours.
 - b. Furnish prompt notification with written followup to the Commission pursuant to Specification 15.6.9.2 outlining the actions taken and the plans and schedule for restoring the system to OPERABLE status.
 - c. If a. above cannot be fulfilled, place the reactor in Hot Standby within the next 6 hours and in Cold Shutdown within the following thirty (30) hours.

B. Spray and/or Sprinkler Systems

The following systems shall be operable.

Diesel Generator 3D Dry Pipe Sprinkler System

Diesel Generator 4D Dry Pipe Sprinkler System

1. With an above listed system inoperable, local hose station fire suppression equipment for the affected area shall be verified operable within 1 hour.
2. Additional portable fire suppression equipment shall be provided for the affected area.
3. A fire watch inspection shall be performed in the affected area twice per shift. Activity within the affected area shall be restricted to that which is necessary for continued operation.

C. Fire Hose Stations

The following hose stations shall be operable:

HR-13 South Wall Control Building Elev. 8'-0"

HR-15 South Wall Control Building Elev. 44'-0"

HR-16 North Wall Control Building Elev. 8'-0"

HR-18 North Wall Control Building Elev. 44'-0"

HR-31 West Wall Auxiliary Building Elev. 8'-0"

1. With a hose station inoperable, backup portable fire suppression equipment for the affected area shall be verified operable within 1 hour.
2. Appropriate backup portable fire suppression equipment shall be provided for the affected area.

D. Fire Detection

The fire detection instrumentation for each fire detection zone shown in Table 15.3.14-1 shall be operable.

1. With a fire detection instrument inoperable, the affected area shall be inspected to assure that potential fire hazards are minimized.

2. A fire watch inspection shall be performed in the affected area once per hour. Activity in the affected area shall be restricted to that which is necessary for continued operation.

E. Fire Barrier Penetration Fire Seals

All penetration fire barriers protecting safety related areas shall be functional.

1. In the event of a penetration fire barrier impairment a continuous fire watch shall be established on at least one side of the affected penetration within 1 hour.

Basis

The overall fire protection program at Point Beach Nuclear Plant utilizes the principles of defense in depth. This includes minimization of combustibles, early warning fire detection, primary and backup fire suppression capability and priority maintenance procedures to restore inoperable equipment to operable status as soon as possible. Collectively these measures provide adequate capability to minimize potential damage to safety related equipment and to allow for safe plant shutdown in the event of a potential fire occurrence.

Should a portion or component of the fire protection system be inoperable, these specifications provide assurance that alternate methods of fire protection are strengthened and that the capability to mitigate the consequences of a potential fire is maintained.

TABLE 15.3.14-1

<u>Area</u>	<u>Quantity</u>	<u>Elevation</u>	<u>Type</u>
1. Cable Spreading Room	2	26'-0"	Smoke
2. Switchgear Room	1	8'-0"	Smoke
3. Diesel Generator 3D Room	1	8'-0"	Smoke
4. Diesel Generator 4D Room	1	8'-0"	Smoke
5. Fuel Oil Pumphouse	1	25'-7"	Smoke
6. Unit 1 Electrical Equip. Room	1	46'-0"	Smoke
7. Unit 2 Electrical Equip. Room	1	46'-0"	Smoke
8. Circulating Water Pumphouse	6	7'-0"	Smoke

TABLE 15.4.1-2 (CONTINUED)

	Test	Frequency	FSAR Section Reference	
(14)	Refueling System Interlocks	Functioning	Each refueling shutdown	9.4.5
(15)	Service Water System	Functioning	Each refueling shutdown	9.5.5
(16)	Primary System Leakage	Evaluate	Monthly ⁽⁶⁾	4
(17)	Diesel Fuel Supply	Fuel inventory	Daily	8.2.3
(18)	Turbine Stop and Governor Valves	Functioning	Monthly ⁽⁶⁾ (9)	10
(19)	Low Pressure Turbine Rotor Inspection ⁽⁵⁾	Visual and magnetic particle or liquid penetrant	Every five years	10
(20)	Boric Acid System	Storage Tank Temperature	Daily	
(21)	Boric Acid System	Visual observation of piping temperatures (all $\geq 145^{\circ}\text{F}$)	Daily	
(22)	Boric Acid Piping Heat Tracing	Electrical circuit operability	Monthly	

- (1) A radiochemical analysis for this purpose shall consist of a quantitative measurement of each radionuclide with half life of >30 minutes such that at least 95% of total activity of primary coolant is accounted for.
- (2) E determination will be started when the gross activity analysis of a filtered sample indicates ≥ 10 $\mu\text{C}/\text{cc}$ and will be redetermined if the primary coolant gross radioactivity of a filtered sample increases by more than 10 $\mu\text{C}/\text{cc}$.
- (3) Drop tests shall be conducted at rated reactor coolant flow. Rods shall be dropped under both cold and hot conditions, but cold drop tests need not be timed.
- (4) Drop tests will be conducted in the hot condition for rods on which maintenance was performed.
- (5) As accessible without disassembly of rotor.
- (6) Not required during periods of refueling shutdown.
- (7) At least once per week during periods of refueling shutdown.
- (8) At least three times per week (with maximum time of 72 hours between samples) during periods of refueling shutdown.
- (9) a. The monthly functional test interval for Point Beach Unit No. 2 for February 1976 is extended seven days to February 26, 1976.
 b. The requirement of the monthly functional test for Point Beach Unit No. 1 is waived for the one month period of September, 1977.

15.4.15 Fire Protection System

Applicability

Applies to the periodic inspection and testing requirements of fire protection equipment.

Objective

To verify the operability of fire protection equipment.

Specification

Testing of fire protection system equipment, as a minimum, shall be done as follows:

A. Fire Suppression Water System

<u>Test</u>	<u>Frequency</u>
1. Verify valves in the Flow Path (automatic and manual) in the correct position.	Monthly
2. Fire Pump Functional Test	Monthly
3. Fire Pump Capacity Test	Yearly
4. Automatic system and valve actuation and flowpath valve cycle tests	Yearly
5. System flow Test (In accordance with Ch. 5, Sect. 11 F.P. Handbook)	3 Years

B. Spray and/or Sprinkler Systems

<u>Test</u>	<u>Frequency</u>
1. Complete Cycle of Each Testable Valve	Yearly
2. Simulated System Functional Test	Yearly
3. Visually inspect headers and nozzles	18 mo.
4. Air flow test to verify open head nozzles unobstructed	3 years

C. Fire Hose Stations

<u>Test</u>	<u>Frequency</u>
1. Visual Inspection	Monthly
2. Hose Hydro-Test	Yearly
3. Partially open each hose station valve to verify operability and no blockage	3 years

D. Fire Detection

<u>Test</u>	<u>Frequency</u>
1. Channel Functional Test	2 mo.

E. Fire Barrier Penetration Fire Seals

<u>Test</u>	<u>Frequency</u>
1. Visual Inspection	18 mo. and following repairs or maintenance

F. Fire Pump Diesel Engine

<u>Test</u>	<u>Frequency</u>
1. a. Verify 200 gallons of fuel in fuel storage tank	Monthly
b. Verify diesel starts from ambient conditions and operates for at least 20 minutes.	Monthly
2. Sample diesel fuel per ASTM-D270-65 and verify acceptable per Table 1 of ASTM-D975-74 with respect to viscosity, water content and sediment.	Quarterly
3. a. Inspect diesel per procedures prepared in conjunction with its manufacturer's recommendations	18 months
b. Verify diesel starts from ambient conditions and operates for <u>></u> 20 minutes while loaded with the fire pump	18 months

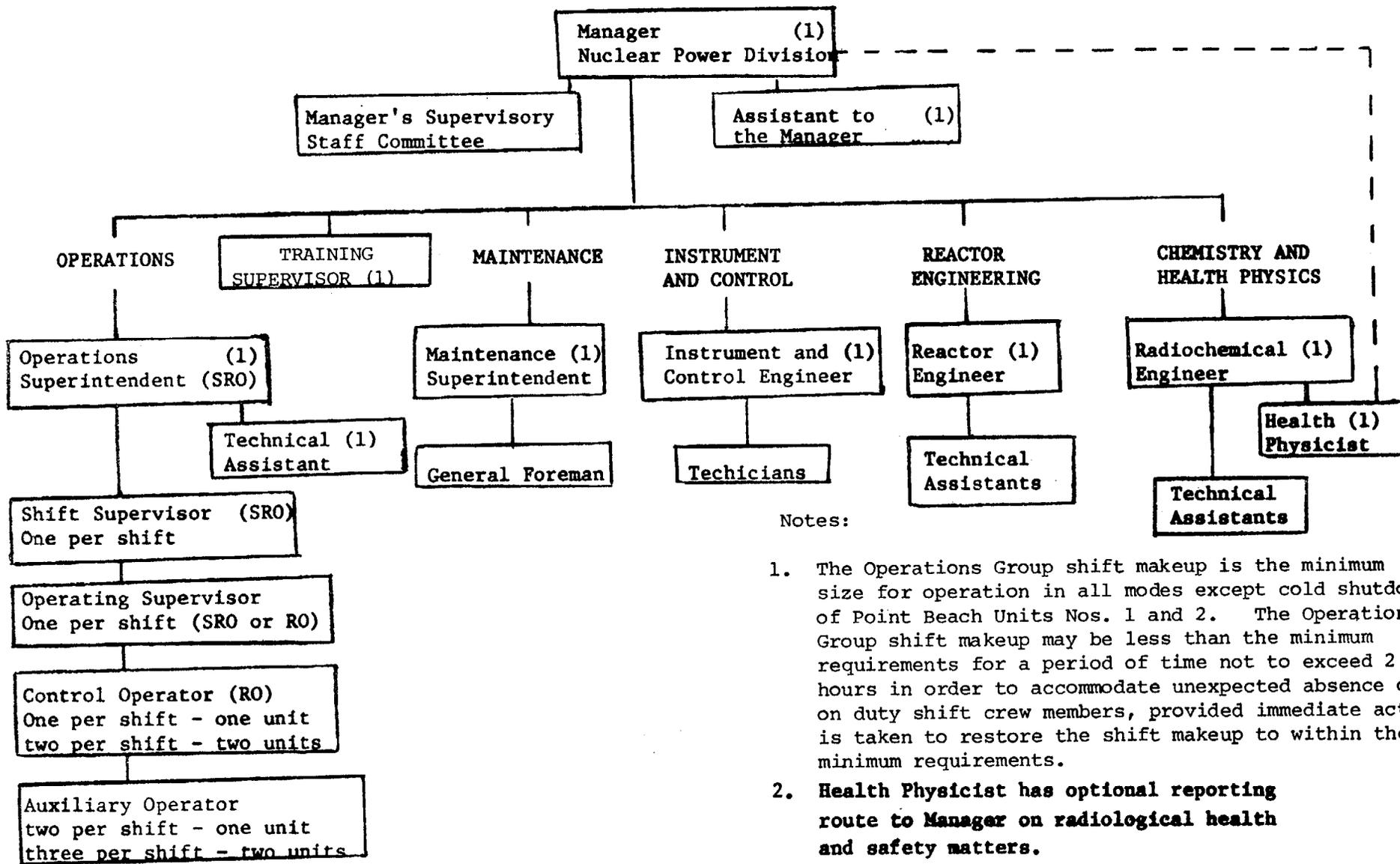
G. Fire Pump Diesel Battery and Charger

<u>Test</u>	<u>Frequency</u>
1. a. Verify electrolyte level above the plates	Weekly
b. Verify that the overall battery voltage is \geq 24 volts	Weekly
2. Verify the specific gravity is appropriate for continued service of the battery	Quarterly
3. a. Verify that the battery, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration	18 months
b. Verify that the battery to battery and terminal connections are clean, tight, free of corrosion and coated with anti-corrosion material	18 months

Basis

Normally, the fire protection system is not in use. However, the system components are required to perform as designed in the event of a fire emergency. The National Fire Protection Association and the plant insurance carrier have specified periodic tests and inspections to demonstrate fire protection equipment operability. The listed tests and inspections include and exceed the requirements of these organizations. Testing more frequently than that listed is not considered necessary to insure operability and performance.

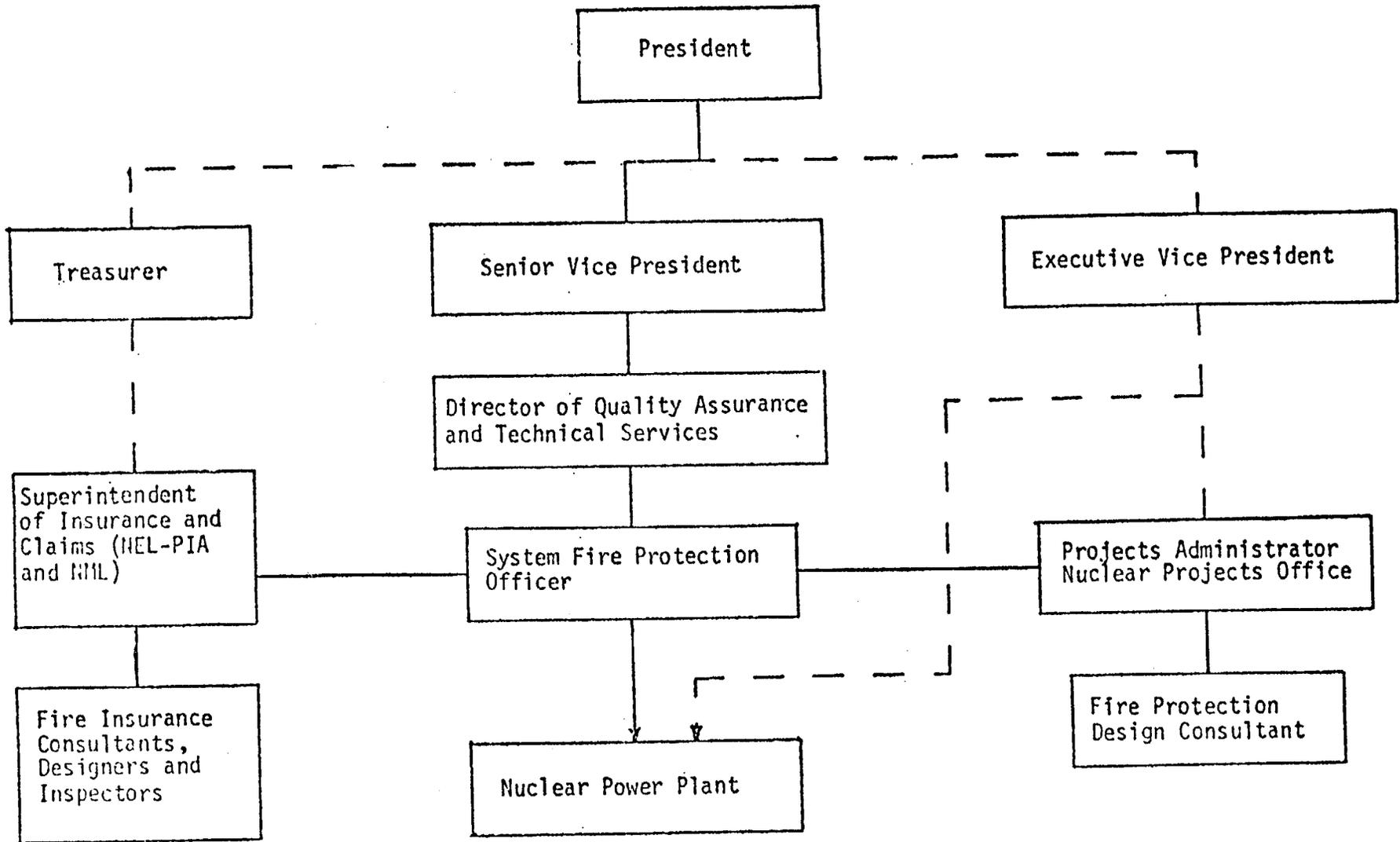
15.6.2.2.f. A Fire Brigade of at least 4 members shall be maintained onsite at all times. This excludes 3 members of the minimum shift crew necessary for safe shutdown of the plant and any personnel required for other essential functions during a fire emergency.



Notes:

1. The Operations Group shift makeup is the minimum size for operation in all modes except cold shutdown of Point Beach Units Nos. 1 and 2. The Operations Group shift makeup may be less than the minimum requirements for a period of time not to exceed 2 hours in order to accommodate unexpected absence of on duty shift crew members, provided immediate action is taken to restore the shift makeup to within the minimum requirements.
2. Health Physicist has optional reporting route to Manager on radiological health and safety matters.
3. SRO - NRC Senior Reactor Operator License
RO - NRC Reactor Operator License

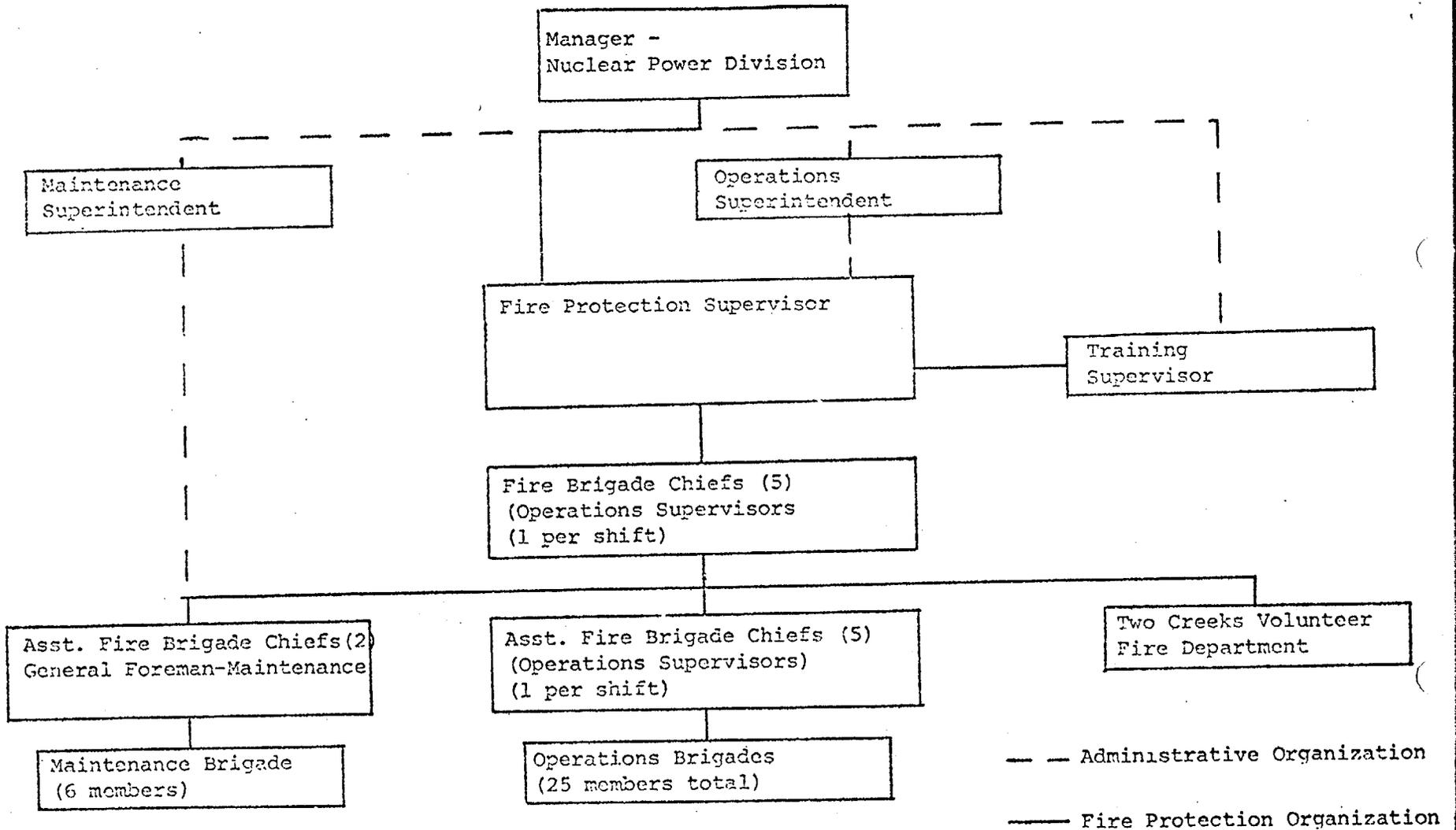
CONDUCT OF PLANT OPERATIONS CHART
Figure 15.6.2-2



WISCONSIN ELECTRIC POWER COMPANY
OFF-SITE MANAGEMENT
FIRE PROTECTION ORGANIZATION

- - Administrative Organization
— Fire Protection Organization

Figure 15.6.2-3



POINT BEACH NUCLEAR PLANT
FIRE PROTECTION ORGANIZATION

Figure 15.6.2-4

15.6.3 FACILITY STAFF QUALIFICATIONS

15.6.3.1 Each member of the facility staff shall meet or exceed the minimum qualifications of ANSI N18.1-1971 for comparable positions.

15.6.4 TRAINING

15.6.4.1 A retraining and replacement training program for the facility staff shall be maintained under the direction of the Training Supervisor and shall meet or exceed the requirements and recommendations of Section 5.5 of ANSI N18.1-1971 and Appendix "A" of 10 CFR Part 55.

15.6.4.2 A training program for the Fire Brigade shall be maintained under the direction of the Fire Protection Supervisor and shall meet or exceed the requirements of Section 27 of the NFPA Code-1976, except that the meeting frequency may be quarterly.

15.6.5 REVIEW AND AUDIT

15.6.5.1 Duty and Call Superintendents

- a. To assist and counsel the Shift Supervisor in case of Significant Operating Events, a Duty and Call Superintendent Group has been established. The Duty and Call Superintendent Group shall consist of any qualified person designated by the Manager - Nuclear Power Division.
- b. In the event of a reportable occurrence, the Shift Supervisor shall communicate with at least one Duty and Call Superintendent before taking other than the immediate on-the-spot action required. One Duty and Call Superintendent will be assigned to be "on call" at all times. The Duty and Call Superintendent provides continuously available counsel, call out backups, and review to the Shift Supervisor.

15.6.5.2 Manager's Supervisory Staff

FUNCTION

15.6.5.2.1 The Manager's Supervisory Staff (MSS) shall function to advise the Manager - Nuclear Power Division on all matters related to nuclear safety.

- b) Review all proposed tests and experiments related to Safety and the results thereof when applicable.
- c) Review all proposed changes to Technical Specifications.
- d) Review all proposed changes or modifications to plant systems or equipment where changes would require a change in operating or emergency procedures or that affect nuclear safety.
- e) Periodically review plant operations for industrial and nuclear safety hazards.
- f) Investigate violations or suspected violations of Technical Specifications, such investigations to include reports, evaluations, and recommendations to prevent recurrence, to the Vice President - Nuclear Plant and to the Chairman of the Off-Site Review Committee.
- g) Perform special reviews and investigations and prepare reports thereon as requested by the Chairman of the Off-Site Review Committee.
- h) Investigate, review, and report on all reportable occurrences.
- i) Cause to be conducted periodic drills on emergency procedures, including evacuation (partial or complete) of the site and check adequacy of communications with off-site support groups.
- j) Review the Facility Fire Protection Program and implementing procedures at least once per 24 months.

AUTHORITY

- 15.6.5.2.7
- a) The Supervisory Staff shall serve as advisory to the Manager - Nuclear Power Division.
 - b) The Supervisory Staff shall recommend to the Manager approval or disapproval of proposals under items a) through d) above. In the event of disagreement between a majority of the

15.6.5.4

Fire Protection Audits

- a) An independent fire protection and loss prevention inspection and audit shall be performed annually utilizing either qualified offsite licensee personnel or an outside fire protection firm.
- b) An inspection and audit of the fire protection and loss prevention program shall be performed by an outside qualified fire consultant at intervals no greater than 3 years.

15.6.8

PLANT OPERATING PROCEDURES

15.6.8.1 The plant shall be operated and maintained in accordance with approved procedures. Major procedures, supported by appropriate minor procedures (such as checkoff lists, operating instructions, data sheets, alarm responses, chemistry analytical procedures, etc.) shall be provided for the following operations where these operations involve nuclear safety of the plant:

1. Normal sequences of startup, operation and shutdown of components, systems and overall plant.
2. Refueling.
3. Specific and foreseen potential malfunctions of systems or components including abnormal reactivity changes.
4. Security Plan Implementation
5. Emergencies which could involve release of radioactivity.
6. Nuclear core testing.
7. Surveillance and Testing of safety related equipment.
8. Fire Protection Implimentation (to be provided by March 31, 1978).

15.6.8.2 Approval of Procedures

- A. All major procedures of the categories listed in 15.6.8.1 (except 15.6.8.1.4) and 15.6.11.1, and modifications to the intent thereof, shall be reviewed by the Manager's Supervisory Staff and approved by the Manager - Nuclear Power Division prior to implementation.
- B. Minor procedures (checkoff lists, operating instructions, data sheets, alarm responses, chemistry analytical procedures, technical instructions, special and routine maintenance procedures, laboratory manuals, etc.) shall, prior to initial use, be reviewed by the Manager's Supervisory Staff and approved by the Manager - Nuclear Power Division.

15.6.8-1

UNITED STATES NUCLEAR REGULATORY COMMISSIONDOCKETS NOS. 50-266 AND 50-301WISCONSIN ELECTRIC POWER COMPANY
WISCONSIN MICHIGAN POWER COMPANYNOTICE OF ISSUANCE OF AMENDMENTS TO FACILITY
OPERATING LICENSES

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendments Nos. 32 and 36 to Facility Operating Licenses Nos. DPR-24 and DPR-27 issued to Wisconsin Electric Power Company and Wisconsin Michigan Power Company, which revised Technical Specifications for operation of the Point Beach Nuclear Plant Units Nos. 1 and 2, located in the town of Two Creeks, Manitowish County, Wisconsin. The amendments are effective as of the date of issuance.

These amendments consist of changes in the Technical Specifications that incorporate the Fire Protection System into the Limiting Conditions for Operation, Surveillance Requirements and Administrative Controls.

The application for the amendments complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendments. Prior public notice of these amendments was not required since the amendments do not involve a significant hazards consideration.

The Commission has determined that the issuance of these amendments will not result in any significant environmental impact and that pursuant to 10 CFR §51.5(d)(4) an environmental impact statement or negative

declaration and environmental impact appraisal need not be prepared in connection with issuance of these amendments.

For further details with respect to this action, see (1) the application for amendments dated July 28, 1977 as revised by letters dated October 5 and December 12, 1977, (2) Amendment No. 32 to License DPR-24, (3) Amendment No. 36 to License DPR-27, and (4) the Commission's related Safety Evaluation. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N. W., Washington, D. C. and at the University of Wisconsin - Stevens Point Library, ATTN: Mr. Arthur M. Fish, Stevens Point, Wisconsin 54481. A copy of items (2), (3) and (4) may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Director, Division of Operating Reactors.

Dated at Bethesda, Maryland, this 23rd day of January 1978.

FOR THE NUCLEAR REGULATORY COMMISSION



George Lear, Chief
Operating Reactors Branch #3
Division of Operating Reactors



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENTS NOS. AND TO

FACILITY LICENSES DPR-24 AND DPR-27

WISCONSIN ELECTRIC POWER COMPANY
WISCONSIN MICHIGAN POWER COMPANY

POINT BEACH UNITS NOS. 1 AND 2

DOCKETS NOS. 50-266 AND 50-301

Introduction

Following a fire at the Browns Ferry Nuclear Station in March 1975, we initiated an evaluation of the need for improving the fire protection programs at all licensed nuclear power plants. As part of this continuing evaluation, in February 1976, we published a report entitled, "Recommendations Related to Browns Ferry Fire", NUREG-0050. This report recommended that improvements in the areas of fire prevention and fire control be made in most existing facilities and that consideration be given to design features that would increase the ability of nuclear facilities to withstand fires without the loss of important functions. To implement the report's recommendations, the NRC initiated a program for reevaluation of the fire protection programs at all licensed nuclear power stations and for a comprehensive review of all new license applications.

We have issued new guidelines for fire protection programs in nuclear power plants. These guidelines reflect the recommendations in NUREG-0050. These guidelines are contained in the following documents:

"Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants", NUREG-75/087, Section 9.5.1, "Fire Protection", May 1976, which includes "Guidelines for Fire Protection for Nuclear Power Plants", (BTP APCS 9.5-1), May 1, 1976.

"Guidelines for Fire Protection for Nuclear Power Plant" (Appendix A to BTP APCS 9.5-1), August 23, 1976.

"Supplementary Guidance on Information Needed for Fire Protection Program Evaluation", September 30, 1976.

"Nuclear Plant Fire Protection Functional Responsibilities, Administrative Controls and Quality Assurance", June 17, 1977.

Wisconsin Electric Power Company (WEPCO) has submitted a description of the fire protection program for the Point Beach Nuclear Plant Units Nos. 1 and 2 by letter dated June 20, 1977. This program is under detailed review by the NRC. In the interim, until we complete our detailed review, we have concluded that it is appropriate to amend the facility license by incorporating into the Technical Specifications operability and surveillance requirements for the existing fire protection equipment and systems. In addition, the amendment would include administrative requirements for the implementation of the fire protection program.

By letter dated September 27, 1976, we requested the licensee to submit Technical Specifications for the presently-installed fire protection equipment at this facility. The licensee responded by letter of November 1, 1976. By letter of December 2, 1976, we issued sample Technical Specifications and reiterated that these specifications were for existing systems only.

Subsequently, the licensee replied by letter dated January 13, 1977, that Technical Specifications would be submitted by May 1, 1977. Based on our review and consideration of that response and the responses of other licensees, we modified certain action statements and surveillance frequencies in order to provide more appropriate and consistent specifications which we forwarded to the licensee by letter of June 17, 1977. That letter also requested submittal of appropriately revised specifications.

The licensee responded by letter dated July 28, 1977. We have reviewed the licensee's response and have made modifications where necessary to assure conformance to the fullest extent practicable with our requirements as set forth in the sample Technical Specifications pending completion of our ongoing detailed review of fire protection at this facility.

Discussion and Evaluation

The guidelines for technical specifications that we developed and sent to the licensee are based on ensuring that the fire protection equipment installed for the protection of safety related areas of the plant is operable. This assurance is obtained by requiring periodic surveillance of the equipment and by requiring certain corrective actions to be taken if the limiting conditions for operation cannot be met. These guidelines also include administrative features for the overall fire protection program such as interim fire brigade requirements, training, procedures, management review and periodic independent fire protection and loss prevention program inspections.

The equipment and components at the Point Beach Plant falling under the scope of these technical specification requirements are fire detectors, the fire suppression water system, the hose stations, and piping and cabling penetration fire barriers. Operability of the fire detection instrumentation ensures that adequate warning capability is available for the prompt detection of fires. Prompt detection of fires will reduce the potential for damage to safety related equipment by allowing rapid response of fire suppression equipment. In the event that the minimum coverage of fire detectors cannot be met, routine fire patrols are required in the affected area until the inoperable instrumentation is restored to operability. The operability of the fire suppression water system ensures adequate fire suppression capability is available to confine and extinguish fires. In the event that portions of the fire suppression water system are inoperable, alternate backup fire fighting equipment is required to be made available in the effected areas until the inoperable equipment is returned to service. In the event that the fire suppression water system becomes inoperable, a backup fire protection water system is required within 24 hours and a report to the NRC is required to provide for prompt evaluation of the acceptability of the corrective measures to provide adequate fire suppression capability. The functional integrity of the penetration fire barriers ensures that fires will be confined or adequately retarded from spreading to adjacent portions of the facility. During periods of time when a fire barrier is not functional, a continuous fire watch is required to be maintained in the vicinity of the affected barrier to provide fire prevention methods and prompt detection and suppression in the event of a fire.

We have reviewed the licensee's proposed interim Technical Specifications against our requirements as implemented in the sample Technical Specifications. We have made some modifications to the Specifications that were proposed by the licensee in order to make them conform to our requirements. One of the proposed specifications that we changed involves the minimum size of the on-site fire brigade. In our previous sample Technical Specifications we did not identify the number of members on a fire brigade that we would find acceptable. We have now concluded that minimum number for a typical commercial nuclear power plant to be five (5). The basis for this conclusion is presented in an attachment to this SER entitled "Staff Position Minimum Fire Brigade Shift Size."

In the report of the Special Review Group on the Browns Ferry Fire (NUREG-0050) dated February 1976, consideration of the safety of operation of all operating nuclear power plants pending the completion of our detailed fire protection evaluation was presented. The following quotations from the report summarize the basis for our conclusion that the operation of the plants, until we complete our review, does not present an undue risk to the health and safety of the public.

"A probability assessment of public safety or risk in quantitative terms is given in the Reactor Safety Study (WASH-1400). As the result of the calculation based on the Browns Ferry fire, the study concludes that the potential for a significant release of radioactivity from such a fire is about 20% of that calculated from all other causes analyzed. This indicates that predicted potential accident risks from all causes were not greatly affected by consideration of the Browns Ferry fire. This is one of the reasons that urgent action in regard to reducing risks due to potential fires is not required. The study (WASH-1400) also points out that 'rather straight-forward measures, such as may already exist at other nuclear plants, can significantly reduce the likelihood of a potential core melt accident that might result from a large fire.' The Review Group agrees.

"Fires occur rather frequently; however, fires involving equipment unavailability comparable to the Browns Ferry fire are quite infrequent (see Section 3.3 [of NUREG-0050]). The Review Group believes that steps already taken since March 1975 (see Section 3.3.2) have reduced this frequency significantly.

"Based on its review of the events transpiring before, during and after the Browns Ferry fire, the Review Group concludes that the probability of disruptive fires of the magnitude of the Browns Ferry event is small, and that there is no need to restrict operation of nuclear power plants for public safety. However, it is clear that much can and should be done to reduce even further the likelihood of disabling fires and to improve assurance of rapid extinguishment of fires that occur. Consideration should be given also to features that would increase further the ability of nuclear facilities to withstand large fires without loss of important functions should such fires occur."

Subsequent to the Browns Ferry fire and prior to the Special Review Group's investigation, the Office of Inspection and Enforcement took steps with regard to fire protection. Special bulletins were sent to all licensees of operating power reactors on March 24, 1975, and April 3, 1975, directing the imposition of certain controls over fire ignition sources, a review of procedures for controlling maintenance and modifications that might affect fire safety, a review of emergency procedures for alternate shutdown and cooling methods, and a review of flammability of materials used in floor and wall penetration seals.

Special inspections covering the installation of fire stops in electrical cables and in penetration seals were completed at all operating power reactors in April and May 1975. Inspection findings which reflected non-compliance with NRC requirements resulted in requiring corrective action by licensees. Follow-up inspections have confirmed that licensees are taking the required corrective actions and that administrative control procedures are in place.

Since these inspection activities and the subsequent Special Review Group recommendations in the 1975 to 1976 time period, there has been no new information to alter the conclusions of the Special Review Group, and the ongoing fire protection program flowing from those conclusions is still adequate.

Therefore, we have found these specifications acceptable on an interim basis until such time that our overall review is complete, required equipment is installed and operable, and final specifications have been developed and issued.

ENVIRONMENTAL CONSIDERATION

We have determined that the planned amendment does not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendment involves an action which is insignificant from the standpoint of environmental impact and pursuant to 10 CFR s 51.5(d)(4) that an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of this planned amendment.

CONCLUSION

We have concluded, based on the considerations discussed above, that: (1) because the amendment does not involve a significant increase in the probability or consequences of accidents previously considered and does not involve a significant decrease in a safety margin, the amendment does not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of this planned amendment will not be inimical to the common defense and security or to the health and safety of the public.

Date: November 23, 1977

Staff Position

Minimum Fire Brigade Shift Size

INTRODUCTION

Nuclear power plants depend on the response of an onsite fire brigade for defense against the effects of fire on plant safe shutdown capabilities. In some areas, actions by the fire brigade are the only means of fire suppression. In other areas, that are protected by correctly designed automatic detection and suppression systems, manual fire fighting efforts are used to extinguish: (1) fires too small to actuate the automatic system; (2) well developed fires if the automatic system fails to function; and (3) fires that are not completely controlled by the automatic system. Thus, an adequate fire brigade is essential to fulfill the defense in depth requirements which protect safe shutdown systems from the effects of fires and their related combustion by-products.

DISCUSSION

There are a number of factors that should be considered in establishing the minimum fire brigade shift size. They include:

- 1) plant geometry and size;
- 2) quantity and quality of detection and suppression systems;
- 3) fire fighting strategies for postulated fires;
- 4) fire brigade training;
- 5) fire brigade equipment; and
- 6) fire brigade supplements by plant personnel and local fire department(s).

In all plants, the majority of postulated fires are in enclosed windowless structures. In such areas, the working environment of the brigade created by the heat and smoke buildup within the enclosure, will require the use of self-contained breathing apparatus, smoke ventilation equipment, and a personnel replacement capability.

Certain functions must be performed for all fires, i.e., command brigade actions, inform plant management, fire suppression, ventilation control, provide extra equipment, and account for possible injuries. Until a site specific review can be completed, an interim minimum fire brigade size of five persons has been established. This brigade size should provide a minimum working number of personnel to deal with those postulated fires in a typical presently operating commercial nuclear power station.

If the brigade is composed of a smaller number of personnel, the fire attack may be stopped whenever new equipment is needed or a person is injured or fatigued. We note that in the career fire service, the minimum engine company manning considered to be effective for an initial attack on a fire is also five, including one officer and four team members.

It is assumed for the purposes of this position that brigade training and equipment is adequate and that a backup capability of trained individuals exist whether through plant personnel call back or from the local fire department.

POSITION

1. The minimum fire brigade shift size should be justified by an analysis of the plant specific factors stated above for the plant, after modifications are complete.
2. In the interim, the minimum fire brigade shift size shall be five persons. These persons shall be fully qualified to perform their assigned responsibility, and shall include:

One Supervisor - This individual must have fire tactics training. He will assume all command responsibilities for fighting the fire. During plant emergencies, the brigade supervisor should not have other responsibilities that would detract from his full attention being devoted to the fire. This supervisor should not be actively engaged in the fighting of the fire. His total function should be to survey the fire area, command the brigade, and keep the upper levels of plant management informed.

Two Hose Men - A 1.5 inch fire hose being handled within a window-less enclosure would require two trained individuals. The two team members are required to physically handle the active hose line and to protect each other while in the adverse environment of the fire.

Two Additional Team Members - One of these individuals would be required to supply filled air cylinders to the fire fighting members of the brigade and the second to establish smoke ventilation and aid in filling the air cylinder. These two individuals would also act as the first backup to the engaged team.