ATTACHMENT A

Inserts and marked-up pages of the License and Technical Specifications are as follows:

Add the following standard license condition to Section 3 of the Operating License:

"D. Omaha Public Power District shall implement and maintain in effect all provisions of the approved Fire Protection Program as described in the Updated Safety Analysis Report for the facility and as approved in the SER dated (...to be inserted by NRC...), subject to the following provision:

Omaha Public Power District may make changes to the approved Fire Protection Program without prior approval of the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire."

INSERT 2 - TS 5.5.1.6

"k. Review of the Fire Protection Program Plan and shall submit changes to the Chairman of the Safety Audit and Review Committee."

INSERT 3 - TS 5.5.2.1

"i. fire protection"

INSERT 4 - TS 5.8

"5.8.5 Written procedures shall be established and maintained for implementation of the Fire Protection Program."

INSERT 5 - TS 5.9.4.c

"c. Fire Protection Program Deficiency Report

Deficiencies in the Fire Protection Program described in the Updated Safety Analysis Report which meet the reportability criteria of 10 CFR 50.73 shall be reported pursuant to Section 5.9.2 of the Technical Specifications."

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TECHNICAL SPECIFICATION - TABLES

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TECHNICAL SPECIFICATIONS - TABLES

TABLE OF CONTENTS (ALPHABETICAL ORDER)

DEFINITIONS

Azimuthal Power Tilt - T_q

Azimuthal Power Tilt shall be the maximum difference between the power generated in any core quadrant (upper or lower) and the average power of all quadrants in that axial half (upper or lower) of the core divided by the average power of all quadrants in that axial half (upper or lower) of the core.

Unrodded Planer Radial Peaking Factor - F_{xy}

The Unrodded Planar Radial Peaking Factor is the maximum ratio of the peak to average power density of the individual fuel rods in any of the unrodded horizontal planes, excluding azimuthal tilt, T_q. The maximum F_{xy} limit is provided in the Core Operating Limits Report.

Unrodded Integrated Radial Peaking Factor - F_R

The Unrodded Integrated Radial Peaking Factor is the ratio of the peak pin power to the average pin power in an unrodded core, excluding azimuthal tilt, T_q. The maximum F_R limit is provided in the Core Operating Limits Report.

Fire Suppression Water System

The fire suppression water system consists of fire pumps and distribution piping with associated sectionalizing control or isolation valves. Such valves include yard hydrant curb valves, and the first valve ahead of the water flow alarm device on each sprinkler, hose standpipe or spray system riser.

Process Control Program (PCP)

The document(s) that contains the current formulas, sampling, analyses, tests, and determinations to be made to ensure that processing and packaging of solid radioactive wastes based on demonstrated processing of actual or simulated wet solid wastes will be accomplished in such a way as to assure compliance with 10 CFR 20, 61, 71, State Regulations, burial ground requirements, and other requirements governing the disposal of solid waste.

Dose Equivalent I-131

That concentration of I-131 (μCi/gm) which alone would produce the same thyroid dose as the quantity and isotopic mixture of I-131, I-132, I-133, I-134 and I-135 actually present. In other words,

2.0 LIMITING CONDITIONS FOR OPERATION

2.18 Shock Suppressors (Snubbers)

Basis

Snubbers are designed to prevent unrestrained pipe motion under dynamic loads as might occur during an earthquake or severe transient, while allowing normal thermal motion during startup or shutdown. The consequence of an inoperable snubber is an increase in the probability of structural damage to piping as a result of a seismic, or other event, initiating dynamic loads. It is therefore required that all snubbers required to protect the primary coolant system or any other safety system or component be operable during reactor operation.

Because the snubber protection is required only during low probability events, an inoperable period of 72 hours is allowed for repairs or replacements and an inoperable period of two hours is allowed for surveillance.

2.0 LIMITING CONDITIONS FOR OPERATION

2.19 Fire Protection System

Applicability

Applies to fire detection and fire extinguishing subsystems in nuclear safety related areas.

Objective

To define the degree of operability of the fire protection system necessary to provide the capability for detecting, alarming, and extinguishing plant fires and to specify corrective actions required when operability requirements are not met.

Specification

(1) As a minimum, 50% of the fire detection instrumentation of zones shown in Table 2-7 (areas outside of containment) shall be operable. With more than 50% inoperable detector(s) in a zone in safety related areas outside of the containment or with two adjacent detectors in a zone inoperable:

a. Within one hour, establish a fire watch patrol to inspect the zone with the inoperable instrument(s) at least once every hour, and

b. Restore the inoperable instrument(s) to operable status within 14 days. If the instrument(s) are not restored to operable status within 14 days, prepare and submit a report to the Nuclear Regulatory Commission, pursuant to Section 5.9.3 of the Technical Specifications, within an additional 30 days, outlining the cause of the malfunction and the plans for returning the Instrument(s) to operable status.

(2) All but one (1) fire detection zone must be operable, with 50% or more of the detectors in a zone operable, in the containment building, except as provided by Section 2.19(3) of the Technical Specifications. With more than one inoperable fire zone:

a. Within one hour, establish a fire watch patrol to inspect the zone with more than 50% inoperable instrument(s) at least once per 8 hour operating shift, and

b. Restore the inoperable instrument(s) to operable status within 14 days. If the instrument(s) are not restored to operable status within 14 days, prepare and submit a report to the Nuclear Regulatory Commission, pursuant to Section 5.9.3 of the Technical Specifications, within an additional 30 days, outlining the cause of the malfunction and the plans for restoring the instrument(s) to operable status.

TABLE 2-7

FIRE DETECTION ZONES

Zone No.	Location
1	Auxiliary Building, Elevations 971 and 989 West
2	Auxiliary Building, Elevation 989 East
3	Auxiliary Building, Elevation 989, Lower Electrical Penetration Room (Room 20)
4	Auxiliary Building, Elevation 989, Air Compressor Room (Room 19)
5	Auxiliary Building, Elevation 1007, Corridor 26, Rooms 58, 59 and 60
6	Auxiliary Building, Elevations 1007 and 1011, Uncontrolled
7	Auxiliary Building, Elevation 1013, Upper Electrical Penetration Room (Room 57)
8	Auxiliary Building, Elevations 989 and 1007, Boric Acid Tank Area, Drumming Area, New Fuel Area
9	Auxiliary Building, Elevation 1036, Control Room Complex, Control Room Hallways
10	Containment, Elevation 1013, RC Pump Cavities
11	Containment, Elevation 994
12	Containment, Elevation 1045
13	Auxiliary Building, Elevation 1025 (Rooms 69 and 71)
14	Turbine Building, Elevation 990
15	Turbine Building, Elevation 1011
16	Turbine Building, Elevation 1036
17	Containment Fans VA-3B and VA-7D
18	Containment Fans VA-3A and VA-7C
19	Containment Fans VA-2A and VA-2B
20	Control Room Panels CB-1/2/3 Return Air
21	Containment NDWC Fans VA-12A and VA-12B
22	Containment Purge Discharge Fans VA-32A and VA-32B
23	DG-2 Room Exhaust Fan, VA-52B
24	Containment Purge Supply Fans VA-24A and VA-24B
25	Control Room and Hallway Ventilation Ducts
26	Auxiliary Building (Controlled) Supply Fans, VA-35A and VA-35B
27	Auxiliary Building (Controlled) Exhaust Fans, VA-40A, VA-40B, and VA-40C
28	Auxiliary Building (Uncontrolled) Supply Fans, VA-45A and VA-45B
29	Auxiliary Building (Uncontrolled) Exhaust Fan, VA-41
30	Auxiliary Building Elevator Shaft Fan, VA-51
31	Control Room Air Conditioning Fans, VA-46A and VA-46B
32	DG-1 Room Exhaust Fan, VA-52A
33	Auxiliary Building, Elevation 1036 (Room 81)
34	Plant Sprinkler Flow
35	Auxiliary Building, DG-2 (Room 64)
36	Auxiliary Building, DG-1 (Room 63)
37	Intake Structure Including Raw Water Pump Room
38	Auxiliary Building Open Stairwell
39	Auxiliary Building Open Hatchway
40	Control Room Outside Air Filter VA-64A (Room 81)
41	Control Room Outside Air Filter VA-64B (Room 81)

TABLE 2-7
(Continued)

HALON AREA FIRE ZONES

Zone No.	
1	Cable Spreading Room
2	Cable Spreading Room
3	Control Room Walk-In Cabinets
4	Control Room Walk-In Cabinets
5	Switchgear Room - West
6	Switchgear Room - West
7	Switchgear Room - East
8	Switchgear Room - East

(3) The provisions set forth in Section 2.19(2) do not apply to time periods during which Containment integrated Leak Rate Tests are being performed.

(4) Fire suppressions water system shall be operable, except during system testing, jockey pump maintenance or training (not to exceed 7 consecutive days) with both fire pumps, each with a minimum capacity of 1800 gpm, with their discharge aligned to the fire suppression header and automatic initiation logic for each fire pump.

a. With less than the above required equipment:

(i) restore the inoperable equipment to operable status within 7 days.

(ii) if equipment is not restored to operable status within 7 days, prepare and submit a report to the Nuclear Regulatory Commission, pursuant to Section 5.9.3 of the Technical Specifications, within the next 30 days, outlining the plans and procedures to be used to provide for the loss of the system and the cause of the malfunction.

b. With no fire suppression water system operable:

(i) establish a backup fire suppression water system within 24 hours.

(ii) notify the Nuclear Regulatory Commission. pursuant to Section 5.9.2 of the Technical Specifications, outlining the cause of the malfunction, the actions taken, and the plans and schedule for restoring the system to operable status.

(iii) If (i) above cannot be fulfilled, place reactor in Hot Standby within the next 6 hours and in Cold Shutdown within the following thirty (30) hours.

(5) The sprinkler system in the Diesel Generator Rooms, the sprinklers above the steam driven auxiliary feedwater pump, the sprinkler/spray nozzle system in the compressor room, and the deluge system in the personnel corridor between fire areas 6 and 20 shall be operable except during system testing. If inoperable:

a. Within one hour establish a continuous fire watch with backup fire extinguishing equipment for those areas in which redundant systems or components could be damaged; for other areas, establish an hourly fire watch patrol.

b. Restore the system to operable status within 14 days or prepare and submit a report to the Nuclear Regulatory Commission, pursuant to Section 5.9.3 of the Technical Specifications, within an additional 30 days, outlining the cause of the inoperability and the plans for restoring the system to operable status.

(6) The fire hose stations designated in Table 2-8 shall be operable. With a hose station inoperable, provide a hose of equivalent capacity which can service the unprotected areas from an operable hose station within one hour from the time that a hose station is determined to be inoperable if the inoperable fire hose station is the primary means of fire suppression; otherwise, route the additional hose within 24 hours.

(7) All penetration fire barriers protecting safety-related areas shall be functional (intact). With a penetration fire barrier nonfunctional, within one hour, either establish a continuous fire watch on at least one side of the affected penetration, or verify the operability of fire detectors on at least one side of the penetration and establish an hourly fire watch patrol. Restore the nonfunctional penetration to functional status within 7 days, or prepare and submit a report to the Nuclear Regulatory Commission, pursuant to Section 5.9.3 of the Technical Specifications, within an additional 30 days outlining the action taken, the cause, and the plans and schedule for restoring the penetration to functional status.

(8) The control room, switchgear room and cable spreading room halon systems shall be operable with the storage tanks having at least 90% of full charge pressure and 95% of full charge weight or level. With a halon system inoperable, establish a continuous fire watch with backup fire suppression equipment. Restore the system to operable status within 14 days, or prepare and submit a report to the Nuclear Regulatory Commission, pursuant to Section 5.9.3 of the Technical Specifications, within 30 additional 30 days, outlining the cause of the inoperability and the plans for restoring the system to operable status.

Basis

The fire protection system provides a means for detecting, alarming, and extinguishing plant fires. The system is divided into the fire detection subsystem and fire extinguishing subsystem.

The fire detection subsystem is an instrumentation system which alarms control room operators of a fire, indicating fire location on a panel in the control room and providing a local indication from the detector in the affected zone.

Basis (Continued)

The fire extinguishing system includes the sprinklers which protect the Diesel Generator Rooms. Also included are the hose stations which protect the immediate vicinity outside the entire plant, hose cabinets inside the intake structure, and other miscellaneous equipment.

Specification 2.19(2) allows one of the four fire detection zones to be inoperable in the containment. One inoperable zone would not significantly reduce fire detection capability or margins of safety or protection for the following reasons:

(1) A large number of fire detectors at many locations and elevations exist in the containment vessel.

(2) During normal operation, containment fans provide complete circulation and mixing of containment air, thereby exposing most of the containment fire detectors to any locally produced combustion products.

(3) Normally, containment ventilation duct fire detectors are operable and are continuously exposed to air streams originating from all locations in the containment.

The functional integrity of the fire barrier penetrations ensures that fires will be confined or adequately retarded from spreading to adjacent portions of the facility. This design feature minimizes the possibility of a single fire rapidly involving several areas of the facility prior to detection and extinguishment. The fire barrier penetrations are a passive element in the facility fire protection program and are subject to periodic inspections.

Fire barrier penetrations, including cable penetration barriers, fire doors and dampers are considered functional when the visually observed condition is the same as the as-designed condition. For those fire barrier penetrations that are not in the as-designed condition, an evaluation shall be performed to show that the modification has not degraded the fire rating of the fire barrier penetration.

During periods of time when a barrier is not functional, either (1) a continuous fire watch is required to be maintained in the vicinity of the affected barrier, or (2) the fire detectors on at least one side of the affected barrier must be verified OPERABLE and an hourly fire watch patrol established, until the barrier is restored to functional status.

TABLE 2-3

FIRE HOSE STATION LOCATIONS

	No.	Location	Elevation	Size
1.	FP-4W	Intake Structure	1012'-6"	1.5"/2.5"
2.	FP-4P	Intake Structure	1012'-6"	1.5"/2.5"
3.	FP-3C	Yard Area	At grade level	2.5"
4.	FP-3B	Yard Area	At grade level	2.5"
5.	FP-3A	Yard Area	At grade level	2.5"
6.	FP-3F	Yard Area	At grade level	2.5"
7.	FP-3E	Yard Area	At grade level	2.5"
8.	FP-3D	Yard Area	At grade level	2.5"
9.	FP-7A	Auxiliary Building	989'-0"	1.5"/2.5"
10.	FP-7B	Auxiliary Building	989'-0"	1.5"/2.5"
11.	FP-7C	Auxiliary Building	989'-0"	1.5"/2.5"
12.	FP-7D	Auxiliary Building	989'-0"	1.5"/2.5"
13.	FP-7E	Auxiliary Building	989'-0"	1.5"/2.5"
14.	FP-7F	Auxiliary Building	989'-0"	1.5"/2.5"
15.	FP-7G	Auxiliary Building	989'-0"	1.5"/2.5"
16.	FP-6A	Auxiliary Building	1011'-0"	1.5"/2.5"
17.	FP-6B	Auxiliary Building	1011'-0"	1.5"/2.5"
18.	FP-6C	Auxiliary Building	1011'-0"	1.5"/2.5"
19.	FP-6D	Auxiliary Building	1007'-0"	1.5"/2.5"
20.	FP-6E	Auxiliary Building	1007'-6"	1.5"/2.5"
21.	FP-6F	Auxiliary Building	1007'-6"	1.5"/2.5"
22.	FP-6G	Auxiliary Building	1007'-6"	1.5"/2.5"
23.	FP-6H	Auxiliary Building	1007'-6"	1.5"/2.5"

TABLE 2-3 (Continued)

FIRE HOSE STATION LOCATIONS

	No.	Location	Elevation	Size
24.	FP-9A	Auxiliary Building	1025'-0"	1.5"/2.5"
25.	FP-9B	Auxiliary Building	1025'-0"	1.5"/2.5"
26.	FP-9C	Auxiliary Building	1025'-0"	1.5"/2.5"
27.	FP-9D	Auxiliary Building	1025'-0"	1.5"/2.5"
28.	FP-10A	Auxiliary Building	1036'-0"	1.5"/2.5"
29.	FP-10B	Auxiliary Building	1036'-0"	1.5"/2.5"
30.	FP-10C	Auxiliary Building	1036'-0"	1.5"/2.5"
31.	FP-10D	Auxiliary Building	1036'-0"	1.5"/2.5"
32.	FP-10E	Auxiliary Building	1036'-0"	1.5"/2.5"

TABLE 3-5

MINIMUM FREQUENCIES FOR EQUIPMENT TESTS

		Test	Frequency	FSAR Section Reference
1.	Control Element Assemblies	Drop times of all full-length CEA's	Each refueling operation	7.5.3
2.	Control Element Assemblies	Partial movement of all CEAs (Minimum of 6 in)	Every two weeks	7
3.	Pressurizer Safety Valves	Set Point	Once each refueling outage	7
4.	Main Steam Safety Valves	Set Point	Each refueling outage	4
5.	Refueling System Interlocks	Functioning	Prior to refueling outage	9.5.6
6.	Raw Water System Valve Actuation	Functioning	Each refueling outage	9.8
7.	~~Fire Protection Pumps & Power Supply~~ DELETED	~~Functioning~~	~~Monthly~~	~~9.11~~
8.	Reactor Coolant System Leakage	Evaluate	Daily*	4
9.	Diesel Fuel Supply	Fuel Inventory	Daily	8.4
10a.	Charcoal and HEPA Filters for Control Room	1. <u>In-Place Testing</u>** Charcoal adsorbers and HEPA filter banks shall be leak tested and show ≥ 99.95% Freon (R-11 or R-112) and cold DOP particulates removal, respectively.	Each refueling shutdown not to exceed 18 months or after every 720 hours of system operation or after each complete or partial replacement of the charcoal adsorber/HEPA filter banks, or after any major structural maintenance on the system housing and following significant painting, fire or chemical releases in a ventilation zone communicating with the system.	9.10

* Whenever the system is at or above operating temperature and pressure.
** Tests shall be performed in accordance with applicable section(s) of ANSI N510-1980.

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Note 5: If the number of unacceptable snubbers is equal to or greater than the number in Column C, the next inspection interval shall be two-thirds of the previous interval. However, if the number of unacceptable snubbers is less than the number in Column C but greater than the number in Column B, the next interval shall be reduced proportionally by interpolation, that is, the previous interval shall be reduced by a factor that is one-third of the ratio of the difference between the number of unacceptable snubbers found during the previous interval and the number in Column B to the difference in the numbers in Columns B and C.

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(Next Page is 3-84)

3.0 SURVEILLANCE REQUIREMENTS

3.15 Fire Protection System

Applicability

Applies to fire detection and fire extinguishing subsystems in nuclear safety related areas and other areas which may impact on safety related systems.

Objective

To ensure the operability of the fire protection system in nuclear safety related systems.

Specifications

(1) Each fire detector listed in Table 2-7 and in containment shall be demonstrated operable:

a. At least once per 6 months by performance of a channel functional test and a test of the supervision circuitry.

b. Testing interval for fire detectors which are inaccessible due to high radiation or require an equipment alignment not used in power operation may be extended until such time as the detectors become accessible for a minimum of 36 hours. However, the shutdown need not be extended solely for the purpose of this testing. Such detectors shall be functionally tested at a maximum interval of once per refueling cycle.

(2) The fire suppression water system shall be demonstrated operable:

a. At least once per month by starting each pump and operating it for at least 15 minutes.

b. At least once per month by verifying that each valve in the flow path is in its correct position.

c. At least once per 12 months by cycling each testable valve (those which can be cycled without endangering the safety of equipment) in the flow path through at least one complete cycle of full travel.

d. At least once per 18 months by performing a system functional test which includes:

1. Verifying that each pump develops at least 1800 gpm at a system head of 260 feet.

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

3. Verify that each fire pump starts automatically on low fire system pressure to maintain the fire suppression water system pressure ≥100 psig.

e. At least once per 3 years by performing a flow test of the system in accordance with Chapter 5, Section 11 of the Fire Protection Handbook, 14th Edition, published by the National Fire Protection Association using a clean water source.

f. At least once per year by visually inspecting the strainer on the discharge side of the fire pumps to verify operability.

(3) The sprinkler system in the Diesel Generator Rooms, the sprinklers above the steam driven auxiliary feedwater pump, the sprinkler/spray nozzle system in the compressor room, and the deluge system in the personnel corridor between fire areas 6 and 20 shall be demonstrated to be operable:

a. At least once per 18 months:

1. By visual inspection of the spray/sprinkler headers to verify their integrity.

2. By visual inspection of each spray/sprinkler nozzle to verify no blockage and no obstruction of the spray area.

3. By performing a system functional test which includes simulated automatic actuation of the system and verifies that all automatic valves actuate to their correct position.

b. At least once per 3 years by performing an air flow test through each open head spray/sprinkler header and verifying each open head spray/sprinkler nozzle is unobstructed.

(4) Each fire hose station designated in Table 2-8 shall be verified to be operable:

a. At least once per month by visual inspection of the station to assure all equipment is available and the system pressure (as determined at the jockey pump pressure gauge) is within limits.

b. At least once per 18 months by removing the hose for inspection and reracking and replacing any degraded gaskets in the couplings.

c. At least once per 3 years by:

1. Partially opening the hose station valves to verify valve operability and no blockage.

2. Conducting a hose hydrostatic test in accordance with NFPA requirements.

(5) Penetration fire barriers shall be verified to be functional (intact):

a. At least once per 18 months by a visual inspection.

b. Prior to declaring a fire penetration seal functional following repairs or maintenance by performing a visual inspection of the affected penetration.

(6) The diesel fire pump shall be demonstrated OPERABLE:

a. At least once per month by verifying that the fuel storage tank contains at least 200 gallons of fuel.

b. At least once per quarter by verifying that a sample of diesel fuel from the fuel storage tank, obtained in accordance with ASTM-D270-65, is within the acceptable limits specified in Table 1 of ASTM-D975-74 with respect to viscosity, water content and sediment.

c. At least once per 18 months, during shutdown, by subjecting the diesel to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendations for the class of service.

(7) The fire pump diesel starting 24-volt battery bank and charger shall be demonstrated OPERABLE:

a. At least once per month by verifying that the electrolyte level of each battery is above the plates.

b. At least once per quarter by verifying that the specific gravity is appropriate for continued service of the battery.

c. At least once per 18 months by verifying that:

1. The batteries and battery racks show no visual indication of physical damage or abnormal deterioration.

2. The battery-to-battery and terminal connections are clean, tight, essentially free of corrosion and suitable corrosion protection is used.

(8) The control room, switchgear room and cable spreading room halon systems shall be demonstrated to be operable:

a. At least once per month by verifying that each valve in the flow path is in its correct position.

b. At least once every 6 months by verifying each halon storage tank pressure and weight or level.

c. At least once every 18 months by:

1. Verifying the system, including associated ventilation dampers (if applicable), is actuated by a simulated test signal. Manual and automatic test signals will be alternated every 18 months.

2. Visual inspection of spray headers to verify integrity.

3. Visual inspection of all nozzles to ensure no blockage.

d. At least once every three years by performing an air flow test through each header and nozzle to assure no blockage.

(9) Battery powered smoke detectors in control room cabinets and consoles shall be demonstrated OPERABLE by performance of an operational test performed using a built-in test device at least semi-annually.

Basis

The fire protection system provides a means for detecting, alarming, and extinguishing plant fires. The system is divided into the fire detection subsystem and fire extinguishing subsystem.

The fire detection subsystem is an instrumentation system which alarms control room operators of a fire, indicating fire location on a panel in the control room, and providing local indication from the detector in the affected zone.

The fire extinguishing system includes the sprinklers which protect the Diesel Generator Rooms. Also included are the hose stations which protect the immediate vicinity outside the entire plant, hose cabinets inside the intake structure, and other miscellaneous equipment.

Maintaining the operability of the fire protection system under various operating conditions is essential to insure the integrity of various nuclear safety-related plant systems and equipment. The above surveillance measures aid in accomplishing this objective.

Specification 3.15(2)f provides a surveillance program that insures that silt and other material in the river water will not prevent the delivery of water to areas protected by fire water suppression systems.

5.0 ADMINISTRATIVE CONTROLS

5.2 Organization (Continued)

b. An Operator or Technician qualified in Radiation Protection Procedures shall be onsite when fuel is in the reactor.

c. All core alterations shall be directly supervised by either a licensed Senior Reactor Operator or Senior Reactor Operator limited to fuel handling who has no other concurrent responsibilities during the operation.

d. Fire protection program responsibilities are assigned to those positions and/or groups designated by asterisks in USAR 12.1-1 through 12.1-4 according to the procedures specified in Section 5.8 of the Technical Specifications.

~~e. A fire brigade consisting of 5 members shall be maintained onsite at all times.# The fire brigade shall not include the minimum shift crew necessary for safe shutdown of the unit (2 members).~~

e.X. Administrative procedures shall be developed and implemented to limit the working hours of plant staff who perform safety-related functions. Administrative procedures shall reflect the personnel whose working hours will be affected.

Shift coverage shall be maintained without routine heavy use of overtime. The objective shall be to have operating personnel work a normal 8-hour day, 40-hour week while the plant is operating. However, in the event that unforeseen problems require substantial amounts of overtime to be used, or during extended periods of shutdown for refueling, major maintenance, or major plant modifications, on a temporary basis, the guidelines identified in the administrative procedures shall be followed.

Deviations from the guidelines shall be authorized by the Department Manager, Plant Manager, or their designated alternates, or higher levels of management, in accordance with established procedures and with documentation of the basis for granting the deviation. Routine deviation from the administrative guidelines shall not be authorized.

f. ~~g.~~ The Supervisor - Operations, the Shift Supervisors and Licensed Senior Operators shall hold a senior reactor operator license. The Licensed Operators shall hold a reactor operator license.

~~#Fire Brigade composition may be less than the minimum requirements for a period of time not to exceed 2 hours in order to accommodate unexpected absence of Fire Brigade members provided immediate action is taken to restore the Fire Brigade to within the minimum requirements.~~

5.0 ADMINISTRATIVE CONTROLS

5.4 Training

5.4.1 A retraining and replacement training program for the plant staff shall be maintained under the direction of the Manager - Training and shall meet or exceed the requirements of Section 5.5 of ANSI N18.1-1971 and 10 CFR Part 55.

5.4.2 A training program for the fire brigade shall be maintained under the Manager - Training and shall meet or exceed the requirements of Section 27 of NFPA Code-1975, except that the meeting frequently may be quarterly.

5.5 Review and Audit

5.5.1 Plant Review Committee (PRC)

Function

5.5.1.1 The Plant Review Committee shall function to advise the Manager - Fort Calhoun Station on all matters related to nuclear safety.

Composition

5.5.1.2 The official Plant Review Committee shall be composed of the:

Chairman:	Manager - Fort Calhoun Station
Member:	Supervisor - Operations
Member:	Manager - Training
Member:	Supervisor - Maintenance
Member:	Supervisor - System Engineering
Member:	Reactor Engineer
Member:	Supervisor - Radiation Protection
Member:	Supervisor - Chemistry
Member:	Assistant Plant Manager

Alternates

5.5.1.3 Alternate members shall be appointed in writing by the Plant Review Committee Chairman to serve on a temporary basis; however, no more than two alternates shall participate in Plant Review Committee activities at any one time.

Meeting Frequency

5.5.1.4 The Plant Review Committee shall meet at least once per calendar month and as convened by the Plant Review Committee Chairman.

Quorum

5.5.1.5 A quorum of the Plant Review Committee shall consist of the Chairman and four members including alternates.

Responsibilities

5.5.1.6 The Plant Review Committee shall be responsible for:

a. Review of (1) Administrative Controls Standing Orders and changes thereto, (2) procedures required by Specification 5.8 and requiring a 10 CFR 50.59 safety evaluation, and (3) proposed changes to procedures required by Specification 5.8 and requiring a 10 CFR 50.59 safety evaluation;

b. Review of all proposed tests and experiments that affect nuclear safety.

c. Review of all proposed changes to the Technical Specifications.

d. Review of all proposed changes to the Core Operating Limits Report.

e. Review of all proposed changes or modifications to plant systems or equipment that affect nuclear safety.

f. Investigation of all violations of the Technical Specifications and shall prepare and forward a report covering evaluation and recommendations to prevent recurrence to the Division Manager - Nuclear Operations and to the Chairman of the Safety Audit and Review Committee.

g. Review of facility operations to detect potential safety hazards.

h. Performance of special reviews and investigations and reports thereon as requested by the Chairman of the Safety Audit and Review Committee.

i. Review of the Site Security Plan and implementing procedures and shall submit recommended changes to the Chairman of the Safety Audit and Review Committee.

j. Review of the Site Emergency Plan and implementing procedures and shall submit recommended changes to the Chairman of the Safety Audit and Review Committee.

INSERT 2

k. l. Review of all Reportable Events.

Authority

5.5.1.7 The Plant Review Committee shall:

a. Recommend in writing to the Manager - Fort Calhoun Station approval or disapproval of items considered under 5.5.1.6(a) through (e) above.

5.5.1.7 b. Render determinations in writing with regard to whether or not each item considered under 5.5.1.6(b) through (f) above constitutes an unreviewed safety question.

c. Provide immediate written notification to the Division Manager - Nuclear Operations and the Safety Audit and Review Committee of disagreement between the Plant Review Committee and the Manager - Fort Calhoun Station; however, the Manager - Fort Calhoun Station shall have responsibility for resolution of such disagreements pursuant to 5.1.1 above.

Records

5.5.1.8 The Plant Review Committee shall maintain written minutes of each meeting and copies shall be provided to the Division Manager - Nuclear Operations and Chairman of the Safety Audit and Review Committee.

5.5.2 Safety Audit and Review Committee (SARC)

Function

5.5.2.1 The Safety Audit and Review Committee shall function to provide the independent review and audit of designated activities in the areas of:

a. nuclear power plant operation
b. nuclear engineering
c. chemistry and radiochemistry
d. metallurgy
e. instrumentation and control
f. radiological safety
g. mechanical and electrical engineering
h. quality assurance

INSERT 3

Composition

5.5.2.2 The Safety Audit and Review Committee shall be composed of:

Chairman:	Division Manager - Nuclear Services
Member:	Senior Vice President
Member:	Division Manager - Nuclear Operations
Member:	Division Manager - Production Engineering
Member:	Manager - Fort Calhoun Station
Member:	Manager - Radiological Services
Member:	Qualified Consultants as Required and as Determined by SARC Chairman

5.8.2.1 Each procedure, or change thereto, shall be reviewed by a Qualified Reviewer (QR) who is knowledgeable in the functional area affected but is not the individual preparer. The QR may be from the same line-organization as the preparer. The QR shall render a determination in writing of whether or not cross-disciplinary review of a procedure, or change thereto is necessary. If necessary, such review shall be performed by appropriate personnel.

5.8.2.2 Each procedure, or change thereto, shall be reviewed by the Department Head designated by Administrative Controls Standing Orders as the responsible Department Head for that procedure, and the review shall include a determination of whether or not a 10 CFR 50.59 safety evaluation is required. If a 10 CFR 50.59 safety evaluation is not required, the procedure, or change thereto, shall be approved by the responsible Department Head or the Manager-Fort Calhoun Station, prior to implementation. Administrative Controls Standing Orders, the Site Security Plan and Implementing Procedures, ~~and~~ the Emergency Plan and Implementing Procedures, and the Fire Protection Program Plan shall be reviewed in accordance with Specification 5.5.1.6 and approved by the Manager-Fort Calhoun Station.

5.8.2.3 If the responsible Department Head determines that a procedure, or change thereto, requires a 10 CFR 50.59 safety evaluation, the responsible Department Head shall render a determination in writing of whether or not the procedure, or change thereto, involves an Unreviewed Safety Question (USQ) and shall forward the procedure, or change thereto with the associated safety evaluation to the PRC for review in accordance with Specification 5.5.1.6.a. If a USQ is involved, NRC approval is required prior to implementation of the procedure, or change.

5.8.2.4 Qualified Reviewers shall meet or exceed the respective qualifications for either Supervisors Requiring an AEC License, Professional-Technical Personnel, or Technical Support Personnel, as specified in ANSI N18.1 - 1971. Personnel recommended to be QRs shall be reviewed by the PRC and approved and designated as such by the PRC Chairman. The responsible Department Head shall ensure that a sufficient complement of QRs for their functional area is maintained in accordance with Administrative Controls Standing Orders.

5.8.2.5 Each procedure of Specification 5.8.1 shall be reviewed periodically as set forth in Administrative Controls Standing Orders.

5.8.2.6 Records documenting the activities performed under Specifications 5.8.2.1 through 5.8.2.4 shall be maintained in accordance with Specification 5.10.

5.8.3 Temporary changes to procedures of 5.8.1 above may be made provided:

a. The intent of the original procedure is not altered.

b. The change is approved by two members of the plant supervisory staff, at least one of whom holds a Senior Reactor Operator's License.

c. The change is documented, reviewed by a Qualified Reviewer and approved by either the Manager - Fort Calhoun Station or the Department Head designated by Administrative Controls Standing Orders as the responsible Department Head for that procedure within 14 days of implementation.

5.8.4 Written procedures approved per 5.8.2 above shall be implemented which govern the selection of fuel assemblies to be placed in Region 2 of the spent fuel racks (Technical Specification 2.8). These procedures shall require an independent verification of initial enrichment requirements and fuel burnup calculations for a fuel bundle to assure the "acceptance" criteria for placement in Region 2 are met. This independent verification shall be performed by individuals or groups other than those who performed the initial acceptance criteria assessment, but who may be from the same organization.

INSERT 4

5.9 Reporting Requirements

In addition to the applicable reporting requirements of Title 10, Code of Federal Regulations, the following identified reports shall be submitted to the Director of the appropriate Regional Office of Inspection and Enforcement unless otherwise noted.

5.9.1 Routine Reports

a. Startup Report. A summary report of plant startup and power escalation testing shall be submitted following (1) receipt of an operating license, (2) amendment to the license involving a planned increase in power level, (3) installation of fuel that has a different design or has been manufacture by a different fuel supplier, and (4) modifications that may have significantly altered the nuclear, thermal, or hydraulic performance of the plant. The report shall address each of the tests identified in the USAR and shall in general include a description of the measured values of the operating conditions or characteristics obtained during the test program and a comparison of these values with design predictions and specifications. Any corrective actions that were required to obtain satisfactory operation shall also be described. Any additional specific details required in license conditions based on other commitments shall be included in this report.

5.9.3 Special Reports

Special reports shall be submitted to the Regional Administrator of the appropriate NRC Regional Office within the time period specified for each report. These reports shall be submitted covering the activities identified below pursuant to the requirements of the applicable reference specification where appropriate:

a. In-service inspection report, reference 3.3.
b. Tendon surveillance, reference 3.5.
c. Containment structural tests, reference 3.5.
d. Special maintenance reports.
e. Containment leak rate tests, reference 3.5.
f. DELETED
g. Materials radiation surveillance specimens reports, reference 3.3.
h. ~~Fire protection equipment outage, reference 2.19.~~ DELETED
i. Post-accident monitoring instrumentation, reference 2.21
j. Electrical systems, reference 2.7(2).

5.9.4 Unique Reporting Requirements

a. Annual Radioactive Effluent Release Report

The Annual Radioactive Effluent Release Report covering the operation of the unit during the previous 12 months of operation shall be submitted each year. The report shall include a summary of the quantities of radioactive liquid and gaseous effluents and solid waste released from the unit. The material provided shall be 1) consistent with the objectives outlined in the ODCM and PCP, and 2) in conformance with 10 CFR 50.36a. and Section IV.B.1 of Appendix I to 10 CFR 50.

b. Annual Radiological Environmental Operating Report

The Annual Radiological Environmental Operating Report covering the operation of the unit during the previous calendar year shall be submitted before May 1 of each year. The report shall include summaries, interpretations, and analysis of trends of the results of the Radiological Environmental Monitoring Program for the reporting period. The material provided shall be consistent with the objectives outlined in (1) the ODCM and (2) Section IV.B.2, IV.B.3, and IV.C of Appendix I to 10 CFR 50.

INSERT 5

ATTACHMENT B

DISCUSSION, JUSTIFICATION AND NO SIGNIFICANT HAZARDS CONSIDERATIONS

DISCUSSION AND JUSTIFICATION:

The Omaha Public Power District (OPPD) proposes to revise the Fort Calhoun Station Unit No. 1 Technical Specifications to implement Generic Letters 86-10 and 88-12.

Generic Letters (GL) 86-10 and 88-12 provided guidance for the acquisition of the standard license condition for fire protection, removal of the requirements for limiting conditions for operation, surveillance, and special reporting for fire protection systems and fire brigade staffing requirements from the Technical Specifications, as well as the addition of administrative controls to the Technical Specifications that are similar to those for other programs implemented by license condition. The purpose of this amendment request is the acquisition of the standard license condition for fire protection. The deletions and additions made to the license and the Technical Specifications are those proposed in GL 86-10 and 88-12.

As proposed by GL 86-10 and 88-12, the Updated Safety Analysis Report (USAR), which describes and/or references the Fire Protection Program as previously approved by the NRC, will be updated to include the former Technical Specifications surveillance requirements and limiting conditions for operation. The elements of the Fire Protection Program (Quality Assurance Plan, Safe Shutdown Analysis and Fire Hazards Analysis and Tests and Inspections) were addressed in the USAR previously.

In accordance with GL 88-12, technical specifications related to instrumentation and controls required for alternative shutdown capability are unaffected by this amendment request.

DESCRIPTION OF CHANGES

Pursuant to the guidance of Generic Letters 86-10 and 88-12, add the following License Condition to the Fort Calhoun Station, Unit No. 1 Facility Operating License as paragraph 3.D.

> "Omaha Public Power District shall implement and maintain in effect all provisions of the approved Fire Protection Program as described in the Updated Safety Analysis Report for the facility and as approved in the SER dated (to be inserted by NRC) subject to the following provision:
>
> > Omaha Public Power District may make changes to the approved Fire Protection Program without prior approval of the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire."

Remove from Fort Calhoun Station Unit No. 1 Technical Specification 2.0, Limiting Conditions for Operation, Sections 2.19 "Fire Protection Systems"; Table 2-7 "Fire Detection Zones"; Table 2-8 "Fire Hose Station Locations"; and Technical Specifications 3.0, Surveillance Requirements, Section 3.15 "Fire Protection System", in their entirety. Remove Item 7 from Specification 3.2, Table 3-5, Fire Protection Pumps & Power Supply Test. Remove subparagraph "e" of Section 5.2.2, "Plant Staff" and the reference to the Fire Brigade in the associated footnote "#".

Add review of the Fire Protection Program Plan to the responsibilities of the Plant Review Committee (Technical Specifications Section 5.5.1.6). Generic Letter 88-12 specifically states that the onsite review group shall be given responsibility for the review of the Fire Protection Program and implementing procedures. However, subsequent to Generic Letter 88-12, FCS implemented the Qualified Reviewer Program in Amendment No. 149. The Qualified Reviewer Program requires that a determination be made of whether a cross-disciplinary review and 10 CFR 50.59 safety evaluation are required for a procedure change. If a 10 CFR 50.59 evaluation is required, the PRC must review the proposed procedure. FCS is proposing that the Fire Protection Program implementing procedures be included as part of the Qualified Reviewer Program. Review of the Fire Protection Program Plan will be added as a separate responsibility of the PRC. The intent of the Generic Letter is met by having the onsite and offsite review committees approving all changes to the Fire Protection Program Plan, and reviewing significant changes to the implementing procedures.

Add fire protection to the list of areas for which the Safety Audit and Review Committee is responsible (Technical Specifications Section 5.5.2.1).

Add the Fire Protection Program to those procedures reviewed in accordance with Specification 5.5.1.6 (Technical Specification Section 5.8.2.2).

Add a new paragraph to Section 5.8 which requires that written procedures be established and maintained for implementation of the Fire Protection Program.

Delete the reporting requirement of Section 5.9.3.h.

Additionally, insert the following reporting requirement as T.S. Section 5.9.4.c:

> "Deficiencies in the Fire Protection Program described in the Updated Safety Analysis Report which meet the reportability criteria of 10 CFR 50.73 shall be reported pursuant to section 5.9.2 of the Technical Specifications."

BASIS FOR NO SIGNIFICANT HAZARDS CONSIDERATION:

The proposed changes do not involve significant hazards considerations because operation of Fort Calhoun Station Unit No. 1 in accordance with these changes would not:

(1) Involve a significant increase in the probability or consequences of an accident previously evaluated.

The proposed change is administrative in nature, in that it moves the requirements of the Fire Protection Program from the TS to the USAR and implementing procedures, following guidance contained in Generic Letter (GL) 88-12. The proposed change will not revise the requirements for fire protection equipment operability, testing or inspections but merely transfers them to the USAR in accordance with GL 88-12. Minor editorial changes (such as changing "penetration fire barriers" to "fire barriers") are being proposed to the technical specifications when they are moved to the USAR. In addition, a requirement to establish a continuous fire watch within one hour will be added to compensatory measures for inoperable halon systems. The current specifications only contain the requirement for a continuous fire watch with no time limit for implementation. These changes are for clarification and do not change the intent of the specifications.

The special reporting requirements associated with limiting conditions for operations for fire protection systems (Specification 5.9.3.h) will not be incorporated into the USAR. However, a new paragraph has been added to the Technical Specifications which requires reporting of deficiencies in the Fire Protection Program which would meet the reportability criteria of 10 CFR 50.73. In addition, paragraphs are proposed which require written procedures for the implementation of Fire Protection Program requirements and review of these procedures by the Plant Review Committee and Safety Audit and Review Committee.

As fire protection requirements are only being relocated and clarified following the guidance of Generic Letters 86-10 and 88-12, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

(2) Create the possibility of a new or different kind of accident from any previously analyzed.

The proposed change does not involve any physical alteration of plant configurations, changes to setpoints, or operating parameters. It is an administrative change that retains the existing fire protection requirements and relocates these requirements from the Technical Specifications to the USAR; therefore it does not create the possibility of a new or different kind of accident.

(3) Involve a significant reduction in a margin of safety.

The proposed change follows guidance contained in Generic Letters 86-10 and 88-12 for incorporating the Fire Protection Program into the USAR. A license condition will be implemented that will require that no changes can be made to the Fire Protection Program that will adversely affect the ability to achieve or maintain safe shutdown in the event of a fire without prior NRC approval. Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Therefore based on the above considerations, it is OPPD's position that this proposed amendment does not involve significant hazards considerations as defined by 10 CFR 50.92 and the proposed changes will not result in a condition which significantly alters the impact of the Station on the environment. Thus, the proposed changes meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9) and pursuant to 10 CFR 51.22(b) no environmental assessment need be prepared.

ATTACHMENT C

Inserts and marked up pages of the Updated Safety Analysis Report (USAR) are as follows:

INSERT 1

"9.11.2 Fire Brigade Staffing

A fire brigade consisting of 5 members is maintained on site at all times. The fire brigade does not include the minimum shift crew necessary for safe shutdown of the unit (2 members). The fire brigade composition may be less than the minimum requirements for a period of time not to exceed 2 hours in order to accommodate unexpected absence of fire brigade members. Immediate action shall be taken to restore the fire brigade to within the minimum requirements."

"9.11.3 Fire Brigade Training

A training program for the fire brigade is maintained under the Manager - Training which meets or exceeds the requirements of Section 27 of NFPA Code-1975, except that the meeting frequency may be quarterly."

INSERT 2

"The former fire protection Technical Specifications are a part of Fort Calhoun Station's Fire Protection Program. The periodic testing and inspection requirements as well as the limiting conditions for operations (LCOs) and compensatory actions which were formerly part of the Technical Specifications are presented in Tables 9.11-2 and 9.11-3. Administrative controls will implement the compensatory actions for LCOs and the test and inspection requirements presented in Tables 9.11-2 and 9.11-3.

9.11 FIRE PROTECTION SYSTEM

9.11.1 Design Bases

The objective of the fire protection program is to minimize both the probability and consequences of fire. The fire protection program for the Fort Calhoun Station consists of design features, personnel training, operating procedures, fire protection systems and fire fighting equipment provided to reduce the adverse effect of fires on structures, systems, and components, such that in the event of a fire the plant can be safely shut down. This is accomplished by using a defense-in-depth approach which consists of:

1. Prevention of fires through administrative control of fire hazards,
2. Quick detection and suppression of fires when they have occurred, and
3. Implementation of design provisions to provide adequate protection of safe shutdown functions.

The design basis of the fire protection systems includes commitment to APCSB Branch Technical Position 9.5-1, Appendix A, May 1, 1976 and 10 CFR 50, Appendix R, Items, III.G, III.J, and III.O. The Updated Fire Hazards Analysis documents Fire Protection Program Comparison Matrix to BTP 9.5-1 and Appendix R, Sections III G, J, and O requirements. The fire protection program reporting requirements are provided in Technical Specifications Section 5.0.

Structures, systems, and components are designed and located to minimize, consistent with other fire safety requirements, the probability and effects of fire and explosions.

The plant design has been reviewed and design provisions have been included to provide protection of systems required for safe shutdown by suppression systems, physical barriers and/or spatial separation. Combustibles have been identified and minimized as much as practical. Additionally, provisions have been made for early detection of possible fires, as well as for suppression systems where combustible materials warrant.

National Fire Protection Association (NFPA) codes were used as guidelines in the design of passive fire protection features (e.g., fire doors, dampers, and walls), active fire protection systems (e.g., fire suppression and detection systems), and in the development of administrative controls of fire hazards. Unique situations and configurations arise in nuclear power plants that are not specifically addressed in NFPA codes. These require departures from strict adherence to NFPA code requirements based on sound engineering principles.

The requirements of the Nuclear Energy Property Insurance Association (NEPIA now American Nuclear Insurers [ANI]), which were discussed in a series of conferences between the Association, OPPD and the architect-engineer, were followed in the design of these systems. Generally, subsequent modifications have been made in accordance with guidance contained in APCSB Branch Technical Position 9.5.1., Appendix A., May 1, 1976, and ANI Fire/All Risk Guidelines.

The fire extinguishing system designs are based on the assumption that outside help will not be immediately available to assist in fighting fires; therefore, the systems are independent of aids external to the plant. The water supply is drawn from the Missouri River. One of the fire pumps is diesel engine driven and is therefore independent of on and off-site power.

Fire barrier walls enclosing separate fire areas utilize fire resistive construction. Penetrations in fire barrier walls are protected by doors, dampers, and penetration seals with fire resistance ratings commensurate with the hazards in the area. Fire rated barrier systems equate to, or are bounded by, configurations that have been tested according to the ASTM E-119 "Standard Time Temperature Curve." Exceptions in the ratings of protective systems for openings in fire barrier walls have been identified, analyzed and determined to be acceptable. (See Safety Evaluation Report, April 8, 1982, and revisions dated August 12, 1982, July 3, 1985, November 5, 1985 and July 1, 1986 and NRC letter to OPPD granting exemptions from 10 CFR 50 Appendix R dated July 3, 1985, also the Updated Fire Hazards Analysis).

INSERT 1

9.11.2.4 Component and System Design and Operation

9.11.2.4.1 General Description

The overall fire protection system provides means for detecting, alarming, isolating and suppressing plant fires. The system is divided into the following subsystems:

a. The Fire Detection and Alarm System; this is an instrumentation system which alerts control room operators of a fire and indicates its location.

b. The Fire Suppression System; this includes fire fighting equipment such as automatic sprinklers, deluge systems, portable fire extinguishers, automatic Halon fire extinguishing systems, standpipe hose systems, and outside fire hydrants.

c. The features of plant design and construction which contribute to the separation of fire hazards into zones and fire areas.

9.11.2.4.2 Fire Detection and Alarm System

The Fort Calhoun Station fire detection system consists of extensive fire detectors in safety-related areas, strategically located manual fire alarm pull stations, and numerous local annunciator panels located throughout the plant and general site buildings. Fire and smoke detectors used in the plant include ionization detectors, photoelectric detectors, heat detectors, infrared flame detectors, and smoke detectors in ducts.

Detectors are strategically positioned throughout the facility. Most of the detectors are placed at ceiling level in each room. In large rooms multiple detectors are employed. Ionization detectors are located inside ventilation ducts since ducts are paths for spreading products of combustion. Battery powered smoke detectors have been installed in safety related cabinets in the control room. Thermal detectors are provided in the adsorber sections of the control room outside air filter units.

Fire detectors in the general plant area are arranged to sound an alarm on the fire alarm annunciator panel in the control room. This panel also has indicating lights to show the specific fire detection zone involved.

The fire detection system within the containment building includes specific coverage for fires in the reactor coolant pump compartments. One ionization and one flame detector are strategically located in each of the four compartments to give adequate fire detection. If a fire is detected inside the containment, it will be extinguished using portable fire fighting equipment.

9.11.2.3 Fire Suppression System

The Fire Suppression System consists of several sub-systems including the Water Supply and Distribution System, Hydrants, Automatic Water and Halon Suppression Systems, Manual Hose Stations and Portable Extinguishers.

The fire protection water supply system (see P&ID 11405-M-266, Sheet 1b) has two vertical turbine type fire pumps, one electric motor driven and one diesel engine driven, each rated for 2000 gpm at 125 psig. Pressurization of supply piping is provided by means of jockey pump. If pressure drops below predetermined setpoints, the fire pumps automatically start. The fire pumps can also be started remote-manually. Both pumps deliver screened and strained Missouri River water to the plant's underground water distribution system, which in turn supplies the plant's automatic water fire suppression systems, interior hose stations, and fire hydrants in the yard.

An independent underground looped yard main system capable of delivering sprinkler flow plus adequate hose flow to support manual fire fighting for a single fire is provided for the fire protection system. The yard loop is constructed of twelve-inch and ten-inch transite and cast (ductile) iron pipe with cement lining. Freezing of the fire water distribution system is prevented by burying the piping below the frost line and by routing indoor piping through heated areas. The system is provided with various types of sectionalizing valves to facilitate the isolation of portions of the system for maintenance or repairs, without interrupting the supply to the remaining system.

A secondary water supply is available from a valved cross-tie to the screen wash pump discharge header.

Automatic sprinkler and water spray protection is provided in several areas of the plant containing combustible liquids, as well as specific areas containing safety-related systems, equipment, and components. The fire extinguishing systems design is based on the assumption that outside help will not be immediately available to assist in fighting fires. They are, therefore, independent of aids external to the plant.

Four safety related plant areas are provided with automatic Halon 1301 extinguishing systems. Guidelines established in NFPA 12A were generally followed in the system design and installation.

Hose stations are located in the Auxiliary Building, the Intake Structure, the Turbine Building, Maintenance Shop, Main Warehouse, CARP Building, Office/Cafeteria addition, and Radioactive Waste Processing Building.

The indoor standpipe and hose systems consist of water distribution systems to various hose stations located so that adjacent areas can be reached in case of fire. Typically each station includes a minimum of 75 feet of 1-1/2 inch lightweight rubber lined hose attached to a hose valve and nozzle and racked for quick release. Each hose station contains a 2-1/2 inch hose valve for the connection of large hose.

Fire hydrants are located around the perimeter of the plant. The hydrants are fed by the 10" yard loop. Inside of the Protected Area nine outdoor fire hydrants are equipped with hose houses which contain the hose, nozzles, and tools. Fire fighting equipment located in hydrant hose houses is readily available to the plant fire brigade. Hydrants are located approximately 50 feet from the structure and are placed approximately every 300 feet along the fire ring main around the plant buildings. Two additional fire hydrants are located outside of the Protected Area North and East of the Main Warehouse. These hydrants are outside of the Security Fence and are not equipped with hose houses.

Portable fire extinguishers are provided (generally in accordance with NFPA 10 - Standard for Portable Fire Extinguishers) throughout the Facility. Fire Extinguishers are of the dry chemical, CO_2, Halon and AFFF type. Extinguisher type has been matched to the hazard in the area.

The major fire extinguishing system components for inside the protected area are described below.

TABLE 9.11-1

EXTINGUISHING SYSTEM MAJOR COMPONENT DATA

PUMPS No. of Units	Name	Type	Unit Capacity
1	Motor Driven Fire Pump (Item No. FP-1A)	Turbine	2000 gpm @ 125psid
1	Diesel Driven Fire Pump (Item No. FP-1B)	Turbine	2000 gpm @ 125psid
1	Jockey Pump (Item No. FP-5)	Centrifugal	25 gpm @ 130psid
HOSE STATIONS No. of Units	**Name**	**Type**	**Description**
59	Inside Hose Cabinet	Solid or glass front	Minimum of 75 feet of lightweight 1-½" hose with nozzle attached plus one 2-½" to 1-½" hose adapter. Misc. equipment is also contained in the cabinets.
HYDRANTS AND HOSE HOUSES No. of Units	**Name**	**Type**	**Description**
9	Fire Hydrants with Hose Houses	Non-freeze	150 feet of 2-½" hose self-draining attached with 100 feet of spare hose as well as 150' of spare 1-½" hose in cabinet. Misc. equipment is also contained in the cabinets.
2	Fire Hydrants	Non-freeze	Located outside the protected area boundary. No hose cabinet or equipment provided.

Table 9.11-1 (Continued)

FIRE EXTINGUISHING SYSTEM MAJOR COMPONENT DATA

DELUGE SYSTEMS No. of Units	Name	Type
1	Main Transformer	Fog type water spray
2	Auxiliary Transformers	Fog type water spray
2	House Area Transformers	Fog type water spray
1	Turbine Lube Oil Reservoir	Fog type water spray
1	Technical Support Center Ventilation Unit	Fog type water spray
1	Auxiliary Building Stairwell	Fog type water spray
1	Auxilairy Building Hatchway	Fog type water spray
2	Control Room Outside Air Filter Units	Fog type water spray

Halon Systems

The Halon 1301 Systems' extinguishing agent is a gas, Bromotrifluromethane ($CBrF_3$), which is colorless, odorless, electrically non-conductive and acts as an effective medium for controlling and extinguishing most fires by inhibiting the chemical reaction of fuel and oxygen. This is a clean extinguishing agent as it leaves no residue. The Halon 1301 vapor has a low level of toxicity. Based on Underwriters' Laboratories tests, the agent is classified as Group 6, which is the least toxic classification of life hazard for concentrations up to 20%.

The Halon is stored as a pressurized liquid in cylinders. Cylinder sizes vary with the individual systems.

HALON SYSTEMS ARE LOCATED AS FOLLOWS:

Fire Area 36A East Switchgear Area
Fire Area 36B West Switchgear Area
Fire Area 41 Cable Spreading Room
Fire Area 42 Control Room Complex Area (walk-in cabinet only)

The Halon is supplied to each area by a piping/nozzle arrangement. Each storage bottle is protected against over- pressurization by a burst disc.

Wet Pipe Sprinkler System

Sprinkler heads are constructed to open automatically by means of a fusible link whenever the surrounding temperature exceeds a predetermined point. The sprinkler heads are installed either in the pendant position or upright position. These systems are located throughout the plant.

Dry Pipe Sprinkler System

Sprinkler heads are constructed to open automatically by means of a fusible link whenever the surrounding temperature exceeds a predetermined point. When a sprinkler head opens, compressed air trapped in the line escapes and opens the dry pipe valve, supplying water to the open sprinkler head(s). This system is utilized in the diesel generator rooms (Fire Areas 35A, 35B and Warehouse).

Preaction Sprinkler System

Sprinkler heads and spray nozzles are constructed to open automatically by means of a fusible link whenever the surrounding temperature exceeds a predetermined point. Sprinkler heads are installed in the vertical position at the ceiling level. Spray nozzles are installed horizontally and are located at ~10' intervals in each cable tray. The water supply control valve is opened by operation of an independant fire detection system which then allows water to reach the sprinkler heads. This system is utilized in the air compressor room (Fire Area 32).

Water Curtains

Water curtains are open head sprinklers actuated by a fusible link valve which opens at a predetermined temperature. Water Curtain Systems are located above the door openings between the Turbine Building and Auxiliary Building to provide additional protection from a fire in the Turbine Building.

9.11.2.4 System Operation

The fire detection system functions automatically to provide warning of a fire and may actuate suppression systems as well.

The lead fire pump (normally the motor driven fire pump) can be started as follows:

a) Automatically on low pressure in the water distribution system; or

b) Automatically whenever a transformer spray thermostat calls for the deluge valve to open; or

c) Manually from the control room (the designated fire control center); or

d) Manually at the intake structure.

The second fire pump (normally the diesel driven fire pump) can be started as follows:

a) Automatically if the lead fire pump fails to start within approximately 10 seconds; or

b) Manually from the control room; or

c) Manually at the intake structure; or

d) Automatically if the header pressure drops below a predetermined pressure after the lead pump has started.

The motor driven fire pump can be shut down from the control room or the intake structure while the diesel driven fire pump can be shutdown only from the intake structure; no automatic shutdown is provided.

The transformer and turbine lube oil reservoir deluge spray systems function whenever a heat sensor detects a predetermined temperature. Any one sensor of an individual system will open the deluge valve to allow water to flow to the spray nozzles.

The control room outside air filter unit water spray systems are manually actuated from the AI-106A and AI-106B panels in the control room when high temperature is detected in the carbon adsorber sections. Manual pull stations are also available local to the filter units. Reset pushbuttons are provided to shutoff the water spray systems when the fire is out to minimize the amount of water discharged into the filter housing.

The TSC, Auxiliary Building stairwell and hatchway deluge systems operate when a fire is detected by specific detectors associated with the system.

The water curtains function when the fusible link valve reaches a predetermined temperature. The opening of the valve causes water flow through the open sprinkler heads. Water flow starts the lead fire pump and causes the situation to be alarmed in the control room due to header pressure decrease.

The wet pipe sprinkler system functions when any one of the sprinkler heads opens due to temperature. Additional sprinkler heads open as their individual temperature levels are reached. The opening of any sprinkler head causes the situation to be alarmed in the control room due to water flow. The water flow starts the lead fire pump due to header pressure decrease.

The dry pipe sprinkler system functions when any one of the sprinkler heads opens due to temperature. The opening of any sprinkler head causes the release of the compressed air trapped in the piping above the dry pipe valve. When the air pressure is sufficiently reduced, the water pressure exerted on the bottom side of the valve clapper causes the valve to open and sounds an alarm in the control room due to water flow. The water flow is directed to the open sprinkler head(s) and the lead fire pump starts due to a header pressure decrease, and heads open as their individual temperature levels are reached.

The fire system piping was initially flushed and filled from the clarifier surge tank by utilizing one or both of the Demineralized Water System's clarifier booster pumps through a connection to the fire main system. The system is flushed and filled in the same manner after any system actuation prior to the system being returned to operation.

The Halon system is actuated automatically by either signal(s) from the detection system or from a manual pull station(s). The protected areas are isolated by the closing of ventilation supply and exhaust ducts on receipt of an alarm signal to contain the necessary concentration of Halon, in the protected area, to extinguish the fire.

9.11.2.5 Plant Design and Construction Features

The plant has been divided into fire areas for evaluation against 10 CFR 50, Appendix R Section III G, J, and O criteria. Redundant safe shutdown related equipment, components and systems are provided with adequate spatial separation or are separated by fire resistive barriers as described in the Safe Shutdown Analysis. The control room is the designated fire control center. In case of a fire in this area, Abnormal Operating Procedure AOP-6 instructs operators to proceed to the alternate shutdown panel.

Walls enclosing separate fire areas utilize fire resistive construction (OPPD Drawing D-4098). Most configurations are listed in the UL "Fire Resistance Directory." Openings in plant fire barriers are protected as practical, by rated fire doors, fire dampers, and fire barrier penetration seals.

A thorough analysis has been conducted of the separation of functionally redundant cables necessary for safe shutdown as a part of the Appendix R review. This analysis verified that the ability to safely shut down the plant is assured during a fire either by: 1) satisfying the requirements of Appendix R Section III.G and/or L; or 2) a formal exemption submitted to the NRC to justify deviations from the protection prescribed in Appendix R.

Further description of plant design and construction features is contained in Fort Calhoun Station Fire Hazard Analysis and Safe Shutdown Analysis.

9.11.3 System Design Evaluation

A systematic approach was utilized for the review of the fire hazards and their exposure to safety-related equipment and components necessary for safe shutdown within each fire area. The type and quantity of combustible materials, the resulting combustible loading in the area, and the fire protection features for the area were identified. The effects of postulated fires on the performance of safe shutdown functions and the minimization of radioactive releases to the environment were evaluated based on available documentation.

A safe shutdown analysis has been performed on an area-by-area basis to satisfy the provisions of 10 CFR 50 Appendix R. NRC evaluation of fire protection for safe shutdown is contained in the following documents:

-- Safety Evaluation Report (SER), Fort Calhoun Power Station Unit 1, (August 23, 1978).

-- Amendment No. 53 to Facility Operating License No. DPR-40 for the Fort Calhoun Station Unit 1, (November 17, 1980).

-- Safety Evaluation Report, Fort Calhoun Nuclear Power Station, 10 CFR 50 Appendix R, Items III.G and III.L., (April 8, 1982). Revisions to the Appendix R SER were issued by the NRC on August 12, 1982; July 3, 1985; November 5, 1985; and July 1, 1986.

-- Fort Calhoun Station I & E Inspection Report 83-12, (July 1, 1983).

-- Letters to OPPD granting exemptions from 10 CFR 50 Appendix R, (July 3, 1985).

9.11.4/6 Tests and Inspections

Specific measures are established in the QA Plan (see USAR Appendix A, Sections A.11 and A.19) for independent inspection of activities affecting fire protection. This program is executed by, or for, the organization performing the activity to verify conformance with documented modification drawings and test procedures for accomplishing the activities.

The QA Plan (see USAR Appendix A, Sections A.11, A.12 and A.13) assure that testing is performed and verified by inspection and audit to demonstrate conformance with subsequent design and system readiness requirements. The tests are performed in accordance with written test procedures. The test results are properly evaluated and appropriate actions taken if required.

The plant fire protection systems are subjected to periodic tests and inspections through performance of Fort Calhoun Station Operating Instructions and surveillance tests. These tests and inspections, and their respective frequencies are generally in accordance with the applicable governing NFPA code and/or the requirements of American Nuclear Insurers. The on-duty Shift Supervisor reviews and signs the inspection/test procedure following its performance.

The QA Program for fire protection provides for the identification of items that have satisfactorily passed required tests and inspections through ~~Technical Specifications~~ surveillance as well as QA inspections and tests covered by Standing Orders and the QA Plan.

Detailed procedures have been developed for testing the fire protection equipment. These procedures specifically identify the groups responsible for the performance of the test and the frequency at which the test is to be performed. The procedures fulfill the objective of maintaining the operability of the fire protection system in accordance with ~~the requirements of the plant Technical Specifications and~~ commitments made to the NRC related to fire protection.

INSERT 2

Table 9.11-2
Former Technical Specification 2.19

System	Requirement	Applicability	Condition	Required Action	Time Requirement
1. Fire Detectors	Each fire detector zone shall be operable.	Applies to fire detection and fire extinguishing subsystems in nuclear safety related areas.	1. As a minimum, 50% of the fire detection instrumentation in zones outside containment shall be operable (with no two adjacent detectors in a zone inoperable).	1. Outside Containment With more than 50% inoperable detector(s) in a zone in safety related areas or with two adjacent detectors in a zone inoperable: a. Establish a fire watch patrol to inspect the zone with the inoperable instrument(s) at least once every hour and b. Restore the inoperable instrument(s) to operable status	 a. Within one hour b. Within 14 days
			2. In the Containment Building, all but one (1) fire detection zone must be operable, with 50% or more of the detectors in a zone operable, except as provided in 3 below.	2. Inside Containment a. Establish a fire watch patrol to inspect the zone with more than 50% inoperable instrument(s) at least once per 8 hour operating shift and b. Restore the inoperable instrument(s) to operable status	 a. Within one hour b. Within 14 days
			3. The provisions set forth in 2 above do not apply to time periods during which Containment Integrated Leak Rate Tests are being performed.		

Table 9.11-2
Former Technical Specification 2.19

System	Requirement	Applicability	Condition	Required Action	Time Requirement
2. Fire Suppression Water System	Fire suppression water system shall be operable, except during system testing, jockey pump maintenance or training (not to exceed 7 consecutive days) with both fire pumps, each with a minimum capacity of 1800 gpm, with their discharge aligned to the fire suppression header and automatic initiation logic for each fire pump.	Applies to fire extinguishing subsystems and their associated fire detection systems required for proper operation in nuclear safety related areas.	1. With less than the required equipment 2. With no fire suppression water system operable	1. Restore the inoperable equipment to operable status 2.a. Establish a backup fire suppression water system 2.b. if (a.) above cannot be fulfilled: 1) place the Reactor in Hot Standby AND 2) place the Reactor in Cold Shutdown	1. Within 7 days 2.a. Within 24 hours 2.b. 1) Within the next 6 hours 2) Within the following 30 hours
3. Sprinkler System in the Diesel Generator Rooms, the sprinklers above the steam driven auxiliary feedwater pump, the sprinkler/spray nozzle system in the compressor room, and the deluge system in the personnel corridor between fire areas 6 and 20 (on the 989'-0" elevation protecting stairway A-971-1)	Shall be operable except during system testing.	Applies to fire extinguishing subsystems and their associated fire detection systems required for proper operation in nuclear safety related areas.	Any system inoperable	1.a. Areas in which redundant systems or components could be damaged: Establish a continuous fire watch with backup fire extinguishing equipment. b. All other areas: Establish an hourly fire watch patrol. 2. Restore the system to operable status	1.a. Within one hour b. Within one hour 2. Within 14 days

Table 9.11-2
Former Technical Specification 2.19

System	Requirement	Applicability	Condition	Required Action	Time Requirement
4. Fire Hose Stations	The fire hose stations shall be operable.	Applies to fire extinguishing subsystems in nuclear safety related areas.	One or more stations inoperable	1. If the inoperable station is the primary means of fire suppression, provide a hose of equivalent capacity which can service the unprotected areas from an operable hose station. 2. If the inoperable station is not the primary means of fire suppression, route an additional hose of equivalent capacity which can service the unprotected areas from an operable hose station.	1. Within one hour 2. Within 24 hours
5. Fire Barriers	All fire barriers protecting safety-related areas shall be functional (intact).	Applies to fire barriers in nuclear safety related areas.	One or more fire barrier nonfunctional	1. Establish a continuous fire watch on at least one side of the affected barrier OR Verify the operability of the fire detectors on at least one side of the barrier and establish an hourly fire watch patrol. 2. Restore to functional status	1. Within one hour 2. Within 7 days
6. Halon Systems (Control Room, Switchgear Room, and Cable Spreading Room)	Shall be operable with the storage tanks having at least 90% of full charge pressure and 95% of full charge weight or level.	Applies to fire extinguishing subsystems and their associated fire detection systems required for proper operation in nuclear safety related areas.	Halon System inoperable	1. Establish a continuous fire watch with backup fire suppression equipment 2. Restore the system to operable status	1. Within one hour 2. Within 14 days

Table 9.11-2
Former Technical Specification 2.19

Basis
The fire protection system provides a means for detecting, alarming, and extinguishing plant fires. The system is divided into the fire detection subsystem and the fire extinguishing subsystem. The fire detection subsystem is an instrumentation system which alarms control room operators of a fire, indicating fire location on a panel in the control room and providing a local indication from the detector in the affected zone. The fire extinguishing subsystem includes the sprinklers which protect the Diesel Generator Rooms. Also included are the hose stations which protect the immediate vicinity outside the entire plant, hose cabinets inside the intake structure, and other miscellaneous equipment. Requirement 2 above allows one of the four fire detection zones to be inoperable in the containment. One inoperable zone would not significantly reduce fire detection capability or margin of safety or protection for the following reasons: (1) A large number of fire detectors at many locations and elevations exist in the containment vessel. (2) During normal operation, containment fans provide complete circulation and mixing of containment air, thereby exposing most of the containment fire detectors to any locally produced combustion products. (3) Normally, containment ventilation duct fire detectors are operable and are continuously exposed to air streams originating from all locations in the containment. The functional integrity of the fire barrier penetrations ensures that fires will be confined or adequately retarded from spreading to adjacent portions of the facility. This design feature minimizes the possibility of a single fire rapidly involving several areas of the facility prior to detection and extinguishment. The fire barrier penetrations are a passive element in the facility fire protection program and are subject to periodic inspections. Fire barriers, including cable penetration barriers, penetration seals, fire doors and dampers are considered functional when the visually observed condition is the same as the as-designed condition. For those fire barriers that are not in the as-designed condition, an evaluation shall be performed to show that the modification has not degraded the fire rating of the fire barrier penetration. During periods of time when a barrier is not functional, either (1) a continuous fire watch is required to be maintained in the vicinity of the affected barrier, or (2) the fire detectors on at least one side of the affected barrier must be verified operable and an hourly fire patrol established, until the barrier is restored to functional status.

Table 9.11-2
Former Technical Specification 2.19

Former Technical Specification Interpretation	
Interpretation:	Bases:
The compensatory measures and reporting requirements provided in Item 1. a and b, above, apply only to those fire detection zones that are located, in whole or in part, in areas where Safety-Related equipment is located. The Action Statements of Item 1 do not apply to Fire Detection Zones 14, 15, 16, or 34. Detection Zones 14, 15, and 16 are nonsafety related zones and Detection Zone 34, "Plant Sprinkler Flow," does not contain fire detection instrumentation.	This is consistent with the remainder of the fire protection Former Technical Specification, which only address fire protection components that protect Safety-Related equipment (sprinkler systems and hose stations in the Turbine Building are not addressed). Inoperability of a fire detection zone in the Turbine Building will not jeopardize the capability of the plant to safely shut down in the event of a fire, just as an inoperable fire detection zone in the CARP Building or the TSC, also adjacent to the Safety-Related Auxiliary Building but not addressed in Former Tech Specs, will not. The Fire Hazards Analysis includes the Turbine Building detection zones in a summary of plant fire detection and assigns Fire Area 46 to the Turbine Building, but states: "Since this fire area does not affect any of the safety-related features of the plant, no evaluation has been performed in this area." This provides further substantiation for the proposed Former Technical Specification interpretation that would not apply the compensatory measures and reporting requirements specified in the Former Technical Specification to the fire detection zones that are located entirely in non-safety-related areas.
During jockey pump maintenance, system testing or training it is nor required that the plant enter the above Item 2.a LCO unless these activities extend past seven consecutive days. Any other impairment to the fire protection equipment mentioned or implied in Item 2.a must--as a minimum--be cause for the plant to enter the Item 2.a LCO. The plant is not required to enter the Item 2.a LCO unless impairments to the fire protection equipment mentioned or implied in Item 2.a constitute a condition where the plant cannot start a fire pump by one of its normally designed available starting methods, with a pump discharge capability of at least 1800 gpm, and cannot align that pump's discharge directly into the plant fire suppression header (plant exterior fire main) through its normally designed available flow path.	Bases for these interpretations are contained in the Former Technical Specifications and the Updated Safety Analysis report. The interpretations are consistent with the definition of operability contained in the Technical Specifications "Definitions" section, and consistent with the analysis contained in the USAR that describe the various methods available to start fire pumps and describe the clean water filling and flushing process which is to be performed prior to placing fire protection systems in operation.

Table 9.11-3
Former Technical Specification 3.15

Fire Protection Features	Former Technical Specification Surveillance Requirements
1. Fire Detectors	Each fire detector in nuclear safety related areas shall be demonstrated operable: a. At least once per 6 months by performance of a channel functional test and a test of the supervision circuitry. b. Testing interval for fire detectors which are inaccessible due to high radiation or require an equipment alignment not used in power operation may be extended until such time as the detectors become accessible for a minimum of 36 hours. However, the shutdown need not be extended solely for the purpose of this testing. Such detectors shall be functionally tested at a maximum interval of once per refueling cycle.
2. Fire Suppression Water System	The fire suppression water system shall be demonstrated operable: a. At least once per month by starting each pump and operating it for at least 15 minutes. b. At least once per month by verifying that each valve in the flow path is in its correct position. c. At least once per 12 month by cycling each testable valve (those which can be cycled without endangering the safety of equipment) in the flow path through at least one complete cycle of full travel. d. At least once per 18 months by performing a system functional test which includes: 1. Verifying that each pump develops at least 1800 gpm at a system head of 260 feet. 2. Cycling each valve in the flow path that is not testable during plant operation through at least one complete cycle of full travel, and 3. Verify that each fire pump starts automatically on low fire system pressure to maintain the fire suppression water system pressure $\geq$ 100 psig. e. At least once per 3 years by performing a flow test of the system in accordance with Chapter 6, Section 11 of the Fire Protection Handbook, 14th Edition, published by the National Fire Protection Association using a clean water source. f. At least once per year by visually inspecting the strainer on the discharge side of the fire pumps to verify operability.

Table 9.11-3
Former Technical Specification 3.16

Fire Protection Features	Former Technical Specification Surveillance Requirements
3. Sprinkler System in the Diesel Generator Rooms, the sprinklers above the steam driven auxiliary feedwater pump, the sprinkler/spray nozzle system in the compressor room, and the deluge system in the personnel corridor between fire areas 6 and 20 (on the 989'-0" elevation protecting stairway A-971-1)	These systems shall be demonstrated to be operable: a. At least once per 18 months: 1. By visual inspection of the spray/sprinkler headers to verify their integrity. 2. By visual inspection of each spray/sprinkler nozzle to verify no blockage and no obstruction of the spray area. 3. By performing a system functional test which includes simulated automatic actuation of the system and verifies that all automatic valves actuate to their correct position. b. At least once per 3 years by performing an air flow test through each open head spray/sprinkler header and verifying each open head spray/sprinkler nozzle is unobstructed.
4. Fire Hose Stations	Each fire hose station in nuclear safety related areas shall be verified to be operable: a. At least once per month by visual inspection of the station to assure all equipment is available and the system pressure (as determined at the jockey pump pressure gauge) is within limits. b. At least once per 18 months by removing the hose for inspection and reracking and replacing any degraded gaskets in the couplings. c. At least once per 3 years by: 1. Partially opening the hose station valves to verify valve operability and no blockage. 2. Conducting a hose hydrostatic test in accordance with NFPA requirements.
5. Fire Barriers	Fire barriers shall be verified to be functional (intact): a. At least once per 18 months by a visual inspection. b. Prior to declaring a fire penetration seal functional following repairs or maintenance by performing a visual inspection of the effected penetration.

Table 9.11-3
Former Technical Specification 3.16

Fire Protection Features	Former Technical Specification Surveillance Requirements
6. Diesel Fire Pump	The diesel fire pump shall be demonstrated operable: a. At least once per month by verifying that the fuel storage tank contains at least 200 gallons of fuel. b. At least once per quarter by verifying that a sample of diesel fuel from the fuel storage tank, obtained in accordance with ASTM-D270-65, is with in the acceptable limits specified in Table 1 of ASTM-D975-74 with respect to viscosity, water content, and sediment. c. At least once per 18 months, during shutdown, by subjecting the diesel to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendations for the class of service.
7. Fire Pump Diesel Battery Bank and Charger	The fire pump diesel starting 24-volt battery bank and charger shall be demonstrated operable: a. At least once per month by verifying that the electrolyte level of each battery is above the plates. b. At least once per quarter by verifying that the specific gravity is appropriate for the continued service of the battery. c. At least once per 18 months by verifying that: 1. The batteries and battery racks show no visual indication of physical damage or abnormal deterioration. 2. The battery-to-battery and terminal connections are clean, tight, essentially free of corrosion and suitable corrosion protection is used.
8. Halon Systems (Control Room, Switchgear Room, and Cable Spreading Room)	The control room, switchgear room, and cable spreading room halon systems shall be demonstrated to be operable: a. At least once per month by verifying that each valve in the flow path is in its correct position. b. At least once every 6 months by verifying each halon storage tank pressure and weight or level. c. At least once every 18 months by: 1. Verifying the system, including associated ventilation dampers (if applicable), is actuated by a simulated test signal. Manual and automatic test signals will be alternated every 18 months. 2. Visual inspection of spray headers to verify integrity. 3. Visual inspection of all nozzles to ensure no blockage. d. At least once every three years by performing an air flow test through each header and nozzle to assure no blockage.

Table 9.11-3
Former Technical Specification 3.15

Fire Protection Features	Former Technical Specification Surveillance Requirements
9. Battery Powered Smoke Detectors	Battery powered smoke detectors in nuclear safety related areas shall be demonstrated operable by performance of an operational test performed using a built-in test device at least semi-annually.

Basis
The fire protection system provides a means for detecting, alarming, and extinguishing plant fires. The system is divided into the fire detection subsystem and fire extinguishing subsystem. The fire detection subsystem is an instrumentation system which alarms control room operators of a fire, indicating fire location on a panel in the control room, and providing local indication from the detector in the affected zone. The fire extinguishing system includes the sprinklers which protect the Diesel Generator Rooms. Also included are the hose stations which protect the immediate vicinity outside the entire plant, hose cabinets inside the intake structure, and other miscellaneous equipment. Maintaining the operability of the fire protection system under various operating conditions is essential to insure the integrity of various nuclear safety-related plant systems and equipment. The above measures aid in accomplishing this objective. Requirement 2.f above provides a program that insures that silt and other material in the river water will not prevent the delivery of water to areas protected by fire water suppression systems.

Table 9.11-2

Former Technical Specification 2.19

FIRE HOSE STATION LOCATIONS

	No.	Location	Elevation	Size
1.	FP-4N	Intake Structure	1012'-6"	1.5"/2.5"
2.	FP-4P	Intake Structure	1012'-6"	1.5"/2.5"
3.	FP-3C	Yard Area	At grade level	2.5"
4.	FP-3B	Yard Area	At grade level	2.5"
5.	FP-3A	Yard Area	At grade level	2.5"
6.	FP-3F	Yard Area	At grade level	2.5"
7.	FP-3E	Yard Area	At grade level	2.5"
8.	FP-3D	Yard Area	At grade level	2.5"
9.	FP-7A	Auxiliary Building	989'-0"	1.5"/2.5"
10.	FP-7B	Auxiliary Building	989'-0"	1.5"/2.5"
11.	FP-7C	Auxiliary Building	989'-0"	1.5"/2.5"
12.	FP-7D	Auxiliary Building	989'-0"	1.5"/2.5"
13.	FP-7E	Auxiliary Building	989'-0"	1.5"/2.5"
14.	FP-7F	Auxiliary Building	989'-0"	1.5"/2.5"
15.	FP-7G	Auxiliary Building	989'-0"	1.5"/2.5"
16.	FP-6A	Auxiliary Building	1011'-0"	1.5"/2.5"
17.	FP-6B	Auxiliary Building	1011'-0"	1.5"/2.5"
18.	FP-6C	Auxiliary Building	1011'-0"	1.5"/2.5"
19.	FP-6D	Auxiliary Building	1007'-6"	1.5"/2.5"
20.	FP-6E	Auxiliary Building	1007'-6"	1.5"/2.5"
21.	FP-6F	Auxiliary Building	1007'-6"	1.5"/2.5"
22.	FP-6G	Auxiliary Building	1007'-6"	1.5"/2.5"
23.	FP-6H	Auxiliary Building	1007'-6"	1.5"/2.5"

Table 9.11-2 (Continued)
Former Technical Specification 2.19

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FIRE HOSE STATION LOCATIONS

	No.	Location	Elevation	Size
24.	FP-9A	Auxiliary Building	1025'-0"	1.5"/2.5"
25.	FP-9B	Auxiliary Building	1025'-0"	1.5"/2.5"
26.	FP-9C	Auxiliary Building	1025'-0"	1.5"/2.5"
27.	FP-9D	Auxiliary Building	1025'-0"	1.5"/2.5"
28.	FP-10A	Auxiliary Building	1036'-0"	1.5"/2.5"
29.	FP-10B	Auxiliary Building	1036'-0"	1.5"/2.5"
30.	FP-10C	Auxiliary Building	1036'-0"	1.5"/2.5"
31.	FP-10D	Auxiliary Building	1036'-0"	1.5"/2.5"
32.	FP-10E	Auxiliary Building	1036'-0"	1.5"/2.5"