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LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

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LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

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INSTRUMENTATION

FIRE DETECTION INSTRUMENTATION

DELETE

LIMITING CONDITION FOR OPERATION

3.3.7.8 As a minimum, the fire detection instrumentation for each fire detection zone shown in Table 3.3.7.8-1 shall be OPERABLE.

APPLICABILITY: Whenever equipment protected by the fire detection instrument is required to be OPERABLE.

ACTION:

a. With any, but no more than one-half the total in any fire zone, Function A fire detection instruments shown in Table 3.3.7.8-1 inoperable, restore the inoperable Function A instrument(s) to OPERABLE status within 14 days or, within the next hour, establish a fire watch patrol to inspect the zone(s) with the inoperable instrument(s) at least once per hour. If the instrument(s) is located inside the containment, inspect that containment zone at least once per 8 hours or monitor the containment air temperature at least once per hour at the locations listed in Specification 4.6.1.8 and 4.6.2.6.

b. With more than one-half of the Function A fire detection instruments in any fire zone shown in Table 3.3.7.8-1 inoperable, or with any Function B fire detection instruments shown in Table 3.3.7.8-1 inoperable, or with any two or more adjacent instruments shown in Table 3.3.7.8-1 inoperable, within 1 hour establish a fire watch patrol to inspect the zone(s) with the inoperable instrument(s) at least once per hour. If the instrument(s) is located inside the containment, inspect that containment zone at least once per 8 hours or monitor the containment air temperature at least once per hour at the locations listed in Specification 4.6.1.8 and 4.6.2.6.

c. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.7.8.1 Each of the above required fire detection instruments which are accessible during unit operation shall be demonstrated OPERABLE at least once per 6 months by performance of a CHANNEL FUNCTIONAL TEST. Fire detectors which are not accessible during unit operation shall be demonstrated OPERABLE by the performance of a CHANNEL FUNCTIONAL TEST during each COLD SHUTDOWN exceeding 24 hours unless performed in the previous 6 months.

4.3.7.8.2 The NFPA Standard 72D supervised circuits supervision associated with the detector alarms of each of the above required fire detection instruments shall be demonstrated OPERABLE at least once per 6 months.

TABLE 3.3.7.8-1

DELETE

FIRE DETECTION INSTRUMENTATION

INSTRUMENT LOCATION		TOTAL INSTRUMENTS OPERABLE*		
		HEAT (x/y)	FLAME (x/y)	SMOKE (x/y)
I.	CONTROL BUILDING ZONE			
SD-1	HVAC ROOM, EL 115'0" & 116'0"			6/0
SD-2	HPCS SWGR, EL 115'0" & 116'0"			3/0
SD-3	BATTERY ROOMS (3) & DC EQUIP RMS, EL 115'0" & 116'0"			8/0
SD-4	HVAC ROOM, EL 98'0"			6/0
SD-5	STBY SWGR ROOM B, EL 98'0"			3/0
SD-6	STBY SWGR ROOM A, EL 98'0"			3/0
SD-15	HVAC ROOM 1A, EL 70'0"			2/0
SD-16	HVAC ROOM 1B, EL 70'0"			2/0
SD-17	CABLE VAULT, EL 70'0"			0/3
SD-18	CABLE VAULT, EL 70'0"			0/4
SD-19	CABLE VAULT, EL 70'0"			0/9
SD-20	CABLE CHASES, EL 70'0"			17/0
SD-50	CABLE CHASES, EL 98'0"			9/0
SD-54	CABLE CHASES, EL 116'0"			10/0
SD-60	125 VDC SWGR & BATT CHGR, EL 115'0" & 116'0"			10/0
SD-61	GENERAL AREA, EL 98'0"			8/0
SD-125	PGCC PANEL MODULE, EL 136'0"	0/8		10/0
SD-126	PGCC PANEL MODULE, EL 136'0"	0/8		13/0
SD-127	PGCC PANEL MODULE, EL 136'0"	0/8		11/0
SD-128	PGCC PANEL MODULE, EL 136'0"	0/8		9/0
SD-129	PGCC PANEL MODULE, EL 136'0"	0/9		12/0
SD-130	PGCC PANEL MODULE, EL 136'0"	0/8		11/0
SD-131	PGCC PANEL MODULE, EL 136'0"	0/9		17/0
SD-132	PGCC PANEL MODULE, EL 136'0"	0/8		17/0
SD-133	PGCC PANEL MODULE, EL 136'0"	0/8		13/0
SD-134	PGCC PANEL MODULE, EL 136'0"	0/8		12/0
SD-135	PGCC PANEL MODULE, EL 136'0"	0/8		9/0
SD-136	PGCC PANEL MODULE, EL 136'0"	0/9		9/0
SD-137	PGCC PANEL MODULE, EL 136'0"	0/8		8/0
SD-138	PGCC PANEL MODULE, EL 136'0"	0/8		10/0
SD-139	PGCC PANEL MODULE, EL 136'0"	0/12		12/0
SD-140	PGCC PANEL MODULE, EL 136'0"	0/8		14/0
SD-141	PGCC PANEL MODULE, EL 136'0"	0/8		13/0
SD-142	PGCC PANEL MODULE, EL 136'0"	0/9		16/0

* (x/y): x is number of Function A (early warning fire detection and notification only) instruments.
y is number of Function B (actuation of fire suppression systems and early warning fire detection).

TABLE 3.3.7.8-1 (Continued)

DELETE

FIRE DETECTION INSTRUMENTATION

INSTRUMENT	LOCATION	TOTAL INSTRUMENTS OPERABLE* HEAT (x/y)	FLAME (x/y)	SMOKE (x/y)
I. CONTROL BUILDING ZONE (Continued)				
SD-143	PGCC PANEL MODULE, EL 136'0"	0/9		17/0
SD-144	PGCC PANEL MODULE, EL 136'0"	0/9		17/0
SD-145	PGCC PANEL MODULE, EL 136'0"	0/8		8/0
SD-146	PGCC PANEL MODULE, EL 136'0"	0/8		8/0
SD-147	PGCC PANEL MODULE, EL 136'0"	0/12		14/0
SD-148	PGCC PANEL MODULE, EL 136'0"	0/12		18/0
SD-149	PGCC PANEL MODULE, EL 136'0"	0/10		14/0
SD-150	PGCC PANEL MODULE, EL 136'0"	0/9		15/0
SD-151	PGCC PANEL MODULE, EL 136'0"	0/10		10/0
SD-158	PGCC PANEL MODULE, EL 136'0"	0/8		8/0
SD-152	NON PANEL MODULE AREA NORTH, EL 135'0"			10/0
SD-153	NON PANEL AREA SOUTH, EL 135'0"			10/0
SD-154	GENERAL AREA, EL 136'0"			84/0
SD-162	REMOTE SHUTDOWN PANEL DIV I, EL 98'0"			1/0
SD-163	REMOTE SHUTDOWN PANEL DIV II, EL 98'0"			1/0
FD-26	CHARCOAL FILTER 1HVC*FLT3B, EL 115'0"	1/0		
FD-27	CHARCOAL FILTER 1HVC*FLT3A, EL 115'0"	1/0		
II. REACTOR BUILDING ZONE				
SD-57	#CONTAINMENT AREA, EL 114'0"			13/0
SD-104	#CONTAINMENT AREA, EL 186'3"			17/0
SD-117	#CONTAINMENT AREA, EL 162'3"			7/0
SD-119	#CONTAINMENT AREA, EL 141'0"			13/0
FD-13	#RECIRC PUMPS - DRYWELL, EL 70'0" & 98'0"	2/0		

* (x/y): x is number of Function A (early warning fire detection and notification only) instruments.
y is number of Function B (actuation of fire suppression systems and early warning fire detection).

#The fire detection instruments located within the Containment are not required to be OPERABLE during the performance of Type A Containment Leakage Rate Tests.

DELETE

TABLE 3.3.7.8-1 (Continued)

FIRE DETECTION INSTRUMENTATION

INSTRUMENT LOCATION		TOTAL INSTRUMENTS OPERABLE*		
		HEAT (x/y)	FLAME (x/y)	SMOKE (x/y)
III. AUXILIARY BUILDING ZONE				
SD-28	HPCS PUMP ROOM EL 70'0"			1/0
SD-29	RHR PUMP ROOM B, EL 70'0"			2/0
SD-30	RHR PUMP ROOM C, EL 70'0"			2/0
SD-31	RHR PUMP ROOM A, EL 70'0"			2/0
SD-32	LPCS PUMP ROOM, EL 70'0"			1/0
SD-43	GENERAL AREA WEST, EL 95'0"			2/0
SD-49	GENERAL AREA, EL 141'0"			9/0
SD-52	GENERAL AREA EAST, EL 114'0"			5/0
SD-53	GENERAL AREA WEST, EL 114'0"			5/0
SD-55	PASS ROOM, EL 114'0"			1/0
SD-96	RCIC PUMP ROOM, EL 70'0"			0/2
SD-97	GENERAL AREA, EL 70'0"			4/0
SD-98	GENERAL AREA EAST, EL 95'9"			2/0
SD-99	GENERAL AREA WEST, EL 95'9"			2/0
SD-100	GENERAL AREA WEST, EL 95'9"			2/0
SD-101	STANDBY GAS TREATMENT ROOM "B", EL 141'0"			4/0
SD-103	STANDBY GAS TREATMENT ROOM "A", EL 141'0"			4/0
SD-106	ANNULUS MIXING FAN AREA, EL 171'0"			3/0
FD-33	STANDBY GAS TREATMENT FILTER "B", EL 141'0"	1/0		
FD-34	STANDBY GAS TREATMENT FILTER "A", EL 141'0"	1/0		
SD-164	WATER CURTAIN, EL 70'0"			0/2
SD-165	WATER CURTAIN, EL 141'0"			0/4
IV. FUEL BUILDING ZONE				
SD-33	FUEL POOL COOLING PUMP AREAS, EL 70'0"			2/0
SD-44	1ENS*SWG 3A & 4A AREA, EL 95'0"			7/0
SD-59	GENERAL AREA, EL 113'0"			13/0
SD-91	GENERAL AREA, EL 70'0"			7/0
SD-94	NEW FUEL RECEIVING AREA, EL 95'0"			2/0

* (x/y): x is number of Function A (early warning fire detection and notification only) instruments.
y is number of Function B (actuation of fire suppression systems and early warning fire detection).

TABLE 3.3.7.8-1 (Continued) DELETE

FIRE DETECTION INSTRUMENTATION

INSTRUMENT LOCATION		TOTAL INSTRUMENTS OPERABLE*		
		HEAT (x/y)	FLAME (x/y)	SMOKE (x/y)
IV. FUEL BUILDING ZONE (Continued)				
SD-110	FUEL POOL PURIFICATION & BACKWASH PUMP AREAS, EL 70'0"			3/0
SD-111	FUEL POOL COOLER (A & B) AREAS, EL 95'0"			2/0
SD-121	CHARCOAL FILTER "A" ROOM, EL 148'0"			2/0
SD-123	CHARCOAL FILTER "B" ROOM, EL 148'0"			2/0
SD-124	1RMS*CAB101 AREA, EL 148'0"			4/0
SD-155	GENERAL AREA, EL 113'0"			4/0
FD-35	CHARCOAL FILTER "A" ROOM, EL 148'0"	1/0		
FD-36	CHARCOAL FILTER "B" ROOM, EL 148'0"	1/0		
V. ELECTRICAL TUNNELS ZONE				
SD-79	GENERAL AREA, EL 67'6"			0/6
SD-80	GENERAL AREA, EL 67'6"			0/6
SD-81	GENERAL AREA, EL 67'6"			0/11
SD-82	GENERAL AREA, EL 67'6"			0/12
SD-83	GENERAL AREA, EL 70'0"			0/12
VI. PIPE TUNNEL ZONE				
SD-86	GENERAL AREA, EL 70'0"			0/18
SD-87	GENERAL AREA, EL 67'6"			0/7
SD-88	GENERAL AREA, EL 67'6"			0/10
SD-89	GENERAL AREA, EL 67'6"			0/17
VII. DIESEL GENERATOR BUILDING ZONE				
SD-105	GENERAL AREA, EL 98'0"			3/0
FD-16	DIESEL ROOM DIV. II, EL 98'0"	0/4		
FD-17	DIESEL ROOM DIV III, EL 98'0"	0/4		
FD-18	DIESEL ROOM DIV I, EL 98'0	0/4		

* (x/y): x is number of Function A (early warning fire detection and notification only) instruments.
y is number of Function B (actuation of fire suppression systems and early warning fire detection).

DELETE

TABLE 3.3.7.8-1 (Continued)

FIRE DETECTION INSTRUMENTATION

INSTRUMENT	LOCATION	TOTAL INSTRUMENTS OPERABLE*		
		HEAT (x/y)	FLAME (x/y)	SMOKE (x/y)
VIII.	STANDBY SERVICE WATER PUMP HOUSE ZONE			
SD-72	STANDBY SERVICE WATER PUMP AREA			4/0
SD-73	STANDBY SERVICE WATER PUMP AREA			4/0

* (x/y): x is number of Function A (early warning fire detection and notification only) instruments.
y is number of Function B (actuation of fire suppression systems and early warning fire detection).

3/4.7.6 FIRE SUPPRESSION SYSTEMS

DELETE

FIRE SUPPRESSION WATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.6.1 The fire suppression water system shall be OPERABLE with:

a. Three fire suppression pumps, each with a capacity of 1500 gpm, with their discharges aligned to the fire suppression header,

b. Two separate fire water tanks, each with a minimum contained volume of 253,000 gallons, and

c. An OPERABLE flow path capable of taking suction from both water storage tanks and transferring the water through distribution piping with OPERABLE sectionalizing control or isolation valves to the yard hydrant curb valves, the last valve ahead of the water flow alarm device on each sprinkler or hose standpipe, and the last valve ahead of the deluge valve on each deluge or spray system, required to be OPERABLE per Specifications 3.7.6.5, 3.7.6.4, and 3.7.6.2.

APPLICABILITY: At all times.

ACTION:

a. With one pump and/or one water supply inoperable, restore the inoperable equipment to OPERABLE status within 7 days or provide an alternate backup pump or supply. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

b. With the fire suppression water system otherwise inoperable, establish a backup fire suppression water system within 24 hours.

SURVEILLANCE REQUIREMENTS

4.7.6.1.1 The fire suppression water system shall be demonstrated OPERABLE:

a. At least once per 7 days by verifying the minimum contained water supply volume.

b. At least once per 31 days by starting the electric motor driven fire suppression pump and operating it for at least 15 minutes on recirculation flow.

c. At least once per 31 days by verifying that each valve (manual, power operated or automatic) in the flow path is in its correct position.

DELETE

SURVEILLANCE REQUIREMENTS (Continued)

d. At least once per 12 months by cycling each testable valve in the flow path through at least one complete cycle of full travel.

e. At least once per 18 months by performing a system functional test which includes simulated automatic actuation of the system throughout its operating sequence, and:

1. Verifying that each fire suppression pump develops at least 2250 gpm at a system head of 248 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. Verifying that each fire suppression pump starts sequentially to maintain the fire suppression water system pressure greater than or equal to 70 psig.

f. 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.

4.7.6.1.2 Each diesel driven fire suppression pump shall be demonstrated OPERABLE:

a. At least once per 31 days by;

1. Verifying the fuel day tank contains at least 300 gallons of fuel.

2. Starting the pump from ambient conditions and operating it for greater than or equal to 30 minutes on recirculation flow.

b. At least once per 92 days by verifying that a sample of diesel fuel from the fuel storage tank, obtained in accordance with ASTM D270-75, is within the acceptable limits specified in Table 1 of ASTM D975-77 when checked for viscosity, water, 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.

DELETE

SURVEILLANCE REQUIREMENTS (Continued)

4.7.6.1.3 Each diesel driven fire pump starting 24-volt battery bank and charger shall be demonstrated OPERABLE:

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

1. The electrolyte level of each cell is above the plates, and

2. The overall battery bank voltage is greater than or equal to 24 volts.

b. At least once per 92 days by verifying that the specific gravity is appropriate for continued service of the battery. The specific gravity, corrected to 77°F and full electrolyte level, shall be greater than or equal to 1.200.

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

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

2. Battery-to-battery and terminal connections are clean, tight, free of corrosion and coated with anti-corrosion material.

PLANT SYSTEMS

SPRAY AND/OR SPRINKLER SYSTEMS

DELETE

LIMITING CONDITION FOR OPERATION

3.7.6.2 The following spray and sprinkler systems shall be OPERABLE:

	LOCATION	ELEVATION	SYSTEM IDENTITY
a.	Control Bldg. Cable Chases	116'0"	AS-6A
		98'0"	AS-6B
		70'0"	AS-6C, WS-6A, WS-6B, WS-6C
		115'0"	WS-7A, WS-7B
b.	Cable Tunnels	67'6"/70'0"	WS-8D, WS-8E, WS-8F,
		67'6"/70'0"	WS-8G, WS-8H, WS-8K,
		67'6"/70'0"	WS-8L, WS-8M, WS-8N
c.	Auxiliary Bldg., RCIC Pump Room	70'0"	PS-1, WS-19
		141'0"	WS-4A, WS-4B, WS-20, AS-12
d.	Diesel Generator Bldg.	98'0"	PS-2A, PS-2B, PS-2C
e.	Fuel Bldg.	95'0"	AS-5
		148'0"	WS-5A, WS-5B

APPLICABILITY: Whenever equipment protected by the spray or sprinkler systems is required to be OPERABLE.

ACTION:

a. With one or more of the above required spray or sprinkler systems inoperable, within one hour establish a continuous fire watch with backup fire suppression equipment for those areas in which redundant systems or components could be damaged; for other areas, establish an hourly fire watch patrol.

b. The provisions of Specification 3.0.3 and 3.0.4 are not applicable.

DELETE

4.7.6.2 Each of the above required spray and sprinkler systems shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying that each valve (manual, power operated or automatic) in the flow path is in its correct position.

b. At least once per 12 months by cycling each testable valve in the flow path through at least one complete cycle of full travel.

c. At least once per 18 months:

1. By performing a system functional test which includes simulated automatic actuation of the automatic systems, and:

a) Verifying that the automatic valves in the flow path actuate to their correct positions on a simulated actuation test signal, and

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

2. By a visual inspection of the dry pipe spray and sprinkler headers to verify their integrity.

3. By a visual inspection of each deluge nozzle's spray area* to verify that the spray pattern is not obstructed.

d. At least once per 3 years by performing an air or water flow test through each open head spray and sprinkler header system* and verifying that each open head spray nozzle and sprinkler header system is unobstructed.

*The charcoal filter system spray nozzles need only be visually inspected and verified to be unobstructed each time the charcoal is changed.

PLANT SYSTEMS

HALON SYSTEMS

DELETE

LIMITING CONDITION FOR OPERATION

3.7.6.3 The following main control room Power Generation Control Complex (PGCC) Halon systems shall be OPERABLE with the storage tanks having at least 95% of full charge weight and 90% of full charge pressure:

PGCC Panel Module U701	PGCC Panel Module U730
PGCC Panel Module U702	PGCC Panel Module U731
PGCC Panel Module U703	PGCC Panel Module U732
PGCC Panel Module U704	PGCC Panel Module U740
PGCC Panel Module U710	PGCC Panel Module U741
PGCC Panel Module U711	PGCC Panel Module U742
PGCC Panel Module U712	PGCC Panel Module U743
PGCC Panel Module U713	PGCC Panel Module U744
PGCC Panel Module U714	PGCC Panel Module U745
PGCC Panel Module U715	PGCC Panel Module U746
PGCC Panel Module U717	PGCC Panel Module U747
PGCC Panel Module U720	PGCC Panel Module U748
PGCC Panel Module U721	PGCC Panel Module U799
PGCC Panel Module U723	PGCC Panel Module U750

APPLICABILITY: Whenever equipment protected by the Halon systems is required to be OPERABLE.

ACTION:

a. With one or more of the above required Halon systems inoperable, within 1 hour establish a continuous fire watch with backup fire suppression equipment for those areas in which redundant systems or components could be damaged; for other areas establish an hourly fire watch patrol.

b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.6.3 The above required Halon system shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying that each Halon system storage tank is pressurized to at least 280 psig.

b. At least once per 6 months by verifying Halon storage tank weight and pressure.

DELETE

SURVEILLANCE REQUIREMENTS (Continued)

c. At least once per 18 months by:

1. Verifying the system actuates, manually and automatically, upon receipt of a simulated actuation signal (actual Halon release, Halon bottle initiator valve actuation, and electro-thermal link burning may be excluded from the test), and

2. Performance of a flow test through headers and nozzles to assure no blockage.

PLANT SYSTEMS

FIRE HOSE STATIONS

DELETE

LIMITING CONDITION FOR OPERATION

3.7.6.4 The fire hose stations shown in Table 3.7.6.4-1 shall be OPERABLE.

APPLICABILITY: Whenever equipment in the areas protected by the fire hose stations is required to be OPERABLE.

ACTION:

a. With one or more of the fire hose stations shown in Table 3.7.6.4-1 inoperable, provide gated wye(s) on the nearest OPERABLE hose station(s). One outlet of the wye shall be connected to the standard length of hose provided for the hose station. The second outlet of the wye shall be connected to a length of hose sufficient to provide coverage for the area left unprotected by the inoperable hose station. Where it can be demonstrated that the physical routing of the fire hose would result in a recognizable hazard to operating technicians, plant equipment, or the hose itself, the fire hose shall be stored in a roll at the outlet of the OPERABLE hose station. Signs shall be mounted above the gated wye(s) to identify the proper hose to use. The above ACTION shall be accomplished within 1 hour if the inoperable fire hose is the primary means of fire suppression; otherwise route the additional hose within 24 hours.

b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.6.4 Each of the fire hose stations shown in Table 3.7.6.4-1 shall be demonstrated OPERABLE.

a. At least once per 31 days by a visual inspection of the fire hose stations accessible during plant operation to assure all required equipment is at the station.

b. At least once per 18 months by:

1. Visual inspection of the fire hose stations not accessible during plant operation to assure all required equipment is at the station.

2. Removing the hose for inspection and re-racking, and

3. Inspecting all gaskets and replacing any degraded gaskets in the couplings.

SURVEILLANCE REQUIREMENTS (Continued)

DELETE

c. At least once per 3 years by:

1. Partially opening each hose station valve to verify valve OPERABILITY and no flow blockage.

2. Conducting a hose hydrostatic test at a pressure of 150 psig or at least 50 psig above the maximum fire main operating pressure, whichever is greater.

DELETE

TABLE 3.7.6.4-1

FIRE HOSE STATIONS

LOCATION	ELEVATION	HOSE RACK INDENTIFICATION
a. Reactor Building	114'0"	HR - 16, 22
	141'0"	HR - 17, 23
	162'3"	HR - 18, 19, 24, 25
	186'3"	HR - 20, 21, 26
b. Auxiliary Building	70'0" (Stairwell)	HR - 84
	95'9"	HR - 6, 7, 8, 9
	114'0"	HR - 10, 11
	141'0"	HR - 12, 13, 14, 15
	170'0"	HR - 80
c. Control Building	70'0"	HR - 85, 86, 87
	98'0"	HR - 88, 89, 90
	115'0" and 116'0"	HR - 91, 92, 93, 94
	135'0" (Stairwell)	HR - 96
d. Fuel Building	70'0"	HR - 1, 2, 82
	95'0"	HR - 3, 4
	113'0"	HR - 81
	148'0"	HR - 5
e. Pipe Tunnel	67'6"	HR - 83
f. Turbine Building	95'0"	HR - 50, 51
	123'6"	HR - 53

PLANT SYSTEMS

DELETE

YARD FIRE HYDRANTS AND HYDRANT HOSE HOUSES

LIMITING CONDITION FOR OPERATION

3.7.6.5 The yard fire hydrants and associated hydrant hose houses shown in Table 3.7.6.5-1 shall be OPERABLE.

APPLICABILITY: Whenever equipment in the areas protected by the yard fire hydrants is required to be OPERABLE.

ACTION:

a. With one or more of the yard fire hydrants or associated hydrant hose houses shown in Table 3.7.6.5-1 inoperable, within 1 hour have sufficient additional lengths of 2 1/2 inch diameter hose located in an adjacent OPERABLE hydrant hose house to provide service to the unprotected area(s) if the inoperable fire hydrant or associated hydrant hose house is the primary means of fire suppression; otherwise provide the additional hose within 24 hours.

b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.6.5 Each of the yard fire hydrants and associated hydrant hose houses shown in Table 3.7.6.5-1 shall be demonstrated OPERABLE:

a. At least once per 31 days by visual inspection of the hydrant hose house to assure all required equipment is at the hose house.

b. At least once per 6 months, by visually inspecting each yard fire hydrant and verifying that the hydrant barrel is dry and that the hydrant is not damaged.

c. At least once per 12 months by:

1. Conducting a hose hydrostatic test at a pressure of 150 psig or at least 50 psig above the maximum fire main operating pressure, whichever is greater.

2. Replacement of all degraded gaskets in couplings.

3. Performing a flow check of each hydrant.

TABLE 3.7.6.5-1

DELETE

YARD FIRE HYDRANTS AND ASSOCIATED HYDRANT HOSE HOUSES

LOCATION		HYDRANT NUMBER
a.	Northeast of Fuel Bldg	FHY 11
b.	East of Control Bldg	FHY 13
c.	West of Standby Cooling Tower	FHY 9*
d.	North of Fuel Bldg	FHY 10

*No associated hose house.

3/4.7.7 FIRE-RATED ASSEMBLIES

DELETE

LIMITING CONDITION FOR OPERATION

3.7.7 All fire barrier assemblies shall be OPERABLE. Fire barrier assemblies include:

a. Walls, floors/ceilings, cable tray enclosures, and other fire barriers that separate safety-related fire areas or that separate portions of redundant systems, important to safe shutdown, within a fire area, and

b. All sealing devices in fire-rated assembly penetrations, including fire doors and fire dampers and cable, piping and ventilation duct penetration seals, and ventilation seals.

APPLICABILITY: At all times.

ACTION:

a. With one or more of the above required fire-rated assemblies or sealing devices inoperable, within 1 hour establish a continuous fire watch on at least one side of the affected assembly and/or sealing device or verify the OPERABILITY of fire detectors on at least one side of the inoperable assembly or sealing device, and establish an hourly fire watch patrol.

b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.7.1 Each of the above required fire-rated assemblies and penetration sealing devices shall be verified OPERABLE at least once per 18 months by performing a visual inspection of:

a. The exposed surfaces of each fire-rated assembly.

b. Each fire damper and associated hardware.

c. At least 10 percent of each type of sealed penetration. If changes in appearance or abnormal degradations are found, a visual inspection of an additional 10 percent of each type of sealed penetration shall be made. This inspection process shall continue until a 10 percent sample is found with no apparent changes in appearance or abnormal degradation. Samples shall be selected such that each penetration seal will be inspected at least once per 15 years.

DELETE

SURVEILLANCE REQUIREMENTS (Continued)

4.7.7.2 Each of the above required fire doors shall be verified OPERABLE by inspecting the automatic hold-open, release and closing mechanism and latches at least once per 6 months, and by verifying:

a. At least once per 31 days, the OPERABILITY of the fire door supervision system for each electrically supervised fire door by performing a CHANNEL FUNCTIONAL TEST.

b. At least once per 7 days, that each locked-closed fire door is closed.

c. At least once per 24 hours, that doors with automatic hold-open and release mechanisms are free of obstructions and, at least once per 18 months, by performing a functional test of these mechanisms.

d. At least once per 24 hours, that each unlocked fire door without electrical supervision is closed.

MONITORING INSTRUMENTATION (Continued)

~~3/4.3.7.8 FIRE DETECTION INSTRUMENTATION~~ DELETE

~~OPERABILITY of the fire detection instrumentation ensures both that adequate warning capability is available for prompt detection of fires and that fire suppression systems, that are actuated by fire detectors, will discharge extinguishing agent in a timely manner. Prompt detection and suppression of fires will reduce the potential for damage to safety-related equipment and are integral elements in the overall facility fire protection program.~~

~~Fire detectors that are used to actuate fire suppression systems represent a more critically important component of a plant's fire protection program than detectors that are installed solely for early fire warning and notification. Consequently, the minimum number of OPERABLE fire detectors for fire suppression must be greater than the minimum number of detectors for fire warning.~~

~~The loss of detection capability for fire suppression systems, actuated by fire detectors, represents a significant degradation of fire protection for any area. As a result, the establishment of a fire watch patrol must be initiated at an earlier stage than would be warranted for the loss of detectors that provide only early fire warning. The establishment of frequent fire patrols in the affected areas is required to provide detection capability until the inoperable instrumentation is restored to OPERABILITY.~~

3/4.3.7.9 LOOSE-PART DETECTION SYSTEM

The OPERABILITY of the loose-part detection system ensures that sufficient capability is available to detect loose metallic parts in the primary system and avoid or lessen damage to primary system components. The allowable out-of-service times and surveillance requirements are consistent with the recommendations of Regulatory Guide 1.133, "Loose-Part Detection Program for the Primary System of Light-Water-Cooled Reactors," May 1981.

3/4.3.7.10 RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

The radioactive liquid effluent monitoring instrumentation is provided to monitor and control, as applicable, the releases of radioactive materials in liquid effluents during actual or potential releases of liquid effluents. The alarm/trip setpoints for these instruments shall be calculated and adjusted in accordance with the methodology and parameters in the ODCM to ensure that the alarm/trip will occur prior to exceeding the limits of 10 CFR Part 20. The OPERABILITY and use of this instrumentation is consistent with the requirements of General Design Criteria 60, 63 and 64 of Appendix A to 10 CFR Part 50.

SNUBBERS (Continued)

that the snubbers periodically undergo a performance evaluation in view of their age and operating conditions. These records will provide statistical bases for future consideration of snubber service life. The requirements for the maintenance of records and of the snubber service life review are not intended to affect plant operation.

3/4.7.5 SEALED SOURCE CONTAMINATION

The limitations on removable contamination for sources requiring leak testing, including alpha emitters, is based on 10 CFR 70.39(c) limits for plutonium. This limitation will ensure that leakage from byproduct, source, and special nuclear material sources will not exceed allowable intake values. Sealed sources are classified into three groups according to their use, with surveillance requirements commensurate with the probability of damage to a source in that group. Those sources which are frequently handled are required to be tested more often than those which are not. Sealed sources which are continuously enclosed within a shielded mechanism, i.e., sealed sources within radiation monitoring devices, are considered to be stored and need not be tested unless they are removed from the shielded mechanism.

~~3/4.7.6 FIRE SUPPRESSION SYSTEMS~~ DELETE

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

~~In the event that portions of the fire suppression systems are inoperable, alternate backup fire fighting equipment is required to be made available in the affected areas until the inoperable equipment is restored to service. When the inoperable fire fighting equipment is intended for use as a backup means of fire suppression, a longer period of time is allowed to provide an alternate means of fire fighting than if the inoperable equipment is the primary means of fire suppression.~~

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

~~In the event the fire suppression water system becomes inoperable, immediate corrective measures must be taken since this system provides the major fire suppression capability of the plant.~~

~~3/4.7.7 FIRE RATED ASSEMBLIES~~ DELETE

~~The OPERABILITY of the fire barriers and barrier penetrations ensure that fire damage will be limited. These design features minimize the possibility of a single fire involving more than one fire area prior to detection and extinguishment. The fire barriers, fire barrier penetrations for conduits, cable trays and piping, fire dampers, and fire doors are periodically inspected to verify their OPERABILITY.~~

3/4.7.8 AREA TEMPERATURE MONITORING

The area temperature limitations ensure that safety-related equipment will not be subjected to temperatures in excess of their environmental qualification temperatures. Exposure to excessive temperatures may degrade equipment and can cause loss of its OPERABILITY.

3/4.7.9 MAIN TURBINE BYPASS SYSTEM

The main turbine bypass system is required to be OPERABLE consistent with the assumptions of the feedwater controller failure analysis in FSAR Chapter 15.

3/4 7.10 STRUCTURAL SETTLEMENT

Structural settlement limitations are imposed and required to be verified so as to preserve the assumptions made in the static design of the major safety related structures.

6.0 ADMINISTRATIVE CONTROLS

6.1 RESPONSIBILITY

6.1.1 The Plant Manager shall be responsible for overall unit operation and shall delegate in writing the succession to this responsibility during his absence.

6.1.2 The Shift Supervisor (or during his absence from the control room, a designated individual) shall be responsible for the control room command function. A management directive to this effect, signed by the Senior Vice President - River Bend Nuclear Group, shall be reissued to all station personnel on an annual basis.

6.2 ORGANIZATION

OFFSITE

6.2.1 The offsite organization for unit management and technical support shall be as shown on Figure 6.2.1-1.

UNIT STAFF

6.2.2 The unit organization shall be as shown on Figure 6.2.2-1 and:

a. Each on-duty shift shall be composed of at least the minimum shift crew composition shown in Table 6.2.2-1;

b. At least one licensed Operator shall be in the control room when fuel is in the reactor. In addition, while the unit is in OPERATIONAL CONDITION 1, 2 or 3, at least one licensed Senior Operator shall be in the control room;

c. A Radiation Protection Technician* shall be on site when fuel is in the reactor;

d. All CORE ALTERATIONS shall be observed and directly supervised by either a licensed Senior Operator or licensed Senior Operator Limited to Fuel Handling who has no other concurrent responsibilities during this operation; and

~~e. A site fire brigade of at least five members shall be maintained on site at all times*. The fire brigade shall not include the Shift Supervisor, the Shift Technical Advisor, the Control Operating Foreman, nor the two other members of the minimum shift crew necessary for safe shutdown of the unit and any personnel required for other essential functions during a fire emergency; and~~

DELETE

*The Radiation Protection Technician ~~and 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, provided immediate action is taken to fill the required positions.

ENCLOSURE 2

suppression systems are included in Appendix 9A. 11

9.5.1.4 Inspection and Testing Requirements

INSERT A →

Periodic operational checks, inspections, and servicing required to maintain fire protection systems, including the alarm detection system, follow the guidance provided in the NFPA standards. 16

INSERT B →

9.5.1.5 Personnel Qualification and Training

Qualifications of the personnel responsible for the preparation of the Fire Hazards Analysis and for the design and selection of equipment are provided in the Fire Protection Program Evaluation Report (Appendix 9A), Section 9A.1.2. Personnel responsible for the development of the RBS fire protection program; maintenance, inspection, and testing of fire protection equipment; and training of firefighting personnel are discussed in Section 9A.3.2.1. A discussion of all aspects of fire protection training for RBS is provided in Section 13.2.1.1.11. 11 1 13

Section 9A.3.2 (Administrative Procedures, Controls and Fire Brigade) conforms with BTP APCSB 9.5-1 and Section 9B.4.8, 9B.4.9, and 9B.4.11 (Fire Brigade, Fire Brigade Training, and Administrative Controls) conforms with Items III.H., III.I, and III.K, respectively, of Appendix R to 10CFR50. APCSB 9.5-1 and Appendix R sections listed above have the same intent as BTP CMEB 9.5-1 Sections C.2 and C.3. 11

Procedures are provided (shown in Section 13.5) to maintain the performance of the fire protection systems and to set forth the responsibilities, duties, and controls for the fire protection program in the following general areas: 1

1. Administrative Procedures
   - a. Responsibilities and authorities
   - b. Organizational relationships 1
2. Fire Protection Procedures
   - a. Control of ignition sources
   - b. Control of transient combustibles
   - c. Duties of a fire watch
   - d. Fire report

INSERT A to 9.5.1.4
Page 9.5-9

Administrative controls are provided through existing station operating and quality assurance procedures, to ensure that the Fire Protection Program and equipment is properly maintained. This includes QA audits of the program implementation, conduct of periodic tests, inspections, and remedial actions for systems and barriers out of service. This program emphasizes those elements of fire protection that are associated with safe shutdown as described in Appendix 9A and their significance when evaluating program and equipment deficiencies.

INSERT B to 9.5.1.4
Page 9.5-9

Equipment out of service including fire suppression, detection, and barriers will be controlled through an administrative program. The program requires all impairments to fire protection system to be identified and appropriate notification given to the Shift Supervisor. The Shift Supervisor will ensure operability of fire protection systems in accordance with operability requirements discussed herein. Where such operability requirements are not met, the Shift Supervisor will ensure that the appropriate remedial actions are taken. As conditions warrant remedial actions would include compensatory measures to ensure equivalent level of fire protection in addition to timely efforts to effect repairs and restore equipment to service.

INSERT B to 9.5.1.4
(Continued)

9.5.1.4.1 Fire Detection Instrumentation

9.5.1.4.1.1 Operability

1. As a minimum, the fire detection instrumentation for each fire detection zone shown in Fig. 9A.2-10 shall be operable whenever equipment protected by the fire detection instrument is required to be operable.

2. With any, but no more than one-half the total in any fire zone, Function A (early warning fire detection and notification only instruments) fire detection instruments shown in Fig. 9A.2-10 inoperable, the inoperable Function A instrument(s) will be restored to operable status within 14 days or, within the next hour, a fire watch patrol will be established to inspect the zone(s) with the inoperable instrument(s) at least once per hour. If the instrument(s) is located inside the containment, the containment zone will be inspected at least once per 8 hours or the containment air temperature will be monitored at least once per hour at the locations listed in Technical Specification 4.6.1.8 and 4.6.2.6.

3. With more than one-half of the Function A fire detection instruments in any fire zone shown in Fig. 9A.2-10 inoperable, or with any Function B (actuation of fire suppression systems and early warning fire detection) fire detection instruments shown in Fig. 9A.2-10 inoperable, or with any two or more adjacent instruments shown in Fig. 9A.2-10 inoperable a fire watch patrol will be established within 1 hour to inspect the zone(s) with the inoperable instrument(s) at least once per hour. If the instrument(s) is located inside the

containment, that containment zone will be inspected at least once per 8 hours or the containment air temperature will be monitored at least once per hour at the locations listed in Technical Specification 4.6.1.8 and 4.6.2.6.

9.5.1.4.1.2 Surveillance

1. Each of the required fire detection instruments shown in Fig. 9A.2-10 which are accessible during unit operation shall be demonstrated operable at least once per 6 months by performance of a channel functional test. Fire detectors which are not accessible during unit operation shall be demonstrated operable by the performance of a channel functional test during each cold shutdown exceeding 24 hours unless performed in the previous 6 months.

2. The NFPA Standard 72D supervised circuits supervision associated with the detector alarms of each of the required fire detection instruments shown in Fig. 9A.2-10 shall be demonstrated operable at least once per 6 months.

9.5.1.4.2 Fire Suppression Water System

9.5.1.4.2.1 Operability

1. The fire suppression water system shall be operable with:

   a. Three fire suppression pumps, each with a capacity of 1500 gpm, with their discharges aligned to the fire suppression header.

   b. Two separate fire water tanks, each with a minimum contained volume of 253,000 gallons, and

   c. An operable flow path capable of taking suction from both water storage tanks and transferring the water through distribution piping with operable sectionalizing control

or isolation valves to the yard hydrant curb valves, the last valve ahead of the water flow alarm device on each sprinkler or hose standpipe, and the last valve ahead of the deluge valve on each deluge or spray system, required to be operable per Sections 9.5.1.4.3, 9.5.1.4.5 and 9.5.1.4.6.

2. With one pump and/or one water supply inoperable, the inoperable equipment will be restored to operable status within 7 days or an alternate backup pump or supply will be provided.

3. With the fire suppression water system otherwise inoperable, a backup fire suppression water system will be established within 24 hours.

9.5.1.4.2.2 Surveillance

1. The fire suppression water system shall be demonstrated operable:

   a. At least once per 7 days by verifying the minimum contained water supply volume.

   b. At least once per 31 days by starting the electric motor driven fire suppression pump and operating it for at least 15 minutes on recirculation flow.

   c. At least once per 31 days by verifying that each valve (manual, power operated or automatic) in the flow path is in its correct position.

   d. At least once per 12 months by cycling each testable valve in the flow path through at least one complete cycle of full travel.

   e. At least one per 18 months by performing a system functional test which includes simulated automatic

actuation of the system throughout its operating sequence, and:

1) Verifying that each fire suppression pump develops at least 2250 gpm at a system head of 248 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) Verifying that each fire suppression pump starts sequentially to maintain the fire suppression water system pressure greater than or equal to 70 psig.

f. 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.

2. Each diesel driven fire suppression pump shall be demonstrated operable:

a. At least once per 31 days by;

1) Verifying the fuel day tank contains at least 300 gallons of fuel.

2) Starting the pump from ambient conditions and operating it for greater than or equal to 30 minutes on recirculation flow.

b. At least once per 92 days by verifying that a sample of diesel fuel from the fuel storage tank, obtained in accordance with ASTM D270-75, is within the acceptable limits specified in Table 1 of ASTM D975-77 when checked for viscosity, water, 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.

3. Each diesel driven fire pump starting 24-volt battery bank and charger shall be demonstrated operable:

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

1) The electrolyte level of each cell is above the plates, and

2) The overall battery bank voltage is greater than or equal to 24 volts.

b. At least once per 92 days by verifying that the specific gravity is appropriate for continued service of the battery. The specific gravity, corrected to 77 F and full electrolyte level, shall be greater than or equal to 1.200.

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

1) The battery cases and battery racks show no visual indication of physical damage or abnormal deterioration, and

2) Battery-to-battery and terminal connections are clean, tight, free of corrosion and coated with anti-corrosion material.

9.5.1.4.3 Spray and Sprinkler Systems

9.5.1.4.3.1 Operability

1. The spray and sprinkler systems listed in Fig. 9A.2-9 shall be operable whenever

equipment protected by the spray or sprinkler systems is required to be operable.

2. With one or more of the required spray or sprinkler systems inoperable, within one hour a continuous fire watch with backup fire suppression equipment for those areas in which redundant systems or components could be damaged will be established. For other areas, an hourly fire watch patrol will be established.

9.5.1.4.3.2 Surveillance

1. Each of the spray and sprinkler systems listed in Fig. 9A.2-9 shall be demonstrated operable:

   a. At least once per 31 days by verifying that each valve (manual, power operated or automatic) in the flow path is in its correct position.

   b. At least one per 12 months by cycling each testable valve in the flow path through at least one complete cycle of full travel.

   c. At least once per 18 months:

      1) By performing a system functional test which includes simulated automatic actuation of the automatic systems, and:

         a) Verifying that the automatic valves in the flow path actuate to their correct positions on a simulated actuation test signal, and

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

2) By a visual inspection of the dry pipe spray and sprinkler headers to verify their integrity.

3) By a visual inspection of each deluge nozzle's spray area* to verify that the spray pattern is not obstructed.

d. At least once per 3 years by performing an air or water flow test through each open head spray and sprinkler header system* and verifying that each open head spray nozzle and sprinkler header system is unobstructed.

9.5.1.4.4 Halon Systems

9.5.1.4.4.1 Operability

1. The Main Control Room Power Generation Control Complex (PGCC) Halon systems listed in Table 9.5-7 shall be operable with the storage tanks having at least 95% of full charge weight and 90% of full charge pressure whenever equipment protected by the Halon systems is required to be operable.

2. With one or more of the required Halon systems listed in Table 9.5-7 inoperable, within 1 hour a continuous fire watch with backup fire suppression equipment for those areas in which redundant systems or components could be damaged will be established. For other areas an hourly fire watch patrol will be established.

9.5.1.4.4.2 Surveillance

1. The Halon systems listed in Table 9.5-7 shall be demonstrated operable:

a. At least once per 31 days by verifying that each Halon system storage tank is pressurized to at least 280 psig.

*The charcoal filter system spray nozzles need only be visually inspected and verified to the unobstructed each time the charcoal is changed.

b. At least once per 6 months by verifying Halon storage tank weight and pressure.

c. At least once per 18 months by verifying the system actuates, manually and automatically, upon receipt of a simulated actuation signal (actual Halon release, Halon bottle initiator valve actuation, and electro-thermal link burning may be excluded from the test).

d. Performance of a flow test through headers and nozzles to assure no blockage.

9.5.1.4.5 Fire Hose Stations

9.5.1.4.5.1 Operability

1. The fire hose stations listed in Table 9.5-8 shall be operable whenever equipment in the areas protected by the fire hose stations is required to be operable.

2. With one or more of the fire hose stations shown in Table 9.5-8 inoperable, provide gated wye(s) on the nearest operable hose station(s). One outlet of the wye shall be connected to the standard length of hose provided for the hose station. The second outlet of the wye shall be connected to a length of hose sufficient to provide coverage for the area left unprotected by the inoperable hose station. Where it can be demonstrated that the physical routing of the fire hose would result in a recognizable hazard to operating technicians, plant equipment, or the hose itself, the fire hose shall be stored in a roll at the outlet of the operable hose station. Signs shall be mounted above the gated wye(s) to identify the proper hose to use. The above action shall be accomplished within 1 hour if the inoperable fire hose is the primary means of fire suppression; otherwise route the additional hose within 24 hours.

9.5.1.4.5.2 Surveillance

1. Each of the fire hose stations listed in Table 9.5-8 shall be demonstrated operable:

   a. At least once per 31 days by a visual inspection of the fire hose stations accessible during plant operation to assure all required equipment is at the station.

   b. At least once per 18 months by:

      1) Visual inspection of the fire hose stations not accessible during plant operation to assure all required equipment is at the station.

      2) Removing the hose for inspection and re-racking, and

      3) Inspecting all gaskets and replacing any degraded gaskets in the couplings.

   c. At least once per 3 years by:

      1) Partially opening each hose station valve to verify valve operability and no flow blockage.

      2) Conducting a hose hydrostatic test at a pressure of 150 psig or at least 50 psig above the maximum fire main operating pressure, whichever is greater.

9.5.1.4.6 Yard Fire Hydrants and Hydrant Hose Houses

9.5.1.4.6.1 Operability

1. The yard fire hydrants and associated hydrant hose houses listed in Table 9.5-9 shall be operable whenever equipment in the areas protected by the yard fire hydrants is required to be operable.

2. With one or more of the yard fire hydrants or associated hose houses listed in Table 9.5-9 inoperable, within 1 hour have sufficient additional lengths of 2 1/2 inch diameter hose located in an adjacent operable hydrant hose house to provide service to the unprotected area(s) if the inoperable fire hydrant or associated hydrant hose house is the primary means of fire suppression; otherwise provide the additional hose within 24 hours.

9.5.1.4.6.2 Surveillance

1. Each of the yard fire hydrants and associated hydrant hose houses listed in Table 9.5-9 shall be demonstrated operable:

   a. At least once per 31 days by visual inspection of the hydrant hose house to assure all required equipment is at the hose house.

   b. At least once per 6 months, by visually inspecting each yard fire hydrant and verifying that the hydrant barrel is dry and that the hydrant is not damaged.

   c. At least once per 12 months by:

      1) Conducting a hose hydrostatic test at a pressure of 150 psig or at least 50 psig above the maximum fire main operating pressure, whichever is greater.

      2) Replacement of all degraded gaskets in couplings.

      3) Performing a flow check of each hydrant.

9.5.1.4.7 Fire Rated Assemblies

9.5.1.4.7.1 Operability

1. All fire barrier assemblies* shall be operable at all times. Fire barrier assemblies include:

   a. Walls, floors/ceilings, cable tray enclosures, and other fire barriers that separate safety-related fire areas or that separate portions of redundant systems, important to safe shutdown, within a fire area, and

   b. All sealing devices in fire-rated assembly penetrations, including fire doors and fire dampers and cable, piping and ventilation duct penetration seals, and ventilation seals.

2. With one or more of the required fire-rated assemblies or sealing devices inoperable, within 1 hour a continuous fire watch will be established on at least one side of the affected assembly and/or sealing or the operability of fire detectors on a least one side of the inoperable assembly or sealing device will be verified, and an hourly fire watch patrol will be established.

9.5.1.4.7.2 Surveillance

1. Each of the required fire-rated assemblies and penetration sealing devices shall be verified operable at least once per 18 months by performing a visual inspection of:

   a. The exposed surfaces of each fire-rated assembly.

   b. Each fire damper and associated hardware.

*The requirements delineated in this section are applicable to only those fire barrier assemblies necessary for safe shutdown.

c. At least 10 percent of each type of sealed penetration. If changes in appearance or abnormal degradations are found, a visual inspection of an additional 10 percent of each type of sealed penetration shall be made.

This inspection process shall continue until a 10 percent sample is found with no apparent changes in appearance or abnormal degradation. Samples shall be selected such that each penetration seal will be inspected at least once per 15 years.

2. Each of the required fire doors shall be verified operable by inspecting the automatic hold-open, release and closing mechanism and latches at least once per 6 months, and by verifying:

a. At least once per 31 days, the operability of the fire door supervision system for each electrically supervised fire door by performing a channel functional test.

b. At least once per 7 days, that each locked-closed fire door is closed.

c. At least once per 24 hours, that doors with automatic hold-open and release mechanisms are free of obstructions and, at least once per 18 months, by performing a functional test of these mechanisms.

d. At least once per 24 hours, that each unlocked fire door without electrical supervision is closed.

taken to locate the compressor in areas free of dust and contaminants.

RIVER BEND STATION POSITION

INSERT A

The site fire brigade is trained and equipped to ensure an adequate manual fire fighting capability for protection of safety-related structures, systems, and components. Five members of each shift have fire brigade duties and are required to pass an annual physical examination. These shift members normally include a Nuclear Control Operator, two Nuclear Equipment Operators, one Test Technician - Nuclear, and one Chemistry Technician or Radiation Protection Technician, but not both. If sufficient numbers of trained personnel are not available from the above, other individuals who are qualified as fire brigade members will be assigned to that shift to complete the five-man fire brigade. The Nuclear Control Operator acts as fire brigade leader and informs the Shift Supervisor from the scene of the fire. The fire brigade leader understands the effects of fire and fire suppressants on safe shutdown capability (two additional brigade members possess similar knowledge). 13 17 13

INSERT B →

Turnout coats, boots, gloves, hard hats, portable hand lights and extinguishers are provided for fire brigade members. Page party/public address (PP/PA) equipment is available for emergency communications. In the main control room 10 full-face, positive pressure, self-contained breathing apparatuses (SCBA), and 3 spare air bottles per SCBA are provided for fire brigade use. Each SCBA supplies one individual for 1 hour during moderate exertion. Routine replenishment is available through a casade system located onsite with offsite replenishment available through compressed gas suppliers in the Baton Rouge area.

9B.4.9 Fire Brigade Training (Item III.I of Appendix R)

The fire brigade training program shall ensure that the capability to fight potential fires is established and maintained. The program shall consist of an initial classroom instruction program followed by periodic classroom instruction, fire fighting practice, and fire drills.

1. Instruction

   a. The initial classroom instruction shall include:

INSERT A to 9B.5.9
Page 9B.4-7

The fire brigade shall not include the Shift Supervisor, the Shift Technical Advisor, the Control Operating Foreman, nor the two other members of the minimum shift crew necessary for safe shutdown of the unit and any personnel required for other essential functions during a fire emergency.

INSERT B to 9B.5.9
Page 9B.4-7

The fire brigade composition may be less than the minimum requirements for a period of time not to exceed two hours, in order to accommodate unexpected absence, provided that immediate action is taken to fill the required positions.

FIRE SUPPRESSION SYSTEM SCHEDULE

ITEM NO	SYSTEM NO	EQUIPMENT ID AND AREA	TYPE OF SYSTEM	REMARKS
1				
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NOTES:
1. SCALE: NONE
2. GENERAL NOTES, LEGEND & REFERENCES

X - Required to be operable as specified by 9.5.1.4.3

FIGURE 9A.2-9

FIRE SUPPRESSION SYSTEM IDENTIFICATION LEGEND

RIVER BEND STATION
FINAL SAFETY ANALYSIS REPORT

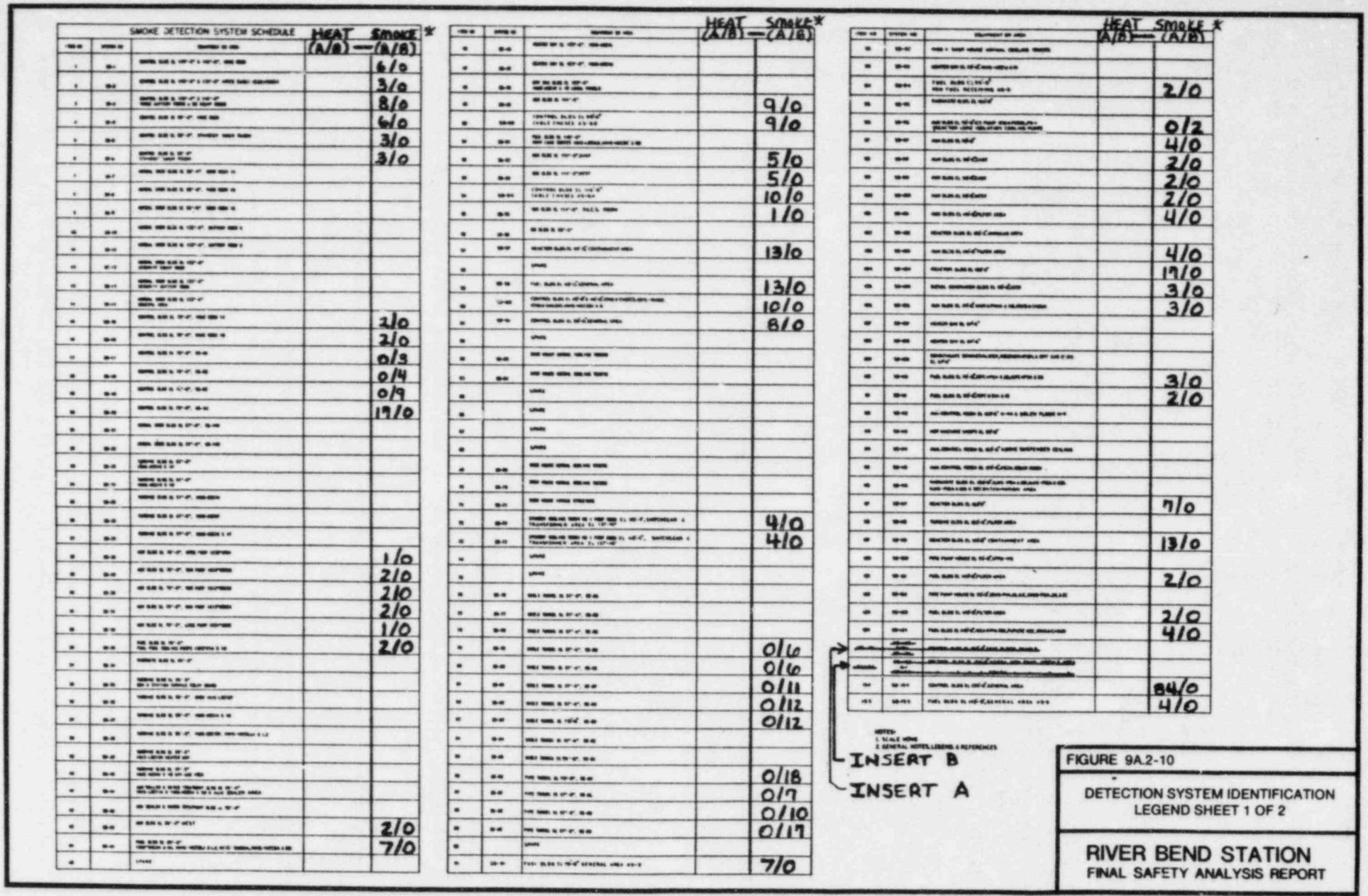

FIGURE 9A.2-10

DETECTION SYSTEM IDENTIFICATION LEGEND SHEET 1 OF 2

RIVER BEND STATION
FINAL SAFETY ANALYSIS REPORT

SMOKE DETECTION SYSTEM SCHEDULE			HEAT (A/B)	SMOKE* (A/B)
			0/8	8/0
				1/0
				1/0
				0/2
				0/4

FIRE DETECTION SYSTEM SCHEDULE			HEAT (A/B)	SMOKE* (A/B)
		SPARE		
		SPARE		
			0/4	
			0/4	
			0/4	
			1/0	
			1/0	
		SPARE		
		SPARE		
			1/0	
			1/0	
			1/0	
			1/0	
		SPARE		

← INSERT C

NOTES:
1. SCALE: NONE
2. GENERAL NOTES, LEGEND & REFERENCES

* - Required to be Operable as specified by 9.5, 1.4.1

FIGURE 9A.2-10

DETECTION SYSTEM IDENTIFICATION LEGEND SHEET 2 OF 2

RIVER BEND STATION
FINAL SAFETY ANALYSIS REPORT

FSAR FIGURE 9A.2-10

INSERT A

			HEAT (A/B)	SMOKE (A/B)
125	SD-125	PGCC PANEL MODULE, EL 136'0"	0/8	10/0
126	SD-126	PGCC PANEL MODULE, EL 136'0"	0/8	13/0
127	SD-127	PGCC PANEL MODULE, EL 136'0"	0/8	11/0
128	SD-128	PGCC PANEL MODULE, EL 136'0"	0/8	9/0
129	SD-129	PGCC PANEL MODULE, EL 136'0"	0/9	12/0
130	SD-130	PGCC PANEL MODULE, EL 136'0"	0/8	11/0
131	SD-131	PGCC PANEL MODULE, EL 136'0"	0/9	17/0
132	SD-132	PGCC PANEL MODULE, EL 136'0"	0/8	17/0
133	SD-133	PGCC PANEL MODULE, EL 136'0"	0/8	13/0
134	SD-134	PGCC PANEL MODULE, EL 136'0"	0/8	12/0
135	SD-135	PGCC PANEL MODULE, EL 136'0"	0/8	9/0
136	SD-136	PGCC PANEL MODULE, EL 136'0"	0/9	9/0
137	SD-137	PGCC PANEL MODULE, EL 136'0"	0/8	8/0
138	SD-138	PGCC PANEL MODULE, EL 136'0"	0/8	10/0
139	SD-139	PGCC PANEL MODULE, EL 136'0"	0/12	12/0
140	SD-140	PGCC PANEL MODULE, EL 136'0"	0/8	14/0
141	SD-141	PGCC PANEL MODULE, EL 136'0"	0/8	13/0
142	SD-142	PGCC PANEL MODULE, EL 136'0"	0/9	16/0
143	SD-143	PGCC PANEL MODULE, EL 136'0"	0/9	17/0
144	SD-144	PGCC PANEL MODULE, EL 136'0"	0/9	17/0
145	SD-145	PGCC PANEL MODULE, EL 136'0"	0/8	8/0
146	SD-146	PGCC PANEL MODULE, EL 136'0"	0/8	8/0
147	SD-147	PGCC PANEL MODULE, EL 136'0"	0/12	14/0
148	SD-148	PGCC PANEL MODULE, EL 136'0"	0/12	18/0
149	SD-149	PGCC PANEL MODULE, EL 136'0"	0/10	14/0
150	SD-150	PGCC PANEL MODULE, EL 136'0"	0/9	15/0
151	SD-151	PGCC PANEL MODULE, EL 136'0"	0/10	10/0

INSERT B

			SMOKE (A/B)
152	SD-152	NON PANEL MODULE AREA NORTH, EL 135'0"	10/0
153	SD-153	NON PANEL AREA SOUTH, EL 135'0"	10/0

INSERT C

		HEAT (A/B)
FD-13A	RECIRC PUMP 2 - DRYWELL, EL 70'0" & 98'0"	1/0
FD-13B	RECIRC PUMP 1 - DRYWELL, EL 70'0" & 98'0"	1/0

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TABLE 9.5-7

HALON SYSTEMS

PGCC Panel Module U701
PGCC Panel Module U702
PGCC Panel Module U703
PGCC Panel Module U704
PGCC Panel Module U710
PGCC Panel Module U711
PGCC Panel Module U712
PGCC Panel Module U713
PGCC Panel Module U714
PGCC Panel Module U715
PGCC Panel Module U717
PGCC Panel Module U720
PGCC Panel Module U721
PGCC Panel Module U723

PGCC Panel Module U730
PGCC Panel Module U731
PGCC Panel Module U732
PGCC Panel Module U740
PGCC Panel Module U741
PGCC Panel Module U742
PGCC Panel Module U743
PGCC Panel Module U744
PGCC Panel Module U745
PGCC Panel Module U746
PGCC Panel Module U747
PGCC Panel Module U748
PGCC Panel Module U799
PGCC Panel Module U750

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TABLE 9.5-8

FIRE HOSE STATIONS

LOCATION	ELEVATION	HOSE RACK IDENTIFICATION
Reactor Building	114'0"	HR - 16, [illegible]
	141'0"	HR - 17, 2
	162'3"	HR - 18, 1[illegible], 24, 25
	186'3"	HR - 20, 2[illegible], 26
Auxiliary Building	70'0" (Stairwell)	HR - 84
	95'9"	HR - 6, 7, 8, 9
	114'0"	HR - 10, 11
	141'0"	HR - 12, 13, 14, 15
	170'0"	HR - 80
Control Building	70'0"	HR - 85, 86, 87
	98'0"	HR - 88, 89, 90
	115'0" and 116'0"	HR - 91, 92, 93, 94
	135'0" (Stairwell)	HR - 96
Fuel Building	70'0"	HR - 1, 2, 82
	95'0"	HR - 3, 4
	113'0"	HR - 81
	148'0"	HR - 5
Pipe Tunnel	67'6"	HR - 83
Turbine Building	95'0"	HR - 50, 51
	123'6"	HR - 53

TABLE 9.5-9

YARD FIRE HYDRANTS AND ASSOCIATED HYDRANT HOSE HOUSES

LOCATION	HYDRANT NUMBER
Northeast of Fuel Bldg	FHY 11
East of Control Bldg	FHY 13
West of Standby Cooling Tower	FHY 9*
North of Fuel Bldg	FHY 10

* No associated hose house