

JERSEY CENTRAL POWER & LIGHT COMPANY OYSTER CREEK NUCLEAR GENERATING STATION PROVISIONAL OPERATING LICENSE NO. DPR-16 DOCKET NO. 50-219

Applicant hereby requests the Commission to change Appendix A to the License as follows:

1. Sections to be changed:

Sections 3.12 and 4.12

2. Extent of changes:

New specifications for additional fire protection systems installed per the Oyster Creek Fire Protection Program.

3. Changes requested:

Replace Section 3.12 and 4.12 in their entirety with the attached revised Sections 3.1? and 4.12.

4. Discussion:

The changes requested are proposed in order to incorporate Technical Specification requirements on additional fire protection systems that have been installed during the 1980 refueling outage. The proposed specifications include revisions to the existing Tables in Section 3.12 which have been modified to include system expansions which have been implemented during the 1980 refueling outage. Additionally, this change request includes those items which were discussed between the NRC staff and the licensee in several telcons concerning areas of deviation from the standard Technical Specifications.

3.12 Fire Protection

Applicability: Applies to the operating status of Fire Detection/Suppression systems and associated instrumentation.

Objective: To assure that fire in safety related areas is detected and suppressed at an early stage so as to minimize fire damage to safety related equipment.

Specification:

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A. Fire Detection Instrumentation

- As a minimum, the fire detection instrumentation for each fire detection area/zone shown in Table 3.12.1 shall be operable, except as otherwise specified in this section.
- 2. With the number of operable fire detection instruments less than required by Table 3.12.1: a. Within one hour, establish a fire watch patrol to inspect the area(s)/zone(s) with the inoperable instrument(s) at least once per hour, and

b. Restore the inoperable instrument(s) to operable status within 14 days or propare and submit a special report to the Commission, in lieu of any other report required by Section 6.9, within the next 30 days otlining the action taken, the cause of the inoperability and the plans/schedule for restoring the instrument(s) to operable status.

- B. Fire Suppression Water System
 - The Fire Suppression Water System shall be operable with:

a. Two high pressure pumps, each with a capacity of 2000 GPM, with their discharge aligned to the fire suppression header.

b. Automatic initiation logic for each fire pump.

c. An operable flow path capable of taking suction from the fire pond and transferring water through distribution piping with sectionalizing control of valves to the yard hydrant curb valves and the first valve ahead of the water flow alarm device on each sprinkler, hose standpipe or spray system riser required to be operable per specifications 3.12.C and 3.12.D.

2. With one pump inoperable, restore the inoperable equipment to operable status within 7 days or prepare and submit a Special Report to the Commission, in lieu of any other report required by Section 6.9, within the next 30 days outlining the plans and procedures to be used to restore the inoperable equipment to operable status or to provide an alternate pump.

3. With no Fire Suppression Water System operable.

a. Within 24 hours establish a backup Fire Suppression Water System.

b. Submit a Special Report to the Commission, in lieu of any other report required by Section 6.9:

(1) By telephone within 24 hours,

(2) Confirmed by telegraph, mailgram or facsimile transmission no later than the first working day following the event, and

(3) In writing within 14 days following the event, outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to operable status.

- C. Spray and/or Sprinkler Systems
 - The spray and/cr sprinkler systems listed in Table 3.12.2 shall be operable.
 - 2. With one or more of the above required spray and/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.
 - 3. Restore the system to operable status within 14 lays or prepare and submit a Special Report to the Commission, in lieu of any other report required by Section 6.9, within the next 30 days outlining the action taken, the cause of inoperability and the plans/schedule for

restoring the system to operable status.

- D. Fire Hose Stations
 - The Fire Hose Stations listed in Table 3.12.3 shall be operable.
 - 2. With a hose station listed in Table 3.12.3 inoperable, within one hour for areas where the inoperable hose station is the primary means of fire suppression otherwise within 24 hours, provide additional lengths of hose at another hose station sufficient to reach the area of the inoperable hose station, unless the reason for inoperability is a failure of the fire suppression water system. In this event, additional hose lengths are not required and the requirements of Section 3.12.B.3 shall be followed.
 - 3. Restore the affected hose station to operable status within 14 days or prepare and submit a Special Report to the Commission, in lieu of any other report required by Section 6.9, within the next 30 days outlining the action taken, the cause of inoperability, and the plans and schedule for restoring the station to operable status.
- E. Fire Barrier Penetration Fire Seals
 - All penetration fire barriers protecting safety related fire areas shall be intact except for periods of planned maintenance.
 - 2. With one or more of the above required fire barrier penetrations non-functional, within one hour, either establish a continuous* fire watch on at least one side of the affected penetration, or if the fire detectors on at least one side of the non-functional barrier are operable, establish an hourly fire watch patrol.
 - 3. Restore the non-functional fire barrier penetration(s) to functional status within 7 days or prepare and submit a Special Report to the Commission, in lieu of any other report required by Section 6.9, within the next 30 days outlining the action taken, the cause of non-function, the plans and schedule for restoring the fire barrier penetration to operable status.

F. Halon Systems

- The Halon Systems listed in Table 3.12-4 shall be operable with the storage tanks having at least 95% of full charge weight and 90% of full charge pressure.
- 2. With a Halon system inoperable within one hour establish a fire watch patrol to inspect the affected area at least once per hour or a continuous* fire watch with backup fire suppression equipment for those areas in which redundant systems or components could be damaged.
- 3. Restore the system to operable status within 14 days or prepare and submit a Special Report to the Commission, in lieu of any other report required by Section 6.9, within the next 30 days outlining the action taken, the cause of inoperability, and the plans/schedule for restoring the system to operable status.
- G. Carbon Dioxide (CO2) System
 - The 4160 Volt Switchgear CO2 system shall be operable with a minimum level greater than or equal to 1/2 full and a minimum pressure of 275 psig in the associated storage tank.
 - With the CO2 system inoperable, within one hour establish a continuous* fire watch with backup fire suppression equipment.
 - 3. Restore the system to operable status within 14 days or prepare and submit a Special Report to the Commission, in lieu of any other report required by Section 6.9, within the next 30 days outlining the action taken, the cause of inoperability and the plans/schedule for restoring the system to operable status.
- H. Yard Fire Hydrants and Hydrant Hose Houses
 - 1. The yard hydrants and associated hose houses listed in Table 3.12.5 shall be operable.
 - 2. With one or more of the yard hydrants or associated hydrant hose houses shown in Table 3.12.5 incperable, within one 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.

3. Restore the hydrant or hose house to operable status within 14 days or prepare and submit a special report to the Commission, in lieu of any other report required by Section 6.9, within the next 30 days outlining the action taken, the cause of the inoperability, and the plans and schedule for restoring the hydrant or hose house to operable status.

*In those areas which represent a radiation, airborn, or industrial safety hazard; an hourly fire watch patrol will be initiated in lieu of the continuous fire watch.

Basis:

Fire Protection systems and instrumentation provide for early detection and rapid extinguishment of fires in safety related areas thus minimizing fire damage. These specifications will assure that in the event of inoperable fire protection equipment, corrective action will be initiated in order to maintain fire protection capabilities during all modes of reactor operation.

The pumps in the fire water suppression system have a capacity of 2000 GPM each assuring an adequate supply of water to fire suppression systems. Fire suppression water system operability as defined in 3.12.B.1 applies only as pertains to specification 3.12 and is not applicable to other specifications.

Hose stations are provided for manual fire suppression. In the event that a hose station becomes inoperable, additional fire suppression equipment will be provided.

TABLE 3.12.1 FIRE DETECTION INSTRUMENTATION

Fire Area/Zone	Location	Detector Zone	Required # of Detectors
1	Rx.Bldg. 119' elev.	Sprinkler Sys. #10	1 (WFS)
1	" 95' "	NA	24*
1	" 75' "	NA	22*
1	" 75' "	Sprinkler Sys. #11	1 (WFS)
1	n 31. n	RK01/RK02	2
	" 51' "	1 - North	6 +
	" 51' "	2 - North	7 +
	" 51' "	1 - South	6 +
	" 51' "	2 - South	6 +
	" 38'/51' "	Shutdown Pump Rm.	7
1	" 23' "	1 - North	6 +
	" 23' "	2 - North	5 +
	" 23' "	1 - South	6 +
	" 23' "	2 - South	6 +
1	" -19' "	NA	4 (1 per corner nm.)
3	4160 Swgr. Rm.	Vault	2 (1 in "C" and 1 in. "D"
	4160 Swgr. Rm.	Gen. Area	5
	4160 Swgr. Rm.	Battery Rm.	1
4	Cable Spread Rm.	4A-Zone 1	3 +
		4A-Zone 2	3 +
		4B-Zone 3	4 +
		4B-Zone 4	5 +
5	Control Room	Gen. Area	5
		A-Zone 1	3 +
		A-Zone 2	3 +
		B-Zone 1	7*+
		B-Zone 2	7**
	1. A. A. M. M. M. M.	C-Zone 1	1 +
		C-Zong 2	1 +
		Dict	1

TABLE 3.12.1 FIRE DETECTION INSTRUMENTATION

Fire Area/Zone	Location	Detector Zone	Required # of Detectors
6	480 Swgr. Rm.	Zone 1	9 +
		Zone 2	8 +
		Corridor	1
7	"A" & "B" Battery Rm.	Zone 1	4 +
		Zone 2	4 +
		Zone 4 (Duct)	1 +
8	MG Set Rm.	NA	1 (WFS)
10	Monitor & Change Rm.	Below Ceiling	2
		Above Ceiling	10*
		Sprinkler Sys. #12	1 (WFS)
10/1	Laundry Room	Sprinkler Sys. #13	1 (WFS)
11/3	Condenser Bay	Sprinkler Sys. #2	1 (P.S.)
11/1	Turb. Lube Oil	Deluge Sys. #3	1 (P.S.)
11/2	Turb. Basement South	Sprinkler Sys. 9	1 (WFS)
12	Transformers	Deluge Sys. #1	1 (P.S.)
		Deluge Sys. #2	1 (P.S.)
15	Emer. Diesel #1	Thermal	5
		Ionization	1
16	Fuel Storage Area	NA	1
17	Emer. Diesel #2	Thermal	5
		Ionization	1
18	Fire Water Pump House	NA	4 +

*No two adjacent detectors may be inoperable. WFS - Water Flow Switch

P.S. - Pressure Switch

+These detectors actuate automatic suppression systems

TABLE 3.12.2 SPRAY/SPRINKLER SYSTEMS

fire Area	Location	System
1	Rx. Bldg. 119'	Sprinkler Sys. #10
1	Rx. Bldg. 75'	Sprinkler Sys. #11
1	Rx. Bldg. 51'-N	Deluge Sys. #5
1	" -S	Deluge Sys. #6
1	Rx. Bldg. 23'-N	Deluge Sys. #7
	" -s	Deluge Sys. #8
4	Cable Spread Room	Deluge Sys. #4A
		Deluge Sys. #4B
8	MG Set Room	Sprinkler Sys. #4
10	Monitor & Change Rm.	Sprinkler Sys. #12
10	Laundry Room	Sprinkler Sys. #13
11	Condenser Bay	Sprinkler Sys. #2
11	Turb. Lube Oil Bay	Deluge Sys. #3
11	Turb. Easement South	Sprinkler Sys. #9
12	Transformers	Deluge Sys. #1
		Deluge Sys. #2
18	Fire Water Pump House	Deluge Sys. #9

TABLE 3.12.3 HOSE STATIONS

Fire Area	Zone	Hose Station No.	Locations
11	2	3	Turb. Basement - S
11	2	4	Turb. Pasement - S
11	1	8	Turb. Basement - N
11	1	9	Turb. Basement - N
11	3	10	Condenser Bay
11	3	11	Condenser Bay
11	3	12	Condenser Bay
11	3	13	Condenser Bay
1	-	29	Rx Bldg. 23'
1	-	30	Rx Bldg. 23'
1	-	31	Rx Bldg. 23'
1		32	Rx Bldg. 23'
1	-	33	Rx Bldg. 23'
1	-	34	Rx Bldg19'
1	-	35	Rx Bldg19'
1	-	36	Rx Bldg19'
1	-	37	Rx Bldg19'
1	-	38	Rx Bldg. 51'
1	-	39	Rx Bldg. 51'
1	-	40	Rx Bldg. 51'
1	-	41	Rx Bldg. 51'
1	-	42	Rx Bldg. 75'
1	-	43	Rx Bldg. 75'
1	-	44	Rx Bldg. 75'
1		45	Rx Bldg. 75'

TABLE 3.12.3 HOSE STATIONS

Fire Area	Zone	Hose Station No.	Locations
1	-	46	R* Bldg. 95'
1	-	47	Rx Bldg. 95'
1	-	48	Rx Bldg. 95'
1	-	49	Rx Bldg. 95'
1	-	50	Rx Bldg.119'
1	-	. 51	Rx Bldg.119'
4	-	52	Cable Poom
5	-	53	Control Rm.
10	1	54	Chem. Lab.
11	2	55	Turb. Basement S

TABLE 3.12.4 HALON SYSTEM

Halon 1301 Sys.	Fire Area	Location	Charged Tanks
1. Battery Room			
A&B	7	Battery Room (Ofc.Bldg.)	1
Cable Tray Room		(Ofc. Bldg.)	
2. 480 Volt Switchgear	6	23' Elev. Between Rx. Bldg. & Turb. Bldg.	3
3. Control Room Panels	5	Control Room	2

TABLE 3.12-5 HYDRANTS AND HOSE HOUSES

Fire Area	Hydrant No.	Hose House No.	Location
12,15,16,17	3	5	Diesel Gen & Transformer Area
14	2	2	Intake Structure

4.12 Fire Protection

Applicability: Applies to the surveillance requirements of the Fire Protection Systems in safety related areas/zones.

Objective: To specify the minimum frequency and type of surveillance to be applied to fire protection equipment and instrumentation.

Specifications:

- A. Fire Detection Instrumentation
 - Each of the instruments in Table 3.12.1 shall be demonstrated operable by a channel function test at least once per 6 months.
 - The NFPA Code 72D(1977) Class A 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.
- B. Fire Suppression Water System
 - The Fire Suppression Water System shall be demonstrated operable:

a. At least once per month on a staggered test basis by starting each pump and operating it for at least (15) minutes on recirculation flow.

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 performance of a system flush.

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 pump develops at least 2000 gpm at a system head of 360 feet.

2. Verifying that the pump operates for greater than or equal to 60 minutes.

3. Verifying that each high pressure pump starts sequentially to maintain the fire suppression water system pressure at 125 psig or greater. 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.

 The Fire Pump Diesel Engine shall be demonstrated operable.

a. At least once per month by verifying the fuel storage tank contains at least 275 gallons of fuel.

b. At least once per month by verifying that the diesel starts from ambient conditions and operats for at least 30 minutes on a circulation flow.

c. At least once per 3 months by verifying that a fuel sample, obtained in accordance with ASTM-0270-65, from each tank is within the acceptable limits specified in Table 1 of ASTM D 975-1974 when checked for viscosity, water and sediment.

- 3. The Fire Pump Diesel 24 volt battery bank and associated charger shall be demonstrated operable:
 - a. At least once per week by verifying that:

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

2. The pilot cell voltage is greater than or equal to 2.0 volts,

3. The pilot cell specific gravity, corrected to 77F, will be recorded for surveillance review,

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

b. At least once per 3 months by verifying that:

1. The voltage of each connected cell is greater than or equal to 2.0 volts,

2. The specific gravity, corrected to 77 F, of each cell will be recorded for surveillance review.

3. The electrolyte level of each cell is above the plates.

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

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

- The battery-to-battery and terminal connections are clean, tight, free of corrosion and coated with an anticorrosion material.
- C. Spray and/or Sprinkler Systems
 - The spray and/or sprinkler systems listed in Table 3.12.2 shall be demonstrated operable at least once per 18 months:

a. By performing a system functional test which includes simulated automatic actuation of the system and verifying that the automatic valves in the flow path actuate to their correct positions.

b. By inspection of the water headers to verify their integrity.

c. By inspection of each open spray nozzle to verify no blockage.

D. Hose Stations

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 Each of the hose stations listed in Table 3.12.3 shall be verified operable:

a. At least once per month by visual inspection of the station to assure all equipment is available.

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

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 at least 50 psig greater than the maximum pressure available at that hose station.

- E. Penetration Fire Barrier
 - Each penetration fire barrier in fire area boundaries shall be verified to be functional by a visual inspection:
 - a. At least once per 18 months, and

b. Prior to declaring a penetration fire barrier functional following repairs or maintenance.

- F. Low Pressure Carbon Dioxide(CO2) System
 - The CO2 system for the 4160 volt emergency switchgear vault shall be demonstrated operable:

a. At least once per week by verifying that the storage tank level is greater than or equal to 1/2 full and the pressure is at least 275 psig.

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

- c. At least once per 18 months by verifying that:
 - The system valves and associated ventilation dempers actuate automatically upon receipt of a simulated actuation signal, and
 - Flow is observed from each nozzle during a "puff test".
- G. Halon Systems
 - Each of the Halon Systems listed in Table 3.12.4 shall be demonstrated operable:

a. At least once per 6 months by verifying Halon storage tank weight or level and pressure.

b. At least once per 18 months by:

1. Verifying the system, including associated ventilation dampers, actuates manually and automatically, upon receipt of a simulated test signal.

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

- H. Yard Fire Hydrants and Hydrant Hose Houses.
 - Each of the yard fire hydrants and associated hydrant hose houses shown in Table 3.12.5 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 (once during March, April, cr May and once during

c. At least once per 12 months by:

1. Conducting a hose hydrostatic test and a pressure at least 50 psig greater than the maximum pressure available at any yard fire hydrant.

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

3. Performing a flow check of each hydrant to verify its operability.

Basis:

Fire Protection systems are normally inactive and require periodic examination and testing to assure their readiness to respond to a fire situation. These specifications detail inspections and tests which will demonstrate that this equipment is capable of performing its intended function.