

3-3-78

Dockets Nos. 50-245
and 50-336

Northeast Nuclear Energy Company
ATTN: Mr. Donald C. Switzer
President
P. O. Box 270
Hartford, Connecticut 06101

Gentlemen:

The Commission has issued the enclosed Amendments Nos. ⁴⁴ and ³⁵ to Facility Operating Licenses Nos. DPR-21 and DPR-65 for the Millstone Nuclear Power Station, Units Nos. 1 and 2. The amendments consist of changes to the Technical Specifications and are in accordance with your application dated May 11, 1977 as revised by letters dated July 11 and December 15, 1977.

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

In order to achieve expeditious implementation of the Fire Protection Technical Specifications, Specification 6.2.2.f. is being issued at this time with the minimum number of on-site fire brigade members specified as 3 as you proposed. This number is less than the minimum number given in the generic staff position, Minimum Fire Brigade Shift Size, which was an attachment to the Safety Evaluation Report issued with our letter to you dated November 25, 1977. However, we are presently evaluating your justification for this smaller brigade size and when the evaluation is completed the minimum number will be increased if we do not agree with your position.

60

OFFICE >						
SURNAME >						
DATE >						

These amendments revise: (1) Specification 6.4.2 to require Fire Brigade training sessions to be held at least quarterly, and (2) Specifications 4.12 A.1.3.2 and 4.12 B.1.b.1.(b) to defer testing of the sprinkler system in the Gas Turbine Building, until such time as this system is modified to allow for surveillance testing.

Although there was no revision to Specification 3.7.9.1, the following should clarify the intent regarding what constitutes an acceptable flow path for the fire suppression water system: an operable flow path is considered to exist as long as water can be delivered from the fire pump(s) to the hose and sprinkler stations. The action required in the event of inoperability of individual hose and sprinkler stations is addressed in separate sections of the Technical Specifications.

Except for minor editorial changes, the other Specifications are the same as those transmitted to you on November 25, 1977, and are supported by the Safety Evaluation which was attached to that letter.

A copy of the related Notice of Issuance is also enclosed.

Sincerely,

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

Enclosures:

1. Amendment No. ⁴⁴ to License DPR-21
2. Amendment No. ³⁵ to License DPR-65
3. Notice

cc w/enclosures:
 see next page

DISTRIBUTION:

Docket	OI&E (5)	File
NRC PDR	BJones (8)	Xtra Copies
Local PDR	BScharf (15)	
ORB#2 Rdg	JMcGough	
VStello	BHarless	
KRGoller	DEisenhut	
ORB#4 Rdg	ACRS (16)	
RDiggs	OPA (CMiles)	
RIngram	DRoss	
OELD	TBAbernathy	
JShea	JRBuchanan	
EBonner	Roisman	

ORB#4
RReid
3/ /78

*See Previous Yellow for Concurrent

OFFICE >	ORB#3	ORB#3	ORB#2	OELD	ORB#2	ORB#1
SURNAME >	*JHannon:acr	*GLear	*JShea	*LBrenner	DZiemann	*TWambach
DATE >	2/27/78	2/28/78	2/28/78	3/1/78	3/ /78	2/28/78

These amendments revise: (1) Specification 6.4.2 to require Fire Brigade training sessions to be held at least quarterly, and (2) Specifications 4.12 A.1.3.2 and 4.12 B.1.b.1.(b) to defer testing of the sprinkler system in the Gas Turbine Building, until such time as this system is modified to allow for surveillance testing.

Although there was no revision to Specification 3.7.9.1, the following should clarify the intent regarding what constitutes an acceptable flow path for the fire suppression water system: an operable flow path is considered to exist as long as water can be delivered from the fire pump(s) to the hose and sprinkler stations. The action required in the event of inoperability of individual hose and sprinkler stations is addressed in separate sections of the Technical Specifications.

Except for minor editorial changes, the other Specifications are the same as those transmitted to you on November 25, 1977, and are supported by the Safety Evaluation which was attached to that letter.

A copy of the related Notice of Issuance is also enclosed.

Sincerely,

Dennis L. Ziemann, Chief
 Operating Reactors Branch #2
 Division of Operating Reactors

Enclosures:

1. Amendment No. to License DPR-21
2. Amendment No. to License DPR-65
3. Notice

DISTRIBUTION:

cc w/enclosures:
 see next page

Docket BScharf (15)
 NRC PDR JMcGough
 Local PDR BHarless
 ORB#2 Rdg DEisenhut
 VStello ACRS (16)
 KRGoller CMiles(OPA)
 RDiggs DRoss
 OELD TBAbernathy
 JShea JRBuchanan
 OE&E (5) Roisman
 BJones (8) File
 Xtra Copies

OFFICE >	ORB#3	ORB#3	ORB#2	OELD	ORB#2
SURNAME >	JHannon:acr	GLear	JShea		DZiemann
DATE >	2/ /78	2/ /78	2/ /78	2/ /78	2/ /78

Northeast Nuclear Energy Company

cc: William H. Cuddy, Esquire
Day, Berry & Howard
Counselors At Law
One Constitution Plaza
Hartford, Connecticut 06103

Anthony Z. Roisman, Esquire
Sheldon, Harmon and Roisman
1025 15th Street, N. W.
5th Floor
Washington, D. C. 20005

Robert Bishop
Department of Planning & Energy Policy
20 Grand Street
Hartford, Connecticut 06115

Mr. Albert L. Partridge, First Selectman
Town of Waterford
Hall of Records - 200 Boston Post Road
Waterford, Connecticut 06385

Northeast Nuclear Energy Company
ATTN: Superintendent
Millstone Plant
P. O. Box 128
Waterford, Connecticut 06385

Chief, Energy Systems Analysis Branch (AW-459)
Office of Radiation Programs
U. S. Environmental Protection Agency
Room 645, East Tower
401 M Street, N. W.
Washington, D. C. 20460

U. S. Environmental Protection Agency
Region I Office
ATTN: EIS COORDINATOR
John F. Kennedy Federal Building
Boston, Massachusetts 02203

Waterford Public Library
Rope Ferry Road, Route 156
Waterford, Connecticut 06385



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

CONNECTICUT LIGHT AND POWER COMPANY
THE HARTFORD ELECTRIC LIGHT COMPANY
WESTERN MASSACHUSETTS ELECTRIC COMPANY
NORTHEAST NUCLEAR ENERGY COMPANY

DOCKET NO. 50-245

MILLSTONE NUCLEAR POWER STATION, UNIT NO. 1

AMENDMENT TO PROVISIONAL OPERATING LICENSE

Amendment No. 44
License No. DPR-21

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Connecticut Light and Power Company, The Hartford Electric Light Company, Western Massachusetts Electric Company, Northeast Nuclear Energy Company (the licensees) dated May 11, 1977, as supplemented July 11 and December 15, 1977, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

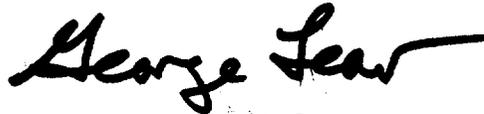
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B. of Provisional Operating License No. DPR-21 is hereby amended to read as follows:

(B) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 44, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



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

Attachment:
Changes to the Technical
Specifications

Date of Issuance: MARCH 3 1978

ATTACHMENT TO LICENSE AMENDMENT NO. 44

FACILITY OPERATING LICENSE NO. DPR-21

DOCKET NO. 50-245

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages. The revised pages are identified by Amendment number and contain vertical lines indicating the area of change. The corresponding overleaf pages are also provided to maintain document completeness.

Pages

iii/iv
1-1/1-2
1-7/1-8
6-1/6-2
6-3/6-4
6-5/6-6
6-13/6-14
6-15/6-16
6-17/6-18

Add the following pages

3/4 12-1 through 3/4 12-12
B 3/4 12-1 and B 3/4 12-2

	<u>Surveillance</u>	<u>Page No.</u>
C. Secondary Containment.....	C.....	3/4 7-13
D. Primary Containment Isolation Valves.....	D.....	3/4 7-14
3.8 RADIOACTIVE MATERIALS	4.8	
A. Airborne Effluents.....	A.....	3/4 8-1
B. Mechanical Vacuum Pump.....	B.....	3/4 8-3
C. Liquid Effluents.....	C.....	3/4 8-4
D. Radioactive Waste Storage.....	D.....	3/4 8-5
3.9 AUXILIARY ELECTRICAL SYSTEMS	4.9	3/4 9-1
3.10 REFUELING	4.10	
A. Refueling Interlocks.....	A.....	3/4 10-1
B. Core Monitoring.....	B.....	3/4 10-2
C. Fuel Storage Pool Water Level.....	C.....	3/4 10-2
D. Crane Operability.....	D.....	3/4 10-2
E. Crane Travel - Interlocks and Switches.....	E.....	3/4 10-2
3.11 REACTOR FUEL ASSEMBLY	4.11	
A. Average Planar Linear Heat Generation Rate.....	A.....	3/4 11-1
B. Linear Heat Generation Rate.....	B.....	3/4 11-8
C. Minimum Critical Power Ratio.....	C.....	3/4 11-9
3.12 FIRE PROTECTION SYSTEMS	4.12	
A. Fire Suppression Water System.....	A.....	3/4 12-1
B. Spray and/or Sprinkler Systems.....	B.....	3/4 12-5
C. Carbon Dioxide Systems.....	C.....	3/4 12-7
D. Fire Hose Stations.....	D.....	3/4 12-8
E. Fire Detection Instrumentation.....	E.....	3/4 12-10
F. Penetration Fire Barriers.....	F.....	3/4 12-12

5.0 DESIGN FEATURES..... 5-1

6.0 ADMINISTRATIVE CONTROLS

6.1 Responsibility..... 6-1

6.2 Organization..... 6-1

6.3 Facility Staff Qualifications..... 6-2

6.4 Training..... 6-5

6.5 Review and Audit..... 6-5

6.6 Reportable Occurrence Action..... 6-15

6.7 Safety Limit Violation..... 6-15

6.8 Procedures..... 6-16

6.9 Reporting Requirements..... 6-17

6.10 Record Retention..... 6-17

6.11 Radiation Protection Program..... 6-20

6.12 Respiratory Protection Program..... 6-20

1.0 DEFINITIONS

The succeeding frequently used terms are explicitly defined so that a uniform interpretation of the Specifications may be achieved.

A. Fire Suppression Water System

A Fire Suppression Water System shall consist of: a water source(s); gravity tank(s) or pump(s); and distribution piping with associated sectionalizing control or isolation valves. Such valves shall 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.

B. Alteration of the Reactor Core

The act of moving any component in the region above the core support plate, below the upper grid and within the shroud with the exception of normal control rod motion.

C. Hot Standby

Hot Standby means operation with the reactor critical, system pressure less than 600 psig, and the main steam isolation valves closed.

D. Immediate

Immediate means that the required action will be initiated as soon as practicable considering the safe operation of the unit and the importance of the required action.

E. Instrument Calibration

An instrument calibration means the adjustment of an instrument signal output so that it corresponds, within acceptable range, accuracy and response time, to a known value(s) of the parameter which the instrument monitors. Calibration shall encompass the entire instrument including actuation, alarm or trip.

F. Instrument Functional Test

An instrument functional test means the injection of a simulated signal into the instrument primary sensor to verify the proper instrument channel response, alarm, and/or initiating action.

G. Instrument Check

An instrument check is qualitative determination of operability by observation of behavior during operation. This determination shall include, where possible, comparison of the instrument with other independent instruments measuring the same variable.

H. Minimum Critical Power Ratio (MCPR)

Minimum Critical Power Ratio (MCPR) is the value of critical power ratio associated with the most limiting assembly in the reactor core. Critical Power Ratio (CPR) is the ratio of that power in a fuel assembly, which is calculated by application of the GEXL correlation to cause some point in the assembly to experience boiling transition, to the actual assembly operating power.

I. Mode

The reactor mode is that which is established by the mode-selector-switch.

J. Operable

A system or component shall be considered operable when it is capable of performing its intended function in its required manner.

Performance of a surveillance requirement within the specified time interval shall constitute compliance with Operability requirements for a Limiting Condition for Operation.

Surveillance Requirements shall be applicable during the OPERATIONAL MODES associated with Limiting Conditions for Operation. Surveillance need not be performed if the system or component to be tested is not required to be operational as specified by the Limiting Conditions for Operation. However, the required surveillance shall be performed prior to returning the component to an operational status as required by the limiting conditions for operation.

AA. Transition Boiling

Transition boiling means the boiling regime between nucleate and film boiling. Transition boiling is the regime in which both nucleate and film boiling occur intermittently with neither type being completely stable. (

BB. Emergency Power Sources

Emergency power sources means the on-site gas turbine generator and diesel generator.

CC. Staggered Test Basis

A. Staggered Test Basis shall consist of:

- a) A test schedule for n systems, subsystems, trains or other designated components obtained by dividing the specified test interval into n equal subintervals, and
- b) The testing of one system, subsystem, train, or other designated component at the beginning of each subinterval.

LEFT BLANK INTENTIONALLY

1-8

LIMITING CONDITION FOR OPERATION

SURVEILLANCE REQUIREMENTS

3.12 FIRE PROTECTION SYSTEMS

Applicability:

Applies to the operational status of those portions of the fire protection and detection systems protecting areas of the facility where safety-related equipment is located.

Objective:

To assure the availability of the fire protection and detection systems.

Specification:

A. Fire Suppression Water System

1. The fire suppression water system shall be OPERABLE at all times with:
 - a. Two high pressure pumps, each with a capacity of 1800 gpm, with their discharge aligned to the fire suppression header,
 - b. Two water supplies, each with a minimum contained volume of 200,000 gallons, and
 - c. An OPERABLE flow path capable of taking suction from the fire water tanks and transferring the water through distribution piping with OPERABLE sectionalizing control or isolation 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.B.1 and 3.12.D.1.

4.12 FIRE PROTECTION SYSTEMS

Applicability:

Applies to the periodic testing requirements for the fire protection and detection systems.

Objective:

To verify the operability of the fire protection and detection systems.

Specification:

A. Fire Suppression Water System

1. The fire suppression water system shall be demonstrated OPERABLE:
 - a. At least once per 7 days by verifying the contained water supply volume.
 - b. At least once per 31 days on a STAGGERED TEST BASIS by starting each pump and operating it for at least (15) minutes on recirculation flow.
 - c. At least once per 31 days by verifying that each valve (manual, power operated or automatic) in the flow path is in its correct position.

LIMITING CONDITION FOR OPERATION

SURVEILLANCE REQUIREMENTS

- 2. With one pump and/or one water supply inoperable, restore the inoperable equipment to OPERABLE status within 7 days or, in lieu of any other report required by Specification 6.9.1, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days outlining the plans and procedures to be used to provide for the loss of redundancy in this system.
- 3. With the fire suppression water system otherwise inoperable:
 - a. Establish a backup fire suppression water system within 24 hours, and
 - b. Submit a Special Report in accordance with Specification 6.9.2;
 - 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 with 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.

- 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 through its operating sequence, and
 - 1. Verifying that each pump develops at least 1800 gpm at a system head of 100 psig.
 - 2. Cycling each valve in the flow path that is not testable during plant (except valve 1-F-71) operation through at least one complete cycle of full travel and
 - 3. Verifying that each high pressure pump starts (sequentially) to maintain the fire suppression water system pressure >75 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.

LIMITING CONDITION FOR OPERATION

4. If 3.a above cannot be fulfilled, place the reactor in Hot Standby within the next 6 hours and in Cold Shutdown within the following twenty-four (24) hours.

SURVEILLANCE REQUIREMENTS

- g. The fire pump diesel engine shall be demonstrated OPERABLE:
1. At least once per 31 days by verifying:
 - (a) The fuel storage tank contains at least 125 gallons of fuel, and
 - (b) The diesel starts from ambient conditions and operates for at least 20 minutes.
 2. At least once per 92 days by verifying that a sample of diesel fuel from the fuel storage tank, obtained in accordance with ASTM-D270-65, is within the acceptable limits specified in Table 1 of ASTM-D975-74 with respect to viscosity, water content and sediment.
 3. At least once per 18 months, during shutdown, by:
 - (a) Subjecting the diesel to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendations for the class of service, and

LIMITING CONDITION FOR OPERATION

SURVEILLANCE REQUIREMENTS

- (b) Verifying the diesel starts from ambient conditions on the auto-start signal and operates for >20 minutes while loaded with the fire pump.
- h. The fire pump diesel starting 24-volt battery bank and charger shall be demonstrated OPERABLE:
- 1. At least once per 7 days by verifying that:
 - (a) The electrolyte level of each battery is above the plates, and
 - (b) The overall battery voltage is >24 volts.
 - 2. At least once per 92 days by verifying that the specific gravity is appropriate for continued service of the battery.
 - 3. At least once per 18 months by verifying that:
 - (a) The batteries, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration, and
 - (b) The battery-to-battery and terminal connections are clean, tight, free of corrosion and coated with anti-corrosion material.

LIMITING CONDITION FOR OPERATION

SURVEILLANCE REQUIREMENTS

B. Spray and/or Sprinkler Systems

1. The following spray and/or sprinkler systems located in the following areas shall be operable at all times when equipment in the area is required to be operable:
 - a. Diesel Generator Room
 - b. Diesel Generator Day Tank Room
 - c. Hydrogen Seal Oil Unit
 - d. Gas Turbine Building
2. With one or more of the above required spray and/or sprinkler systems inoperable, establish a continuous fire watch with backup fire suppression equipment for the unprotected area(s) within 1 hour; restore the system to OPERABLE status within 14 days or, in lieu of any other report required by Specification 6.9.1, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.

B. Spray and/or Sprinkler Systems

1. Each of the spray/sprinkler systems in 3.12.B shall be demonstrated OPERABLE:
 - a. At least once per 12 months by cycling each testable valve in the flow path through at least one complete cycle of full travel.
 - b. At least once per 18 months:
 1. By performing a system functional test which includes simulated automatic actuation of the system, and:
 - (a) Verifying that the automatic valves in the flow path actuate to their correct positions on a simulated test signal, and
 - (b) Cycling each valve in the flow path that is not testable during plant operation (except valve 1-F-71) through at least one complete cycle of full travel and
 2. By inspection of the spray headers to verify their integrity, and
 3. By inspection of each nozzle to verify no blockage.

LIMITING CONDITION FOR OPERATION

SURVEILLANCE REQUIREMENTS

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

LIMITING CONDITION FOR OPERATION

SURVEILLANCE REQUIREMENTS

C. Carbon Dioxide Systems

1. The following high pressure CO₂ systems shall be OPERABLE with the storage tanks at least 90% of full charge weight whenever equipment in the high pressure CO₂ protected areas is required to be OPERABLE.
 - a. Gas Turbine Enclosure
2. With one or more of the above required high pressure CO₂ systems inoperable, establish a continuous fire watch with backup fire suppression equipment for the unprotected area(s) within 1 hour; restore the system to OPERABLE status within 14 days or, in lieu of any other report required by Specification 6.9.1, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.

C. Carbon Dioxide Systems

1. Each of the high pressure CO₂ systems in 3.12.C.1 shall be demonstrated OPERABLE:
 - a. At least once per 6 months by verifying CO₂ storage tank weight.
 - 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, and
 2. Performance of a flow test through leaders and nozzles to assure no blockage.

LIMITING CONDITION FOR OPERATION

SURVEILLANCE REQUIREMENTS

D. Fire Hose Stations

1. The fire hose stations shown in Table 3.12.1 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 3.12.1 inoperable, route an additional equivalent capacity fire hose to the unprotected area(s) from an OPERABLE hose station within 1 hour, or
3. Establish a continuous fire watch with backup fire suppression equipment for the unprotected area(s) within 1 hour.

D. Fire Hose Stations

1. Each of the fire hose stations shown in Table 3.12.1 shall be demonstrated OPERABLE.
 - a. At least once per 31 days by visual inspection of the station to assure all required equipment is at the station.
 - b. At least once per 18 months by:
 1. Removing the hose for inspection and re-racking, and
 2. Replacement of all degraded gaskets in 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 at least 50 psig greater than the maximum pressure available at that hose station.

Table 3.12.1

Location of Hose Stations

<u>Hose Station No.</u>	<u>Location</u>
151	Inside Cable Vault
110	Turbine Bldg 14'6" Reactor Feed Pump Area
112	Turbine Bldg 14'6" Reactor Feed Pump Area
105	Turbine Bldg 14'6" Outside Diesel Room
108	Turbine Bldg 14'6" Condensate Pump Area
111	Turbine Bldg 14'6" Condensate Booster Pump Area
121	Turbine Bldg 34' North of Switchgear Area
120	Turbine Bldg 34' West of Switchgear Area
125	Turbine Bldg 34' Outside Battery Rooms
113	Reactor Bldg 14'6" North Wall by Stairway
114	Reactor Bldg 14'6" East Wall by Railway Access
115	Reactor Bldg 14'6" South Wall by CRD Pump Room Stairs
116	Reactor Bldg 14'6" East Wall Outside TIP Room
117	Reactor Bldg 14'6" South Wall Opposite S/D Pump Room
128	Reactor Bldg 42' Northeast Area by Stairway
129	Reactor Bldg 42' East Wall by RBCCW HX
130	Reactor Bldg 42' by CU Pump Room

LIMITING CONDITION FOR OPERATION	SURVEILLANCE REQUIREMENTS
<p data-bbox="205 305 772 337">E. <u>Fire Detection Instrumentation</u></p> <ol style="list-style-type: none"> <li data-bbox="289 370 1144 532">1. As a minimum, the fire detection instrumentation for each fire detection zone shown in Table 3.12.2 shall be OOPERABLE whenever equipment in that fire detection zone is required to be OPERABLE. <li data-bbox="289 565 1144 1117">2. With one or more of the fire detection instrument(s) shown in Table 3.12.2 inoperable: <ol style="list-style-type: none"> <li data-bbox="373 662 1144 760">a. Within 1 hour establish a watch patrol to inspect the zone(s) with the inoperable instrument(s) at least once per hour, and <li data-bbox="373 792 1144 1117">b. Restore the inoperable instrument(s) to OPERABLE status within 14 days or, in lieu of any other report required by Specification 6.9.1, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the instrument(s) to OPERABLE status. 	<p data-bbox="1255 305 1822 337">E. <u>Fire Detection Instrumentation</u></p> <ol style="list-style-type: none"> <li data-bbox="1255 370 1942 662">1. Each of the fire detection instruments listed in Table 3.12.2 shall be demonstrated OPERABLE at least once per 6 months by performance of an INSTRUMENT FUNCTIONAL TEST with the exception that the functional test will consist of injecting a simulated electrical signal into the measurement channel rather than the instrument. <li data-bbox="1255 695 1963 857">2. The non-supervised circuits between the above required detection instruments and the control room shall be demonstrated OPERABLE at least once per 31 days per approved procedures.

Table 3.12.2

Fire Detector Instruments

<u>Instrument Location</u>	<u>Minimum Instruments Operable</u>	
	<u>Heat</u>	<u>Smoke</u>
1. Cable Vault 1 Zone		15
2. Hydrogen Seal Oil Unit 1 Detector	1	
3. Reactor Feedwater Pump Area (14'6" Level Turbine Bldg) 5 Zones	5	
4. N.C. Mezzanine 5 Zones	5	
5. 4160 Volt Switchgear Area 34' Level Turbine Building		
Bus #1 - 2 Zones	2	
Bus #2 - 2 Zones	2	
Bus #3 - 5 Zones	5	
Bus #4 - 5 Zones	5	
Bus #5 - 4 Zones	4	
Bus #6 - 4 Zones	4	
Bus #7 - 2 Zones	2	
6. 480 Volt Switchgear Area 34' Level Turbine Building		
Bus #1 - 3 Zones	3	
Bus #1A - 3 Zones	3	
Bus #2 - 4 Zones	4	
Bus #2A - 4 Zones	4	
7. Diesel Generator Room (4 detectors)	3	
8. Diesel Generator Fuel Oil Day Tank Room (1 detector)	1	
9. Gas Turbine Enclosure (6 detectors)	6	

LIMITING CONDITION FOR OPERATION

F. Penetration Fire Barriers

1. All penetration fire barriers protecting safety-related areas shall be functional at all times.
2. With one or more of the above required penetration fire barriers non-functional, within 1 hour establish a temporary fire barrier of equal effectiveness or establish a continuous fire watch on at least one side of the affected penetration. Restore the fire barrier(s) to functional status within 30 days.

SURVEILLANCE REQUIREMENTS

F. Penetration Fire Barriers

1. The above required penetration fire barriers shall be verified to be functional:
 - a. At least once per 18 months by a visual inspection.
 - b. Prior to returning a penetration fire barrier to functional status following repairs or maintenance by performance of a visual inspection of the affected penetration fire barrier(s).

Bases:A - D. Fire Suppression Systems

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

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

E. Fire Detection Instrumentation

OPERABILITY of the fire detection instrumentation ensures that adequate warning capability is available for the prompt detection of fires. This capability is required in order to detect and locate fires in their early stages. Prompt detection of fires will reduce the potential for damage to safety-related equipment and is an integral element in the overall facility fire protection program.

In the event that a portion of the fire detection instrumentation is inoperable, the establishment of frequent fire patrols in the affected areas is required to provide detection capability until the inoperable instrumentation is restored to OPERABILITY.

F. Penetration Fire Barrier

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

During periods of time when the barriers are not functional, a continuous fire watch is required to be maintained in the vicinity of the affected barrier until the barrier is restored to functional status.

6.0 ADMINISTRATIVE CONTROLS

6.1 RESPONSIBILITY

6.1.1 The Plant Superintendent shall be responsible for overall operation of the Millstone Station Site while the Unit Superintendent shall be responsible for operation of the unit. The Plant Superintendent and Unit Superintendent shall each delegate in writing the succession to these responsibilities during their absence.

6.2 ORGANIZATION

OFFSITE

6.2.1 The offsite organization for facility management and technical support shall be as shown in Figure 6.2-1.

FACILITY STAFF

6.2.2 The Facility organization shall be as shown on Figure 6.2-2 and:

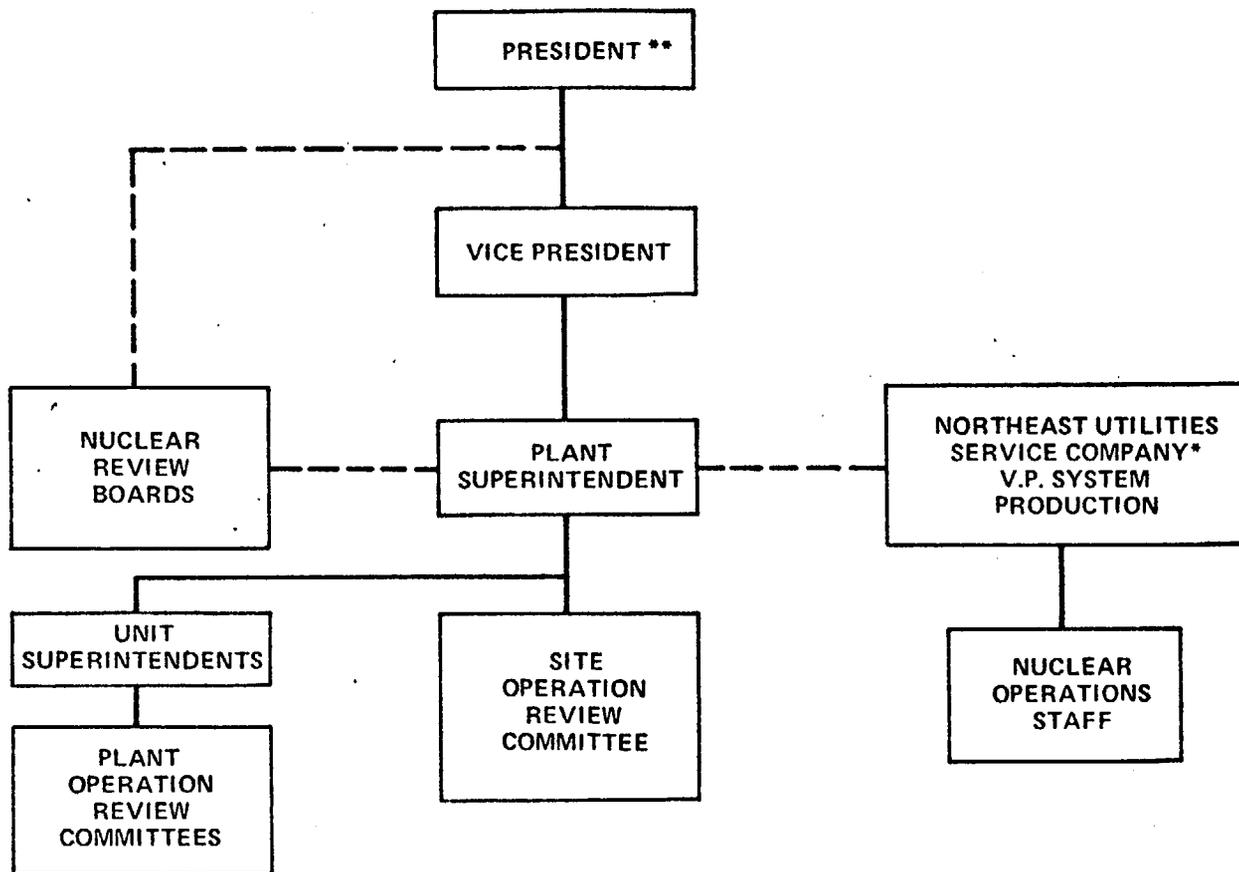
- a. Each on duty shift shall be composed of at least the minimum shift crew composition shown in Table 6.2-1.
- b. At least one licensed Operator shall be in the control room when fuel is in the reactor.
- c. At least two licensed Operators shall be present in the control room during reactor start-up, scheduled reactor shutdown and during recovery from reactor trips.
- d. An individual qualified in radiation protection procedures shall be on site when fuel is in the reactor.
- e. All CORE ALTERATIONS after the initial fuel loading 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 this operation.
- f. A Fire Brigade of 3 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) or any personnel required for other essential functions during a fire emergency.*

6.3 FACILITY STAFF QUALIFICATIONS

6.3.1 Each member of the facility staff shall meet or exceed the minimum qualifications of ANSI N18.1-1971 for comparable positions, except for the Health Physics Supervisor who shall meet or exceed the qualifications of Regulatory Guide 1.8, Revision 1, after January 1, 1978.

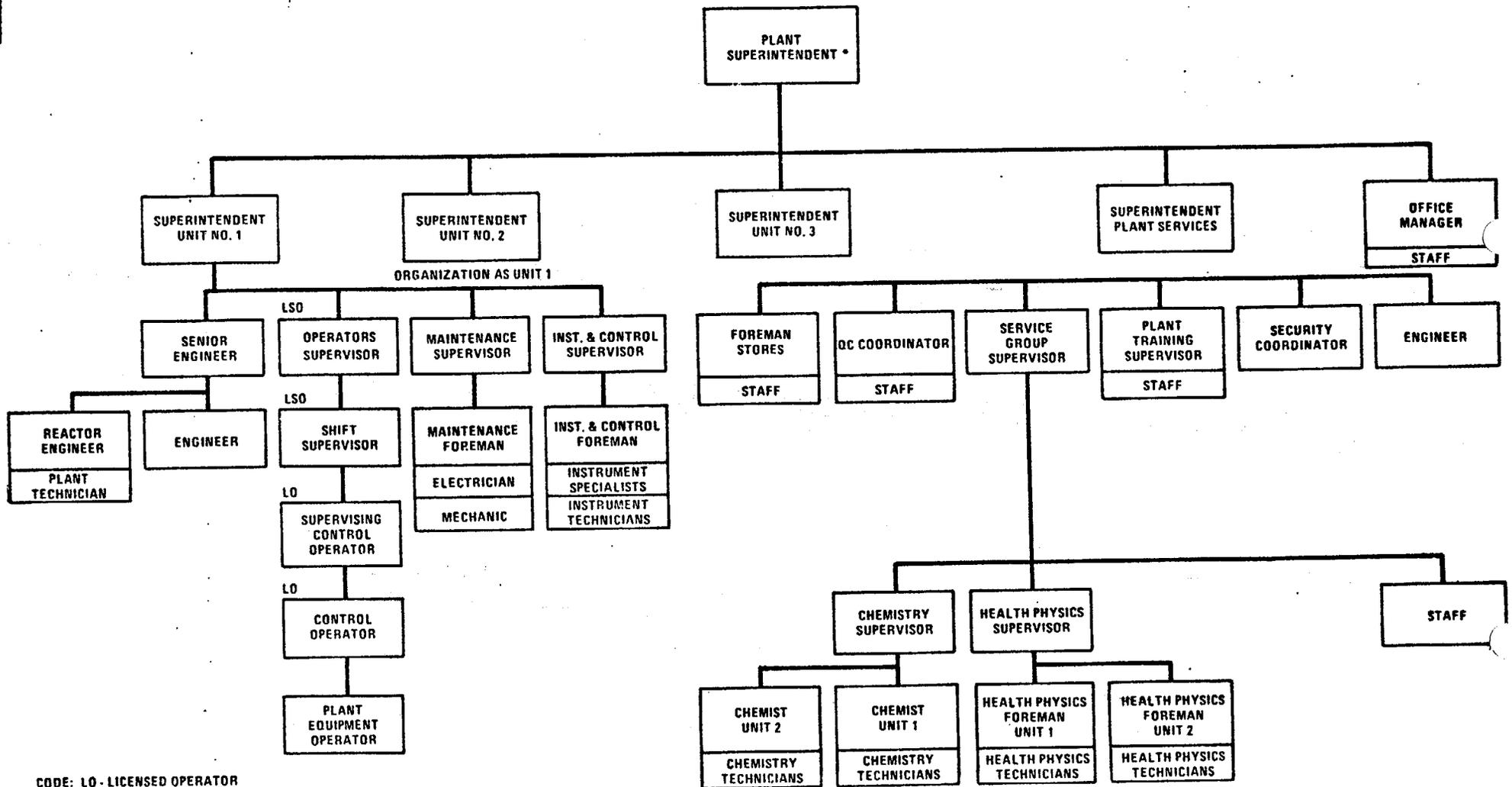
*To be effective by March 1, 1978

NORTHEAST NUCLEAR ENERGY COMPANY



- * PROVIDES OPERATING AND ENGINEERING SUPPORT BY CONTRACTUAL ARRANGEMENT
- ** OVERALL CORPORATE RESPONSIBILITY FOR FIRE PROTECTION

Figure 6.2-1 OFFSITE ORGANIZATION FOR FACILITY MANAGEMENT AND TECHNICAL SUPPORT



CODE: LO - LICENSED OPERATOR
 LSO - SENIOR LICENSED OPERATOR
 * OVERALL SITE RESPONSIBILITY FOR FIRE PROTECTION

Figure 6.2-2 Facility Organization – Millstone Nuclear Power Station - Unit 1

TABLE 6.2-1
MINIMUM SHIFT CREW COMPOSITION[#]

LICENSE CATEGORY	APPLICABLE MODES	
	1, 2, & 3**	4 & 5##
SOL	1	1*
OL	2	1
Non-Licensed	2	1

*Does not include the licensed Senior Reactor or Senior Reactor Operator Limited to Fuel Handling individual supervision CORE ALTERATIONS after the initial fuel loading.

[#]Shift crew composition may be less than the minimum requirements for a period of time not to exceed 2 hours to accommodate injury or sickness occurring to on duty shift crew members.

**Reactor Mode Switch Position is in RUN (any average coolant temperature) STARTUP/HOT STANDBY (any average coolant temperature), and HOT SHUTDOWN (average coolant temperature greater than 212°F), respectively.

##Reactor Mode Switch Position is in SHUTDOWN (average coolant temperature less than 212°F) and REFUELING (average coolant temperature less than 212°F), respectively.

ADMINISTRATIVE CONTROLS

6.4 TRAINING

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

6.4.2 A training program for the Fire Brigade shall be maintained under the direction of the Training Supervisor and shall meet or exceed the requirements of Section 27 of the NFPA Code - 1976, except that Fire Brigade training sessions shall be held at least quarterly. #

6.5 REVIEW AND AUDIT

6.5.1 PLANT OPERATIONS REVIEW COMMITTEE (PORC)

FUNCTION

6.5.1.1 The PORC shall function to advise the Unit Superintendent on all matters related to nuclear safety.

COMPOSITION

6.5.1.2 The PORC shall be composed of the:

Chairman:	Unit Superintendent
Vice Chairman & Member:	Operations Supervisor
Member:	Maintenance Supervisor
Member:	Instrument and Control Supervisor
Member:	Reactor Engineer
Member:	Senior Engineer or Startup Supervisor*
Member:	Chemistry Supervisor or Plant Services Superintendent or Service Group Supervisor or Health Physics Supervisor
Member:	Staff Engineer**

ALTERNATES

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

*When position is staffed.

**The Staff Engineer member of the PORC shall have an academic degree in engineering or physical science field; and in addition, shall have a minimum of five years technical experience, of which a minimum of three years shall be in the nuclear power plant industry.

#To be effective by March 1, 1978.

ADMINISTRATIVE CONTROLS

MEETING FREQUENCY

6.5.1.4 The PORC shall meet at least once per calendar month and as convened by the PORC Chairman.

QUORUM

6.5.1.5 A quorum of the PORC shall consist of the Chairman or Vice Chairman or Plant Superintendent and four members including alternates.

RESPONSIBILITIES

6.5.1.6 The PORC shall be responsible for:

- a. Review of 1) all procedures, except common site procedures, required by Specification 6.8 and changes thereto, 2) any other proposed procedures or changes thereto as determined by the Unit Superintendent to affect nuclear safety.
- b. Review of all proposed tests and experiments that affect nuclear safety.
- c. Review of all proposed changes to Sections 1.0 - 5.0 of these Technical Specifications.
- d. Review of all proposed changes or modifications to plant systems or equipment that affect nuclear safety.
- e. Investigation of all violations of the Technical Specifications and preparation and forwarding of a report covering evaluation and recommendations to prevent recurrence to the Superintendent of Nuclear Production and to the Chairman of the Nuclear Review Board.
- f. Review of events requiring 24 hour notification to the Commission.
- 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 Nuclear Review Board.
- i. Render determinations in writing with regard to whether or not each item considered under 6.5.1.6(a) through (e) above constitutes an unreviewed safety question.

ADMINISTRATIVE CONTROLS

6.5.4 SITE NUCLEAR REVIEW BOARD (SNRB)

FUNCTION

6.5.4.1 The SNRB shall function to provide independent review and audit of designated activities in the areas of:

- a. Nuclear power plant operations
- b. Administration
- c. Chemistry and radiochemistry
- d. Quality Assurance practices
- e. Radiological safety

COMPOSITION

6.5.4.2 The SNRB shall be composed of the:

Chairman:	Chairman of a Unit NRB
Member:	Chairman Unit 1 NRB
Member:	Chairman Unit 2 NRB
Member:	Chairman Unit 3 NRB*
Member:	Designated Member Unit 1 NRB
Member:	Designated Member Unit 2 NRB
Member:	Designated Member Unit 3 NRB*

*When position is functionally active.

ALTERNATES

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

CONSULTANTS

6.5.4.4 Consultants shall be utilized as determined by the SNRB Chairman to provide expert advice to the SNRB.

ADMINISTRATIVE CONTROLS

MEETING FREQUENCY

6.5.4.5 The SNRB shall meet at least once per calendar year and as convened by the SNRB Chairman.

QUORUM

6.5.4.6 A quorum of SNRB shall consist of the Chairman or his designated alternate and four SNRB members including alternates. No more than a minority of the quorum shall have line responsibility for operation of the Station.

REVIEW

6.5.4.7 The SNRB shall review:

- a. Proposed changes in Section 6.0 of these Technical Specifications or Licenses common to all Units.
- b. Any indication of an unanticipated deficiency in some aspect of design or operation of safety related structures, systems or components common to all Units.
- c. Reports and meeting minutes of the SORC.

AUDITS

6.5.4.8 Audits of site activities shall be performed under the cognizance of the SNRB. These audits shall encompass:

- a. The performance of all activities required by the Quality Assurance Program to meet the criteria of Appendix "B", 10 CFR 50, at least once per year.
- b. The Site Emergency Plan and implementing procedures at least once per two years.
- c. The Site Security Plan and implementing procedures at least once per two years.
- d. The Facility Fire Protection Program and implementing procedures at least once per 24 months.
- e. An inspection and audit of the fire protection and loss prevention program shall be performed annually by an outside firm experienced in fire protection and loss prevention.

ADMINISTRATIVE CONTROLS

AUTHORITY

6.5.4.9 The SNRB report to and advise the Vice President System Production on those areas of responsibility specified in Sections 6.5.4.7 and 6.5.4.8.

RECORDS

6.5.4.10 Records of SNRB activities shall be prepared, approved and distributed as indicated below:

- a. Minutes of each SNRB meeting shall be prepared, approved and forwarded to the Vice President System Production within 14 days following each meeting.
- b. Reports of reviews encompassed by, Section 6.5.4.7 above, shall be prepared, approved and forwarded to the Vice President System Production within 14 days following completion of the review.
- c. Audit reports encompassed by Section 6.5.4.8 above, shall be forwarded to the Vice President System Production and to the management positions responsible for the areas audited within 30 days after completion of the audit.

6.6 REPORTABLE OCCURRENCE ACTION

6.6.1 The following actions shall be taken for REPORTABLE OCCURRENCES:

- a. The Commission shall be notified and/or a report submitted pursuant to the requirements of Specification 6.9.
- b. Each REPORTABLE OCCURRENCE Report requiring 24 hour notification to the Commission shall be reviewed by the PORC and submitted to the NRB and the Superintendent of Nuclear Production.

6.7 SAFETY LIMIT VIOLATION

6.7.1 The following actions shall be taken in the event a Safety Limit is violated:

- a. The provisions of 10 CFR 50.36(c)(1)(i) shall be complied with immediately.

ADMINISTRATIVE CONTROLS

SAFETY LIMIT VIOLATION (Continued)

- b. The Safety Limit violation shall be reported to the Commission, the Superintendent of Nuclear Production and to the NRB immediately.
- c. A Safety Limit Violation Report shall be prepared. The report shall be reviewed by the PORC. This report shall describe (1) applicable circumstances preceding the violation, (2) effects of the violation upon facility components, systems or structures, and (3) corrective action taken to prevent recurrence.
- d. The Safety Limit Violation Report shall be submitted to the Commission, the NRB and the Superintendent of Nuclear Production within 10 days of the violations.

6.8 PROCEDURES

6.8.1 Written procedures shall be established, implemented and maintained covering the activities referenced below:

- a. The applicable procedures recommended in Appendix "A" of Regulatory Guide 1.33, November 1972.
- b. Refueling operations.
- c. Surveillance activities of safety related equipment.
- d. Security Plan implementation.
- e. Emergency Plan implementation.
- f. Fire Protection Program implementation.

6.8.2 Each procedure and administrative policy of 6.8.1 above, and changes thereto, shall be reviewed by the PORC/SORC, as applicable, and approved by the Unit Superintendent/Plant Superintendent prior to implementation and reviewed periodically as set forth in each document.

ADMINISTRATIVE CONTROLS

6.8.3 Temporary changes to procedures of 6.8.1 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 management staff, at least one of whom holds a Senior Reactor Operator's License on the unit affected.
- c. The change is documented, reviewed by the PORC/SORC, as applicable, and approved by the Unit Superintendent/Plant Superintendent within 14 days of implementation.

6.9 REPORTING REQUIREMENTS

ROUTINE REPORTS AND REPORTABLE OCCURRENCES

6.9.1 Information to be reported to the Commission, in addition to the reports required by Title 10, Code of Federal Regulations, shall be in accordance with the Regulatory Position in Revision 4 of Regulatory Guide 1.16, "Reporting of Operating Information - Appendix "A" Technical Specifications."

SPECIAL REPORTS

6.9.2 Special reports shall be submitted to the Director of the Office of Inspection and Enforcement 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:

- a. In-service Inspection Results, Specification 4.6.F.
- b. Primary Containment Leak Rate Test Results, Specification 4.7.A.2.
- c. Secondary Containment Leak Rate Test Results, Specification 4.7.C.
- d. Materials Radiation Surveillance Specimen Examination and Results, Specification 4.6.B.3.
- e. Fire detection instrumentation, Specification (3.12.E.2).
- f. Fire suppression systems, Specifications (3.12.A.2, 3.12.B.2 and 3.12.C.2).

6.10 RECORD RETENTION

ADMINISTRATIVE CONTROLS

6.10.1 The following records shall be retained for at least five years:

- a. Records and logs of facility operation covering time interval at each power level.
- b. Records and logs of principal maintenance activities, inspections, repair and replacement of principal items of equipment related to nuclear safety.
- c. REPORTABLE OCCURRENCE Reports.
- d. Records of surveillance activities, inspections and calibrations required by these Technical Specifications.
- e. Records of reactor tests and experiments.
- f. Records of changes made to Operating Procedures.
- g. Records of radioactive shipments.
- h. Records of sealed source leak tests and results.
- i. Records of annual physical inventory of all sealed source material of record.

6.10.2 The following records shall be retained for the duration of the Facility Operating License:

- a. Records and drawing changes reflecting facility design modifications made to systems and equipment described in the Final Safety Analysis Report.
- b. Records of new and irradiated fuel inventory, fuel transfers and assembly burnup histories.
- c. Records of facility radiation and contamination surveys.
- d. Records of radiation exposure for all individuals entering radiation control areas.
- e. Records of gaseous and liquid radioactive material released to the environs.
- f. Records of transient or operational cycles for those facility components designed for a limited number of transients or cycles.



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

THE CONNECTICUT LIGHT AND POWER COMPANY,
THE HARTFORD ELECTRIC LIGHT COMPANY,
WESTERN MASSACHUSETTS ELECTRIC COMPANY, AND
NORTHEAST NUCLEAR ENERGY COMPANY

DOCKET NO. 50-336

MILLSTONE NUCLEAR POWER STATION, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 35
License No. DPR-65

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Connecticut Light and Power Company, The Hartford Electric Light Company, Western Massachusetts Electric Company, Northeast Nuclear Energy Company (the licensees) dated May 11, 1977, as supplemented July 11 and December 15, 1977, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-65 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 35, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



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

Attachment:
Changes to the Technical
Specifications

Date of Issuance: MARCH 3 1978

ATTACHMENT TO LICENSE AMENDMENT NO. 35

FACILITY OPERATING LICENSE NO. DPR-65

DOCKET NO. 50-336

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages. The revised pages are identified by Amendment number and contain vertical lines indicating the area of change. The corresponding overleaf pages are also provided to maintain document completeness.

Pages

IV
VII
XII
3/4 3-43 (added)
3/4 3-44 (added)
3/4 3-45 (added)
3/4 7-33 (added)
3/4 7-34 (added)
3/4 7-35 (added)
3/4 7-36 (added)
3/4 7-37 (added)
3/4 7-38 (added)
3/4 7-39 (added)
3/4 7-40 (added)
3/4 7-41 (added)
B 3/4 3-3
B 3/4 7-6
B 3/4 7-7 (added)
6-1
6-2
6-3
6-5
6-14
6-16
6-17

INDEX

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

<u>SECTION</u>	<u>PAGE</u>
3/4.0 APPLICABILITY.....	3/4 0-1
<u>3/4.1 REACTIVITY CONTROL SYSTEMS</u>	
3/4.1.1 BORATION CONTROL.....	3/4 1-1
Shutdown Margin - $T_{avg} > 200^{\circ}\text{F}$	3/4 1-1
Shutdown Margin - $T_{avg} \leq 200^{\circ}\text{F}$	3/4 1-3
Boron Dilution	3/4 1-4
Moderator Temperature Coefficient (MTC).....	3/4 1-5
Minimum Temperature for Criticality.....	3/4 1-7
3/4.1.2 BORATION SYSTEMS.....	3/4 1-8
Flow Paths - Shutdown.....	3/4 1-8
Flow Paths - Operating.....	3/4 1-10
Charging Pump - Shutdown.....	3/4 1-12
Charging Pumps - Operating.....	3/4 1-13
Boric Acid Pumps - Shutdown.....	3/4 1-14
Boric Acid Pumps - Operating.....	3/4 1-15
Borated Water Sources - Shutdown.....	3/4 1-16
Borated Water Sources - Operating.....	3/4 1-18
3/4.1.3 MOVABLE CONTROL ASSEMBLIES.....	3/4 1-20
Full Length CEA Group Position.....	3/4 1-20
Part Length CEA Insertion Limits.....	3/4 1-23
Position Indicator Channels.....	3/4 1-24
CEA Drop Time.....	3/4 1-26
Shutdown CEA Insertion Limit.....	3/4 1-27
Regulating CEA Insertion Limits.....	3/4 1-28

INDEX

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

<u>SECTION</u>	<u>PAGE</u>
<u>3/4.2 POWER DISTRIBUTION LIMITS</u>	
3/4.2.1 LINEAR HEAT RATE.....	3/4 2-1
3/4.2.2 TOTAL RADIAL PEAKING FACTOR - F_T	3/4 2-6
3/4.2.3 AZIMUTHAL POWER TILT.....	3/4 2-9
3/4.2.4 FUEL RESIDENCE TIME.....	3/4 2-11
3/4.2.5 DNB MARGIN.....	3/4 2-12
<u>3/4.3 INSTRUMENTATION</u>	
3/4.3.1 REACTOR PROTECTIVE INSTRUMENTATION.....	3/4 3-1
3/4.3.2 ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION.....	3/4 3-10
3/4.3.3 MONITORING INSTRUMENTATION.....	3/4 3-26
Radiation Monitoring.....	3/4 3-26
Incore Detectors.....	3/4 3-30
Seismic Instrumentation.....	3/4 3-32
Meteorological Instrumentation.....	3/4 3-36
Remote Shutdown Instrumentation.....	3/4 3-39
Chlorine Detection Systems.....	3/4 3-42
Fire Detection Instrumentation.....	3/4 3-43
<u>3/4.4 REACTOR COOLANT SYSTEM</u>	
3/4.4.1 REACTOR COOLANT LOOPS.....	3/4 4-1
3/4.4.2 SAFETY VALVES - SHUTDOWN.....	3/4 4-2
3/4.4.3 SAFETY VALVES - OPERATING.....	3/4 4-3

INDEX

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

<u>SECTION</u>	<u>PAGE</u>
<u>3/4.7 PLANT SYSTEMS</u>	
3/4.7.1 TURBINE CYCLE	3/4 7-1
Safety Valves.....	3/4 7-1
Auxiliary Feedwater Pumps	3/4 7-4
Steam Generator Water Addition.....	3/4 7-5
Condensate Storage Tank.....	3/4 7-6
Activity	3/4 7-7
Main Steam Line Isolation Valves	3/4 7-9
3/4.7.2 STEAM GENERATOR PRESSURE/TEMPERATURE LIMITATION.....	3/4 7-10
3/4.7.3 REACTOR BUILDING CLOSED COOLING WATER SYSTEM.....	3/4 7-11
3/4.7.4 SERVICE WATER SYSTEM.....	3/4 7-12
3/4.7.5 FLOOD LEVEL.....	3/4 7-13
3/4.7.6 CONTROL ROOM EMERGENCY VENTILATION SYSTEM	3/4 7-16
3/4.7.7 SEALED SOURCE CONTAMINATION.....	3/4 7-19
3/4.7.8 HYDRAULIC SNUBBERS.....	3/4 7-21
3/4.7.9 FIRE SUPPRESSION SYSTEMS.....	3/4 7-33
Fire Suppression Water System.....	3/4 7-33
Spray and/or Sprinkler Systems.....	3/4 7-37
Fire Hose Stations.....	3/4 7-39
3/4.7.10 PENETRATION FIRE BARRIERS.....	3/4 7-41
<u>3/4.8 ELECTRICAL POWER SYSTEMS</u>	
3/4.8.1 A.C. SOURCES.....	3/4 8-1
Operating.....	3/4 8-1
Shutdown.....	3/4 8-5
3/4.8.2 ONSITE POWER DISTRIBUTION SYSTEMS.....	3/4 8-6
A.C. Distribution - Operating.....	3/4 8-6
A.C. Distribution - Shutdown.....	3/4 8-7
D.C. Distribution - Operating.....	3/4 8-8
D.C. Distribution - Shutdown.....	3/4 8-10

INDEX

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

<u>SECTION</u>	<u>PAGE</u>
<u>3/4.9 REFUELING OPERATIONS</u>	
3/4.9.1 BORON CONCENTRATION.....	3/4 9-1
3/4.9.2 INSTRUMENTATION.....	3/4 9-2
3/4.9.3 DECAY TIME.....	3/4 9-3
3/4.9.4 CONTAINMENT PENETRATIONS.....	3/4 9-4
3/4.9.5 COMMUNICATIONS.....	3/4 9-5
3/4.9.6 CRANE OPERABILITY - CONTAINMENT BUILDING.....	3/4 9-6
3/4.9.7 CRANE TRAVEL - SPENT FUEL STORAGE POOL BUILDING.....	3/4 9-7
3/4.9.8 COOLANT CIRCULATION.....	3/4 9-8
3/4.9.9 CONTAINMENT RADIATION MONITORING.....	3/4 9-9
3/4.9.10 CONTAINMENT PURGE VALVE ISOLATION SYSTEM.....	3/4 9-10
3/4.9.11 WATER LEVEL - REACTOR VESSEL.....	3/4 9-11
3/4.9.12 STORAGE POOL WATER LEVEL.....	3/4 9-12
3/4.9.13 STORAGE POOL RADIATION MONITORING.....	3/4 9-13
3/4.9.14 STORAGE POOL AREA VENTILATION SYSTEM - FUEL MOVEMENT.....	3/4 9-14
3/4.9.15 STORAGE POOL AREA VENTILATION SYSTEM - FUEL STORAGE.....	3/4 9-16
<u>3/4.10 SPECIAL TEST EXCEPTIONS</u>	
3/4.10.1 SHUTDOWN MARGIN.....	3/4 10-1
3/4.10.2 GROUP HEIGHT AND INSERTION LIMITS.....	3/4 10-2
3/4.10.3 PRESSURE/TEMPERATURE LIMITATION - REACTOR CRITICALITY.....	3/4 10-3
3/4.10.4 PHYSICS TESTS.....	3/4 10-4
3/4.10.5 CENTER CEA MISALIGNMENT.....	3/4 10-5
3/4.10.6 STEAM GENERATOR WATER ADDITION.....	3/4 10-6

INDEX

BASES

<u>SECTION</u>	<u>PAGE</u>
<u>3/4.6 CONTAINMENT SYSTEMS</u>	
3/4.6.1 PRIMARY CONTAINMENT.....	B 3/4 6-1
3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS.....	B 3/4 6-3
3/4.6.3 CONTAINMENT ISOLATION VALVES.....	B 3/4 6-3
3/4.6.4 COMBUSTIBLE GAS CONTROL.....	B 3/4 6-4
3/4.6.5 SECONDARY CONTAINMENT.....	B 3/4 6-5

INDEX

BASES

<u>SECTION</u>	<u>PAGE</u>
<u>3/4.7 PLANT SYSTEMS</u>	
3/4.7.1 TURBINE CYCLE.....	B 3/4 7-1
3/4.7.2 STEAM GENERATOR PRESSURE/TEMPERATURE LIMITATION.....	B 3/4 7-3
3/4.7.3 REACTOR BUILDING CLOSED COOLING WATER SYSTEM.....	B 3/4 7-3
3/4.7.4 SERVICE WATER SYSTEM.....	B 3/4 7-4
3/4.7.5 FLOOD LEVEL.....	B 3/4 7-4
3/4.7.6 CONTROL ROOM EMERGENCY VENTILATION SYSTEM.....	B 3/4 7-4
3/4.7.7 SEALED SOURCE CONTAMINATION.....	B 3/4 7-5
3/4.7.8 HYDRAULIC SNUBBERS.....	B 3/4 7-5
3/4.7.9 FIRE SUPPRESSION SYSTEMS.....	B 3/4 7-6
3/4.7.10 PENETRATION FIRE BARRIERS.....	B 3/4 7-7
<u>3/4.8 ELECTRICAL POWER SYSTEMS.....</u>	<u>B 3/4 8-1</u>
<u>3/4.9 REFUELING OPERATIONS</u>	
3/4.9.1 BORON CONCENTRATION.....	B 3/4 9-1
3/4.9.2 INSTRUMENTATION.....	B 3/4 9-1
3/4.9.3 DECAY TIME.....	B 3/4 9-1
3/4.9.4 CONTAINMENT PENETRATIONS.....	B 3/4 9-1
3/4.9.5 COMMUNICATIONS.....	B 3/4 9-1
3/4.9.6 CRANE OPERABILITY - CONTAINMENT BUILDING.....	B 3/4 9-2
3/4.9.7 CRANE TRAVEL - SPENT FUEL STORAGE BUILDING.....	B 3/4 9-2
3/4.9.8 COOLANT CIRCULATION.....	B 3/4 9-2

INSTRUMENTATION

FIRE DETECTION INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.7 As a minimum, the fire detection instrumentation for each fire detection zone shown in Table 3.3-10 shall be OPERABLE.

APPLICABILITY: Whenever equipment in that fire detection zone is required to be OPERABLE.

ACTION:

With one or more of the fire detection instrument(s) shown in Table 3.3-10 inoperable:

- a. Within 1 hour establish a fire watch patrol to inspect the 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, in lieu of any other report required by Specification 6.9.1, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the instrument(s) to OPERABLE status.
- c. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.7.1 Each of the above required fire detection instruments shall be demonstrated OPERABLE at least once per 6 months by performance of a CHANNEL FUNCTIONAL TEST.

4.3.3.7.2 The circuits between the above required detection instruments and the control room shall be demonstrated OPERABLE at least once per 31 days per approved procedures.

TABLE 3.3-10
FIRE DETECTION INSTRUMENTS

Instrument Location (Zone)	Heat		Smoke	
	Total No. of Channels	Minimum Channels Operable	Total No. of Channels	Minimum Channels Operable
1. Containment				
East Penetration (37)	--	--	2	1
West Penetration (41)	--	--	2	1
2. Control Room Vent Ducts (42)	--	--	4	3
3. Cable Spreading Rooms & Areas				
Cable Spreading Room (25') (10)	8	7	11	8
Cable Chase Area (25') (21, 22, 24)	--	--	10	7
Cable Vault Area (45') (21, 22, 24)	--	--	8	6
Lunch Room Cable Chase Area (36'6") (24)	--	--	4	3
4. 4.16 & 6.9 KV Switchgear Room (54'6") (40)	--	--	4	3
4.16 KV Switchgear Room (31'6") (18)	--	--	4	3
480 V Aux Bldg Switchgear Room (36'6") (28)	--	--	2	1
480 V Turbine Bldg Switchgear Room (36'6") (18)	--	--	2	1
West DC Equipment Room (38)	3	2	--	--
East DC Equipment Room (38)	4	3	--	--

TABLE 3.3-10 (Continued)
FIRE DETECTION INSTRUMENTS

<u>Instrument Location (Zone)</u>	<u>Heat</u>		<u>Smoke</u>	
	<u>Total No. of Channels</u>	<u>Minimum Channels Operable</u>	<u>Total No. of Channels</u>	<u>Minimum Channels Operable</u>
5. Battery Rooms				
West Battery Room (14'6") (39)	--	--	1	1
East Battery Room (14'6") (39)	--	--	2	1
6. Electrical Penetration Rooms				
East (14'6") (20)	--	--	3	2
West (14'6") (17)	--	--	2	1
7. Diesel Generators				
Diesel 1221 (12,30)	--	--	1	1
Diesel 1321 (13,32)	--	--	1	1
8. Fuel Handling/Radwaste Ventilation				
Room (EL 36'6") (7)	--	--	2	1

PLANT SYSTEMS

3/4.7.9 FIRE SUPPRESSION SYSTEMS

FIRE SUPPRESSION WATER SYSTEM

LIMITING CONDITION FOR OPERATION

- 3.7.9.1 The fire suppression water system shall be OPERABLE with;
- a. Two high pressure pumps, each with a capacity of 1800 gpm, with their discharge aligned to the fire suppression header,
 - b. Two water supplies, each with a minimum contained volume of 200,000 gallons, and
 - c. An OPERABLE flow path capable of taking suction from the fire water tanks and transferring the water through distribution piping with OPERABLE sectionalizing control or isolation 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 3.7.9.2 and 3.7.9.3.

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, in lieu of any other report required by Specification 6.9.1, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days outlining the plans and procedures to be used to provide for the loss of redundancy in this system. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.
- b. With the fire suppression water system otherwise inoperable:
 1. Establish a backup fire suppression water system within 24 hours, and
 2. Submit a Special Report in accordance with Specification 6.9.2;
 - a) By telephone within 24 hours,
 - b) Confirmed by telegraph, mailgram or facsimile transmission no later than the first working day following the event, and

PLANT SYSTEMS

LIMITING CONDITION FOR OPERATION (Continued)

- c) 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.

SURVEILLANCE REQUIREMENTS

4.7) 1.1 The fire suppression water system shall be demonstrated OPERABLE:

- a. At least once per 7 days by verifying the contained water supply volume.
- b. At least once per 31 days on a STAGGERED TEST BASIS by starting each pump and operating it for at least 15 minutes on recirculation flow.
- c. At least once per 31 days by verifying that each valve (manual, power operated or automatic) in 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 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 1800 gpm at a system head of 100 psig,
 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 high pressure pump starts (sequentially) to maintain the fire suppression water system pressure \geq 75 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.

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

4.7.9.1.2 The fire pump diesel engine shall be demonstrated OPERABLE:

- a. At least once per 31 days by verifying;
 1. The fuel storage tank contains at least 125 gallons of fuel, and
 2. The diesel starts from ambient conditions and operates for at least 20 minutes.
- 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-D270-65, is within the acceptable limits specified in Table 1 of ASTM D975-74 when checked for viscosity, water and sediment.
- c. At least once per 18 months, during shutdown, by:
 1. Subjecting the diesel to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendations for the class of service, and
 2. Verifying the diesel starts from ambient conditions on the auto-start signal and operates for \geq 20 minutes while loaded with the fire pump.

4.7.9.1.3 The fire pump diesel 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 battery is above the plates, and
 2. The overall battery voltage is \geq 24 volts.
- b. At least once per 92 days by verifying that the specific gravity is appropriate for continued service of the battery.

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- 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
 - 2. The 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

LIMITING CONDITION FOR OPERATION

3.7.9.2 The following spray and/or sprinkler systems shall be OPERABLE:

- a. Diesel Generator Rooms
- b. Diesel Generator Day Tank Rooms
- c. Cable Vault (Aux. Building)
- d. Cable Vault (Turbine Building)

APPLICABILITY: Whenever equipment in the spray/sprinkler protected areas is required to be OPERABLE.

ACTION:

- a. With one or more of the above required spray and/or sprinkler systems inoperable, establish a continuous fire watch with backup fire suppression equipment for the unprotected area(s) within 1 hour; restore the system to OPERABLE status within 14 days or, in lieu of any other report required by Specification 6.9.1, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.
- b. The provisions of Specification 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.9.2 Each of the above required spray and/or sprinkler systems shall be demonstrated OPERABLE:

- a. At least once per 12 months by cycling each testable valve in the flow path through at least one complete cycle of full travel.
- b. At least once per 18 months:
 1. By performing a system functional test which includes simulated automatic actuation of the system, and:

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- a) Verifying that the automatic valves in the flow path actuate to their correct positions on a simulated 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 inspection of the spray headers to verify their integrity, and
 3. By inspection of each nozzle to verify no blockage.
- c. At least once per 3 years by performing an air or water flow test through each open head spray/sprinkler header and verifying each open head spray/ sprinkler nozzle is unobstructed.

PLANT SYSTEMS

FIRE HOSE STATIONS

LIMITING CONDITION FOR OPERATION

3.7.9.3 The fire hose stations shown in Table 3.7-2 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 3.7-2 inoperable, route an additional equivalent capacity fire hose to the unprotected area(s) from an OPERABLE hose station within 1 hour or establish a continuous fire watch with backup fire suppression equipment for the unprotected area(s).
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.9.3 Each of the fire hose stations shown in Table 3.7-2 shall be demonstrated OPERABLE:

- a. At least once per 31 days by visual inspection of the station to assure all required equipment is at the station.
- b. At least once per 18 months by:
 1. Removing the hose for inspection and re-racking, and
 2. Replacement of all degraded gaskets in 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 at least 50 psig greater than the maximum pressure available at that hose station.

TABLE 3.7-2
FIRE HOSE STATIONS

<u>Hose Station Number</u>	<u>Bldg/Elevation</u>	<u>Area</u>
5	Turbine/14'6"	Entrance to Aux Feed Pump Room
12	Turbine/31'6"	Southeast Corner (under Stm. Line)
19	Turbine/54'6"	East Wall By Switchgear Room
22	Auxiliary/-45'6"	Center of Open Area
23	Auxiliary/-25'6"	Near Elevator
24	Auxiliary/-5'0"	Near Elevator
25	Auxiliary/14'6"	Near Elevator
26	Auxiliary/38'6"	Spent Fuel Pool - Northwest corner
27	Auxiliary/14'6"	Boric Acid Batch Tank area
28	Auxiliary/14'6"	Near MCC 22-1E (B51)
29	Auxiliary/14'6"	Railway access
30	Auxiliary/38'6"	Spent Fuel Pool - South Wall
31	Auxiliary/14'6"	Outside Diesel Room
34	Auxiliary/38'6"	Southeast corner stairway

PLANT SYSTEMS

3/4.7.10 PENETRATION FIRE BARRIERS

LIMITING CONDITION FOR OPERATION

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

APPLICABILITY: At all times.

ACTION:

- a. With one or more of the above required penetration fire barriers non-functional, within 1 hour establish a temporary fire barrier of equal effectiveness or establish a continuous fire watch on at least one side of the affected penetration. Restore the fire barrier(s) to functional status within 30 days.
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.10 The above required penetration fire barriers shall be verified to be functional:

- a. At least once per 18 months by a visual inspection.
- b. Prior to returning a penetration fire barrier to functional status following repairs or maintenance by performance of a visual inspection of the affected penetration fire barrier(s).

INSTRUMENTATION

BASES

3/4.3.3.6 CHLORINE DETECTION SYSTEMS

The operability of the chlorine detection systems ensures that an accidental chlorine release will be detected promptly and the necessary protective actions will be automatically initiated to provide protection for control room personnel. Upon detection of a high concentration of chlorine, the control room emergency ventilation system will automatically isolate the control room and initiate its operation in the recirculation mode of operation to provide the required protection. The chlorine detection systems required by this specification are consistent with the recommendations of Regulatory Guide 1.95, "Protection of Nuclear Power Plant Control Room Operators Against an Accidental Chlorine Release."

3/4.3.3.7 FIRE DETECTION INSTRUMENTATION

OPERABILITY of the fire detection instrumentation ensures that adequate warning capability is available for the prompt detection of fires. This capability is required in order to detect and locate fires in their early stages. Prompt detection of fires will reduce the potential for damage to safety related equipment and is an integral element in the overall facility fire protection program.

In the event that a portion of the fire detection instrumentation is inoperable, the establishment of frequent fire patrols in the affected areas is required to provide detection capability until the inoperable instrumentation is restored to OPERABILITY.

PLANT SYSTEMS

BASES

3/4.7.7 SEALED SOURCE CONTAMINATION

The limitations on sealed source removable contamination ensure that the total body or individual organ irradiation does not exceed allowable limits in the event of ingestion or inhalation of the source material. The limitations on removable contamination for sources requiring leak testing, including alpha emitters, is based on 10 CFR 70.39(c) limits for plutonium. Leakage of sources excluded from the requirements of this specification represent less than one maximum permissible body burden for total body irradiation if the source material is inhaled or ingested.

3/4.7.8 HYDRAULIC SNUBBERS

The hydraulic snubbers are required OPERABLE to ensure that the structural integrity of the reactor coolant system and all other safety related systems is maintained during and following a seismic or other event initiating dynamic loads. The only snubbers excluded from this inspection program are those installed on nonsafety related systems and then only if their failure or failure of the system on which they are installed, would have no adverse effect on any safety related system.

The inspection frequency applicable to snubbers containing seals fabricated from materials which have been demonstrated compatible with their operating environment is based upon maintaining a constant level of snubber protection. Therefore, the required inspection interval varies inversely with the observed snubber failures. The number of inoperable snubbers found during an inspection of these snubbers determines the time interval for the next required inspection of these snubbers. Inspections performed before that interval has elapsed may be used as a new reference point to determine the next inspection. However, the results of such early inspections performed before the original required time interval has elapsed (nominal time less 25%) may not be used to lengthen the required inspection interval. Any inspection whose results require a shorter inspection interval will override the previous schedule.

PLANT SYSTEMS

BASES

To provide further assurance of snubber reliability, a representative sample of the installed snubbers will be functionally tested during plant shutdowns at 18 month intervals. These tests will include stroking of the snubbers to verify proper piston movement, lock-up and bleed. Observed failures of these sample snubbers will require functional testing of additional units. To minimize personnel exposures, snubbers installed in high radiation zones or in especially difficult to remove locations may be exempted from these functional testing requirements provided the OPERABILITY of these snubbers was demonstrated during functional testing at either the completion of their fabrication or at a subsequent date.

3/4.7.9 FIRE SUPPRESSION SYSTEMS

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

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

PLANT SYSTEMS

BASES

3/4.7.10 PENETRATION FIRE BARRIERS

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

During periods of time when the barriers are not functional, a continuous fire watch is required to be maintained in the vicinity of the affected barrier until the barrier is restored to functional status.

6.0 ADMINISTRATIVE CONTROLS

6.1 RESPONSIBILITY

6.1.1 The Plant Superintendent shall be responsible for overall operation of the Millstone Station Site while the Unit Superintendent shall be responsible for operation of the unit. The Plant Superintendent and Unit Superintendent shall each delegate in writing the succession to these responsibilities during their absence.

6.2 ORGANIZATION

OFFSITE

6.2.1 The offsite organization for facility management and technical support shall be as shown on Figure 6.2-1.

FACILITY STAFF

6.2.2 The Facility organization shall be as shown on Figure 6.2-2 and:

- a. Each on duty shift shall be composed of at least the minimum shift crew composition shown in Table 6.2-1.
- b. At least one licensed Operator shall be in the control room when fuel is in the reactor.
- c. At least two licensed Operators shall be present in the control room during reactor start-up, scheduled reactor shutdown and during recovery from reactor trips.
- d. An individual qualified in radiation protection procedures shall be on site when fuel is in the reactor.
- e. All CORE ALTERATIONS after the initial fuel loading 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 this operation.
- f. A site Fire Brigade of at least 3 members shall be maintained onsite at all times. The Fire Brigade shall not include 2 members of the minimum shift crew necessary for safe shutdown of the unit or any personnel required for other essential functions during a fire emergency.*

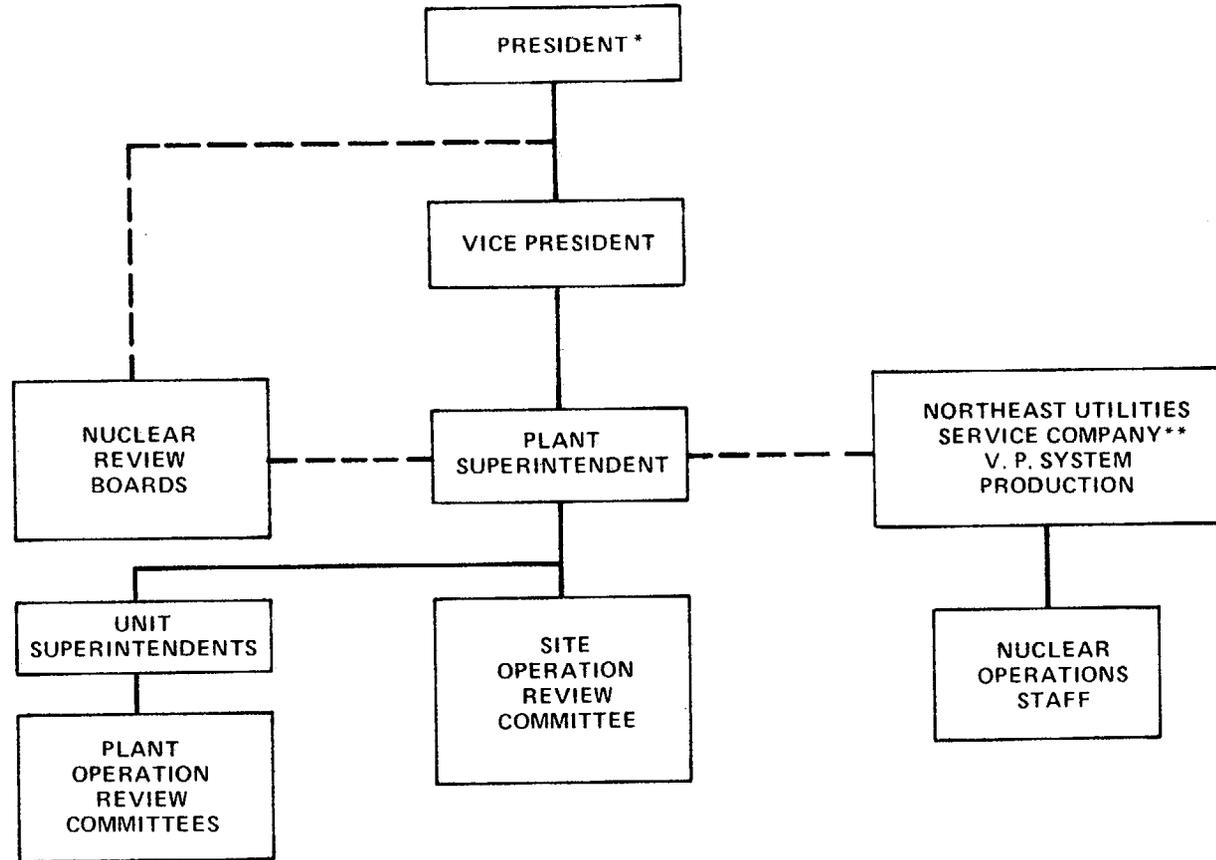
6.3 FACILITY STAFF QUALIFICATIONS

6.3.1 Each member of the facility staff shall meet or exceed the minimum qualifications of ANSI N18.1-1971 for comparable positions, except for the Health Physics Supervisor who shall meet or exceed the qualifications of Regulatory Guide 1.8, Revision 1, after January 1, 1978.

*

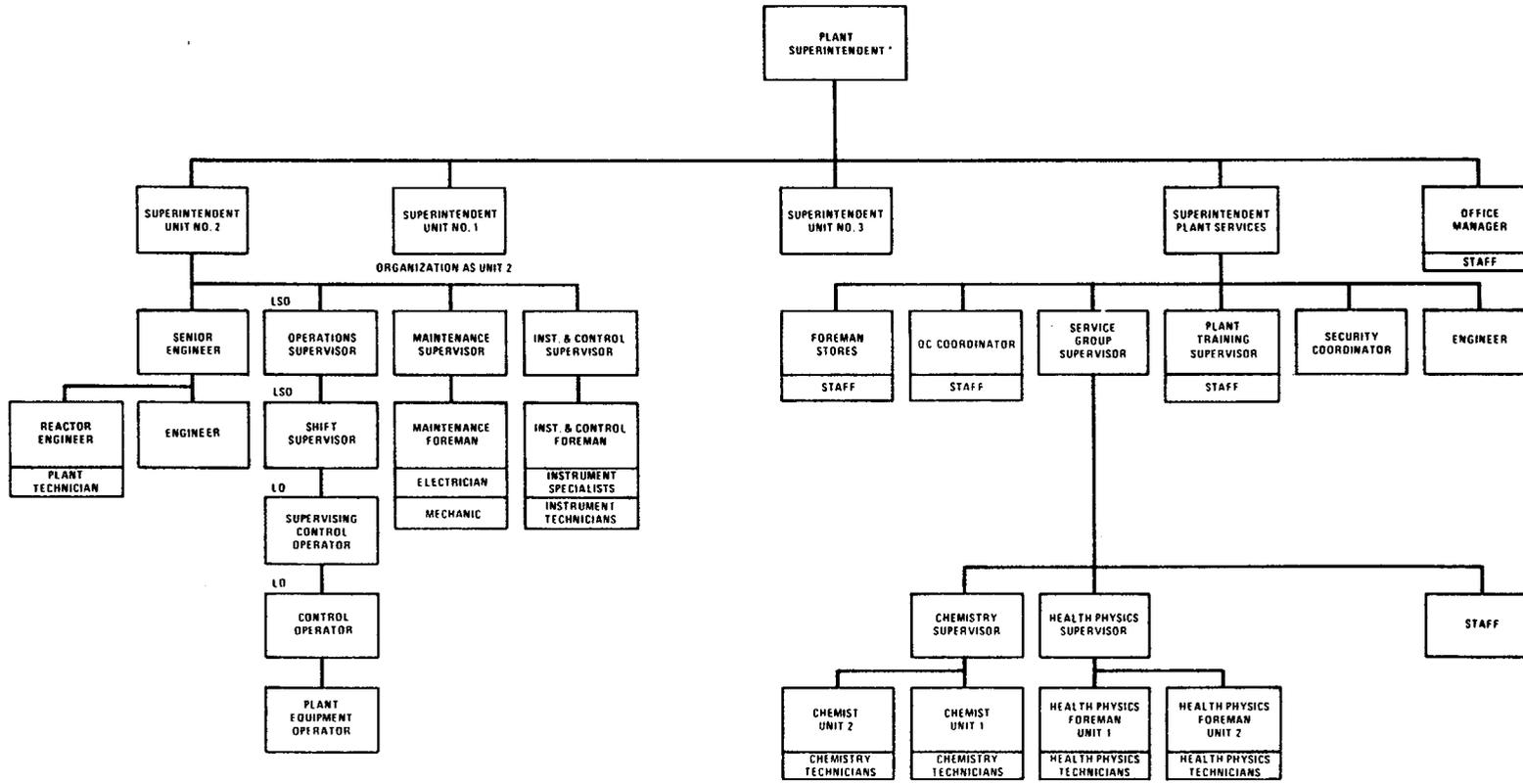
To be effective by March 1, 1978.

NORTHEAST NUCLEAR ENERGY COMPANY



- * Overall Corporate Responsibility for Fire Protection
- ** Provides Operating and Engineering Support by Contractual Arrangement

Figure 6.2-1 Offsite Organization for Facility Management and Technical Support



* OVERALL SITE RESPONSIBILITY FOR FIRE PROTECTION

CODE: LO LICENSED OPERATOR
 LSO LICENSED SENIOR OPERATOR

Figure 6.2-2 Facility Organization – Millstone Nuclear Power Station - Unit 2

TABLE 6.2-1
MINIMUM SHIFT CREW COMPOSITION[#]

LICENSE CATEGORY	APPLICABLE MODES	
	1, 2, 3 & 4	5 & 6
SOL	1	1*
OL	2	1
Non-Licensed	2	1

* Does not include the licensed Senior Reactor or Senior Reactor Operator Limited to Fuel Handling individual supervision CORE ALTERATIONS after the initial fuel loading.

[#] Shift crew composition may be less than the minimum requirements for a period of time not to exceed 2 hours to accommodate injury or sickness occurring to on duty shift crew members.

ADMINISTRATIVE CONTROLS

6.4 TRAINING

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

6.4.2 A training program for the Fire Brigade shall be maintained under the direction of the Training Supervisor and shall meet or exceed the requirements of Section 27 of the NFPA Code-1976, except for Fire[#] Brigade training sessions which shall be held at least quarterly.

6.5 REVIEW AND AUDIT

6.5.1 PLANT OPERATIONS REVIEW COMMITTEE (PORC)

FUNCTION

6.5.1.1 The PORC shall function to advise the Unit Superintendent on all matters related to nuclear safety.

COMPOSITION

6.5.1.2 The PORC shall be composed of the:

Chairman:	Unit Superintendent
Vice Chairman & Member:	Operations Supervisor
Member:	Maintenance Supervisor
Member:	Instrument and Control Supervisor
Member:	Reactor Engineer
Member:	Senior Engineer or Startup Supervisor*
Member:	Chemistry Supervisor or Plant Services Superintendent of Service Group Supervisor or Health Physics Supervisor
Member:	Staff Engineer**

ALTERNATES

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

*When position is staffed.

**The Staff Engineer member of the PORC shall have an academic degree in engineering of physical science field; and in addition, shall have a minimum of five years technical experience, of which a minimum of three years shall be in the nuclear power plant industry.

[#]To be effective by March 1, 1978

ADMINISTRATIVE CONTROLS

MEETING FREQUENCY

6.5.1.4 The PORC shall meet at least once per calendar month and as convened by the PORC Chairman.

QUORUM

6.5.1.5 A quorum of the PORC shall consist of the Chairman or Vice Chairman or Plant Superintendent and four members including alternates.

RESPONSIBILITIES

6.5.1.6 The PORC shall be responsible for:

- a. Review of 1) all procedures, except common site procedures, required by Specification 6.8 and changes thereto, 2) any other proposed procedures or changes thereto as determined by the Unit Superintendent to affect nuclear safety.
- b. Review of all proposed tests and experiments that affect nuclear safety.
- c. Review of all proposed changes to Sections 1.0 - 5.0 of these Technical Specifications.
- d. Review of all proposed changes or modifications to plant systems or equipment that affect nuclear safety.
- e. Investigation of all violations of the Technical Specifications and preparation and forwarding of a report covering evaluation and recommendations to prevent recurrence to the Superintendent of Nuclear Production and to the Chairman of the Nuclear Review Board.
- f. Review of events requiring 24 hour notification to the Commission.
- 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 Nuclear Review Board.
- i. Render determinations in writing with regard to whether or not each item considered under 6.5.1.6(a) through (e) above constitutes an unreviewed safety question.

ADMINISTRATIVE CONTROLS

6.5.4 SITE NUCLEAR REVIEW BOARD (SNRB)

FUNCTION

6.5.4.1 The SNRB shall function to provide independent review and audit of designated activities in the areas of:

- a. Nuclear power plant operations
- b. Administration
- c. Chemistry and radiochemistry
- d. Quality Assurance practices
- e. Radiological safety

COMPOSITION

6.5.4.2 The SNRB shall be composed of the:

Chairman:	Chairman of a Unit NRB
Member:	Chairman Unit 1 NRB
Member:	Chairman Unit 2 NRB
Member:	Chairman Unit 3 NRB*
Member:	Designated Member Unit 1 NRB
Member:	Designated Member Unit 2 NRB
Member:	Designated Member Unit 3 NRB*

* When position is functionally active.

ALTERNATES

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

CONSULTANTS

6.5.4.4 Consultants shall be utilized as determined by the SNRB Chairman to provide expert advice to the SNRB.

ADMINISTRATIVE CONTROLS

AUTHORITY

6.5.4.9 The SNRB report to and advise the Vice President System Production on those areas of responsibility specified in Sections 6.5.4.7 and 6.5.4.8.

RECORDS

6.5.4.10 Records of SNRB activities shall be prepared, approved and distributed as indicated below:

- a. Minutes of each SNRB meeting shall be prepared, approved and forwarded to the Vice President System Production within 14 days following each meeting.
- b. Reports of reviews encompassed by, Section 6.5.4.7 above, shall be prepared, approved and forwarded to the Vice President System Production within 14 days following completion of the review.
- c. Audit reports encompassed by Section 6.5.4.8 above, shall be forwarded to the Vice President System Production and to the management positions responsible for the areas audited within 30 days after completion of the audit.

6.6 REPORTABLE OCCURRENCE ACTION

6.6.1 The following actions shall be taken for REPORTABLE OCCURRENCES:

- a. The Commission shall be notified and/or a report submitted pursuant to the requirements of Specification 6.9.
- b. Each REPORTABLE OCCURRENCE Report requiring 24 hour notification to the Commission shall be reviewed by the PORC and submitted to the NRB and the Superintendent of Nuclear Production.

6.7 SAFETY LIMIT VIOLATION

6.7.1 The following actions shall be taken in the event a Safety Limit is violated:

- a. The provisions of 10 CFR 50.36(c)(1)(i) shall be complied with immediately.

ADMINISTRATIVE CONTROLS

SAFETY LIMIT VIOLATION (Continued)

- b. The Safety Limit violation shall be reported to the Commission, the Superintendent of Nuclear Production and to the NRB immediately.
- c. A Safety Limit Violation Report shall be prepared. The report shall be reviewed by the PORC. This report shall describe (1) applicable circumstances preceding the violation, (2) effects of the violation upon facility components, systems or structures, and (3) corrective action taken to prevent recurrence.
- d. The Safety Limit Violation Report shall be submitted to the Commission, the NRB and the Superintendent of Nuclear Production within 10 days of the violations.

6.8 PROCEDURES

6.8.1 Written procedures shall be established, implemented and maintained covering the activities referenced below:

- a. The applicable procedures recommended in Appendix "A" of Regulatory Guide 1.33, November 1972.
- b. Refueling operations.
- c. Surveillance activities of safety related equipment.
- d. Security Plan implementation.
- e. Emergency Plan implementation.
- f. Fire Protection Program implementation.

6.8.2 Each procedure and administrative policy of 6.8.1 above, and changes thereto, shall be reviewed by the PORC/SORC, as applicable, and approved by the Unit Superintendent/Plant Superintendent prior to implementation and reviewed periodically as set forth in each document.

ADMINISTRATIVE CONTROLS

6.8.3 Temporary changes to procedures of 6.8.1 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 management staff, at least one of whom holds a Senior Reactor Operator's License on the unit affected.
- c. The change is documented, reviewed by the PORC/SORC, as applicable, and approved by the Unit Superintendent/Plant Superintendent within 14 days of implementation.

6.9 REPORTING REQUIREMENTS

ROUTINE REPORTS AND REPORTABLE OCCURRENCES

6.9.1 Information to be reported to the Commission, in addition to the reports required by Title 10, Code of Federal Regulations, shall be in accordance with the Regulatory Position in Revision 4 of Regulatory Guide 1.16, "Reporting of Operating Information - Appendix "A" Technical Specifications."

SPECIAL REPORTS

6.9.2 Special reports shall be submitted to the Director of the Office of Inspection and Enforcement 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:

- a. Inoperable Seismic Monitoring Instrumentation, Specification 3.3.3.3.
- b. Inoperable Meteorological Monitoring Instrumentation, Specification 3.3.3.4.
- c. Safety Class 1 Inservice Inspection Program Review, Specification 4.4.10.1.
- d. Core Barrel Movement, Specifications 3.4.11 and 4.4.11.
- e. ECCS Actuation, Specifications 3.5.2 and 3.5.3.
- f. Fire Detection Instrumentation, Specification 3.3.3.7.
- g. Fire Suppression Systems, Specifications 3.7.9.1 and 3.7.9.2.

6.10 RECORD RETENTION

ADMINISTRATIVE CONTROLS

6.10.1 The following records shall be retained for at least five years:

- a. Records and logs of facility operation covering time interval at each power level.
- b. Records and logs of principal maintenance activities, inspections, repair and replacement of principal items of equipment related to nuclear safety.
- c. ALL REPORTABLE OCCURRENCES submitted to the Commission.
- d. Records of surveillance activities, inspections and calibrations required by these Technical Specifications.
- e. Records of reactor tests and experiments.
- f. Records of changes made to Operating Procedures.
- g. Records of radioactive shipments.
- h. Records of sealed source leak tests and results.
- i. Records of annual physical inventory of all sealed source material of record.

6.10.2 The following records shall be retained for the duration of the Facility Operating License:

- a. Records and drawing changes reflecting facility design modifications made to systems and equipment described in the Final Safety Analysis Report.
- b. Records of new and irradiated fuel inventory, fuel transfers and assembly burnup histories.
- c. Records of facility radiation and contamination surveys.
- d. Records of radiation exposure for all individuals entering radiation control areas.
- e. Records of gaseous and liquid radioactive material released to the environs.
- f. Records of transient or operational cycles for those facility components designed for a limited number of transients or cycles.

UNITED STATES NUCLEAR REGULATORY COMMISSIONDOCKETS NOS. 50-245 AND 50-336NORTHEAST NUCLEAR ENERGY COMPANY
THE CONNECTICUT LIGHT AND POWER COMPANY
THE HARTFORD ELECTRIC LIGHT COMPANY, AND
WESTERN MASSACHUSETTS ELECTRIC COMPANYNOTICE OF ISSUANCE OF AMENDMENTS TO FACILITY
OPERATING LICENSES

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 44 to Provisional Operating License No. DPR-21 and Amendment No. 35 to Facility Operating License No. DPR-65 to Northeast Nuclear Energy Company, the Connecticut Light and Power Company, the Hartford Electric Light Company and Western Massachusetts Electric Company, which revised the Technical Specifications for operation of the Millstone Nuclear Power Station, Units Nos. 1 and 2, located in the Town of Waterford, Connecticut. The amendments are effective as of their date of issuance.

The amendment incorporates fire protection Technical Specifications on the existing fire protection equipment and adds administrative controls related to fire protection at the facility. This action is being taken pending completion of the Commission's overall fire protection review of the facility.

The application for the amendments complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendments. Prior

- 2 -

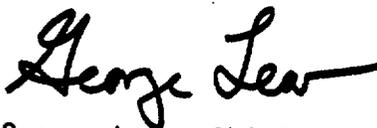
public notice of the amendments was not required since the amendments do not involve a significant hazards consideration.

The Commission has determined that the issuance of the amendments will not result in any significant environmental impact and that pursuant to 10 CFR §1.5(d)(4) an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with issuance of the amendments.

For further details with respect to this action, see (1) the application for amendments dated May 11, 1977, as supplemented July 11 and December 15, 1977, (2) Amendments Nos. 44 and 35 to License Nos. DPR-21 and DPR-65 respectively, and (3) the Commission's related Safety Evaluation dated November 25, 1977. These items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N. W., Washington, D. C. and at the Waterford Public Library, Rope Ferry Road, Route 156, Waterford, Connecticut. A copy of items (2) and (3) may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Director, Division of Operating Reactors.

Dated at Bethesda, Maryland this 3 day of March 1978.

FOR THE NUCLEAR REGULATORY COMMISSION



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