Docket No. 50-336

Attachment

Millstone Nuclear Power Station, Unit No. 2

Proposed Revisions to Technical Specifications

Fire Protection

May, 1985

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 the number of OPERABLE fire detection instrument(s) less than the minimum number of OPERABLE requirements of Table 3.3-10.

a. Within 1 hour establish a fire watch patrol to inspect the zone(s) with the inoperable instrument(s) at least once per hour unless the instrument(s) is located inside the containment, then inspect the containment at least once per 8 hours or monitor the containment air temperatures at least once per hour at the locations listed in Specification 4.6.1.5.

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

SURVEILLANCE REQUIREMENTS (Continued)

4.3.3.7.2 The circuitry associated with the supervision of the above fire detection instruments and circuits, per NFPA 72-D, shall be demonstrated OPERABLE at least once per 6 months.

4.3.3.7.3 The non-supervised circuits, associated with detector alarms, between the instrument and the control room shall be demonstrated OPERABLE at least once per 31 days.

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)	--	--	7	5
West Penetration (41)	--	--	7	5
2. Control Room Vent Duct (42) Z-2			1	1
Control Room Vent Duct (2) Z-1			1	1
3. Cable Vaults & Areas				
Aux Bldg Cable Vault (25') (10)	5	4	16	12
Turbine Bldg Cable Vault (25') (21)	--	--	9	7
Turbine bldg Cable Vault (45') (21)	--	--	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
5. Battery Rooms				
West Battery Room (14'6") (39)	--	--	1	1
East Battery Room (14'6") (39)	--	--	2	1

TABLE 3.3-10 (Continued)

FIRE DETECTION INSTRUMENTS

Instrument Location (Zone)	Heat		Smoke	
	Total No. of Channels	Minimum Channels Operable	Total No. of Channels	Minimum Channels Operable
6. Electrical Penetration Rooms				
East (14'6") (20)	--	--	3	2
West (14'6") (17)	--	--	2	1
7. Diesel Generators				
Diesel 1221 (30)	--	--	1	1
Diesel 1321 (32)	--	--	1	1
8. Main Exhaust Equipment Room				
Room (EL 38'6") (5)	--	--	2	1
9. Auxiliary Building -45 (FLP-1)				
General Area (48)	--	--	3	2
a. Safe Guards Room (48)	--	--	2	1
b. Safe Guards Room (48)	--	--	1	1
10. Auxiliary Building -25 (FLP-2)				
General Area -25 (52)	--	--	9	7
Charging Pump Rooms -25 (52)	--	--	5	3
11. Containment Building FLP-3				
RCP "A"	5	3	--	--
RCP "B"	5	3	--	--
RCP "C"	5	3	--	--
RCP "D"	5	3	--	--

TABLE 3.3-10 (Continued)

FIRE DETECTION INSTRUMENTS

Instrument Location (Zone)	Heat		Smoke	
	Total No. of Channels	Minimum Channels Operable	Total No. of Channels	Minimum Channels Operable
12. Auxiliary Building (-5/14'6") FLP-4				
Auxiliary Building General Area 14'6" (41)	--	--	9	7
Auxiliary Building West Piping Penetration (41) Room -5'	--	--	2	1
Auxiliary Building -5' (41)	--	--	14	10

INSTRUMENTATION

ACCIDENT MONITORING

LIMITING CONDITION FOR OPERATION

3.3.3.8 The accident monitoring instrumentation channels shown in Table 3.3.11 shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTION:

a. Actions per Table 3.3-11.

b. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.8 Each accident monitoring instrumentation channel shall be demonstrated OPERABLE by performance of the CHANNEL CHECK and CHANNEL CALIBRATION operations at the frequencies shown in Table 4.3-7.

TABLE 3.3-11

ACCIDENT MONITORING INSTRUMENTATION

Instrument		Total No. of Channels	Minimum Channels Operable	Action
1.	Pressurizer Water Level	2	1	1
2.	Auxiliary Feedwater Flow Rate	2/S. G.	1/S.G	1
3.	RCS Subcooling Margin Monitor	1	1	2
4.	PORV Position Indicator Acoustic Flow Monitor	1/valve	1/valve	3
5.	PORV Block Valve Position Indicator	1/valve	1/valve	3
6.	Safety Valve Position Indicator Acoustic Flow Monitor	1/valve	1/valve	3

TABLE 3.3-11 (Continued)

ACTION STATEMENTS

ACTION 1 - With the number of OPERABLE channels less than required by Table 3.3-11, either restore the inoperable channel(s) to OPERABLE status within 30 days or be in HOT STANDBY within the next 12 hours.

ACTION 2 - With the subcooling margin monitor INOPERABLE, determine the subcooling margin once per 12 hours.

ACTION 3 - With any individual valve position indicator inoperable, obtain quench tank temperature, level and pressure information, and monitor discharge pipe temperature once per shift to determine valve position. This action is not required if the PORV block valve is closed with power removed in accordance with Specification 3.4.3.a or 3.4.3.b.

TABLE 4.3-7

ACCIDENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

	INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION
1.	Pressurizer Water Level	M	R
2.	Auxiliary Feedwater Flow Rate	M	R
3.	Reactor Coolant System Subcooling Margin Monitor	M	R
4.	PORV Position Indicator (Acoustic Monitor)	M	R
5.	PORV Block Valve Position Indicator	N.A.	R
6.	Safety Valve Position Indicator (Acoustic Monitor)	M	R

SURVEILLANCE REQUIREMENTS (Continued)

4.7.9.1.3 The fire pump diesel starting 12-volt batteries 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 individual overall battery voltages are $\geq$ 12 volts.

b. At least once per 92 days by verifying that the specific gravity is appropriate for continued service of the batteries.

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

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)
   1. Sprinkler
   2. Deluge

d. Cable Vault (Turbine Building)

e. Hydrogen Seal Oil Unit

f. Turbine Building Northeast Corner

g. Turbine Building 31'6"/14'6" - North

h. Turbine Building 31'6"/14'6" - South

i. Lube Oil Room.

j. Aux. Building (-45'6") General Area

k. Aux. Building (14'6") Truck Access

l. Turbine Bearing

m. Steam Generator Feed Pumps

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

ACTION:

a. With one or more of the above required and/or 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

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.

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). If the inoperable hose station(s) is not the primary means of fire suppression then route the additional fire hose(s) or establish a continuous fire watch with fire suppression equipment within 24 hours.

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. The exception to the above will be the containment hose stations. The equipment will be located outside containment except when the unit is in cold shutdown.

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.

*Containment hose stations shall be operable in MODE 5 when required to support maintenance activities and MODE 6.

TABLE 3.7-2

FIRE HOSE SATIONS

Hose Station Number	Bldg/Elevation	Area
1-7	Turbine/14'6"	Turbine Building
8-14	Turbine/31'6"	Turbine Building
15-21	Turbine/54'6"	Turbine Building
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
40	Auxiliary/5'0"	Southeast corner stairway
41	Auxiliary/25'6"	Cable Vault Southeast Entrance
42	Auxiliary/36'6"	Control Room Ventilation Area

TABLE 3.7-2

FIRE HOSE SATIONS

43	Turbine/45'0"	North Entrance of Turbine Bldg. Cable Valts
44-45	Containment/38'6"	East & West Stairwells
46-47	Containment/14'6"	East & West Stairwells
48-49	Containment/22'0"	East & West Stairwells

PLANT SYSTEMS

3/4.7.10 PENETRATION FIRE BARRIERS

LIMITING CONDITION FOR OPERATION

3.7.10 All fire barriers and fire-rated penetration seals (including cables, cable trays, conduit, pipes, fire doors and dampers) that provide physical separation between redundant safe shutdown systems/equipment shall be functional.

APPLICABILITY: At all times unless otherwise determined that the separation between redundant safe shutdown systems/equipment is not required based on the MODE of operation.

ACTION:

a. With one or more of the above required fire barriers/penetration seals non-functional, within 1 hour:

1. determine that the fire areas/zones on both sides of the affected fire barrier/penetration seal are monitored by either an OPERABLE fire detection or automatic suppression system and establish a fire watch patrol that inspects both areas at least once per eight (8) hours, or

2. establish a continuous fire watch on at least one side of the affected fire barrier/penetration seal, or

3. temporarily repair the non-functional fire barrier/penetration seal and classify it as temporary.

All temporary or non-functional fire barrier/penetration seals shall be permanently repaired within thirty (30) days, or a special report to the Commission pursuant to Specification 6.9.2 will be submitted within the next 30 days outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the fire barrier/penetration seal to functional status.

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

SURVEILLANCE REQUIREMENTS

4.7.10 The above required fire barriers/penetration seals shall be verified to be functional by a visual inspection:

a. At least once per 18 months for fire doors and fire dampers.

b. At least once per 18 months for fire barrier penetration seals, on at least 10% of the total number of penetration seals. If any of the penetration seals in the inspection sample are found to be non-functional, then an additional 10% sample of the total number of penetration seals shall be visually inspected. Sampling and inspection shall continue until all of the seals in a sample are found functional or 100% of the seals are inspected.

c. Prior to returning a fire barrier/penetration seal to functional status following repairs or maintenance.

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.

3/4.7.10 PENETRATION FIRE BARRIERS

The functional integrity of 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 fire barriers are a passive element in the facility fire protection program and are subject to periodic inspections.

During periods of time when a barrier is not functional, alternate measures are taken to prevent the possible spread of fire. These measures include verifying the operability of fire detection or suppression systems on both sides of the affected barrier and establishing a fire watch patrol, or posting a continuous fire watch in the vicinity of the affected barrier, or installation of a temporary fire stop pending restoration of the permanent seal.

THIRTY-DAY WRITTEN REPORTS (Continued)

form. Information provided on the licensee event report form shall be supplemented, as needed, by additional narrative material to provide complete explanation of the circumstances surrounding the event.

a. Reactor protection system or engineered safety features instrument settings which are found to be less conservative than those established by the technical specifications but which do not prevent the fulfillment of the functional requirements of affected systems.

b. Conditions leading to operation in a degraded mode permitted by a limiting condition for operation or plant shutdown required by a limiting condition for operation.

c. Observed inadequacies in the implementation of administrative or procedural controls which threaten to cause reduction of degree of redundancy provided in reactor protection systems or engineered safety features systems.

d. Abnormal degradation of systems other than those specified in 6.9.1.8.c, above, designed to contain radioactive material resulting from the fission process.

SPECIAL REPORTS

6.9.2 Special reports shall be submitted to the Regional Administrator, Region I, U. S. Nuclear Regulatory Commission, 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. ECCS Actuation, Specifications 3.5.2 and 3.5.3.
e. Fire Detection Instrumentation, Specifications 3.3.3.7.
f. Fire Suppression Systems, Specifications 3.7.9.1 and 3.7.9.2.
g. RCS Overpressure Mitigation, Specification 3.4.9.3.
h. Penetration Fire Barriers, Specification 3.7.10.