



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

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

DOCKET NO. 50-336

MILLSTONE NUCLEAR POWER STATION, UNIT NO. 2  
AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 111  
License No. DPR-65

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Northeast Nuclear Energy Company, et al. (the licensee), dated July 9, 1985, complies with the 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.

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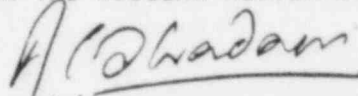
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-65 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 111, 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 issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Ashok C. Thadani, Director  
PWR Project Directorate #8  
Division of PWR Licensing-B

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: April 9, 1986

ATTACHMENT TO LICENSE AMENDMENT NO. 111

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 provided to maintain document completeness.

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ADMINISTRATIVE CONTROLS

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## 1.0 DEFINITIONS

### DEFINED TERMS

1.1 The DEFINED TERMS of this section appear in capitalized type and are applicable throughout these Technical Specifications.

### THERMAL POWER

1.2 THERMAL POWER shall be the total reactor core heat transfer rate to the reactor coolant.

### RATED THERMAL POWER

1.3 RATED THERMAL POWER shall be a total reactor core heat transfer rate to the reactor coolant of 2700 MWt.

### OPERATIONAL MODE

1.4 An OPERATIONAL MODE shall correspond to any one inclusive combination of core reactivity condition, power level, and average reactor coolant temperature specified in Table 1.1.

### ACTION

1.5 ACTION shall be those additional requirements specified as corollary statements to each principal specification and shall be part of the specifications.

### OPERABLE - OPERABILITY

1.6 A system, subsystem, train, component, or device shall be OPERABLE or have OPERABILITY when it is capable of performing its specified function(s) and when all necessary attendant instrumentation, controls, normal and emergency electrical power sources, cooling, or seal water, lubrication, or other auxiliary equipment that are required for the system, subsystem, train, component, or device to perform its function(s) are also capable of performing their related support function(s).

### REPORTABLE EVENT

1.7 A REPORTABLE EVENT shall be any of those conditions specified in Section 50.73 to 10 CFR Part 50.



## DEFINITIONS

### CONTAINMENT INTEGRITY

1.8 CONTAINMENT INTEGRITY shall exist when:

- 1.8.1 All penetrations required to be closed during accident conditions are either:
  - a. Capable of being closed by an OPERABLE containment automatic isolation valve system, or
  - b. Closed by manual valves, blind flanges, or deactivated automatic valves secured in their closed positions,
- 1.8.2 The equipment hatch is closed and sealed, and
- 1.8.3 The airlock is OPERABLE pursuant to Specification 3.6.1.3.

### CHANNEL CALIBRATION

1.9 A CHANNEL CALIBRATION shall be the adjustment, as necessary, of the channel output such that it responds with the necessary range and accuracy to known values of the parameter which the channel monitors. The CHANNEL CALIBRATION shall encompass the entire channel including the sensor and alarm and/or trip functions, and shall include the CHANNEL FUNCTIONAL TEST. The CHANNEL CALIBRATION may be performed by any series of sequential, overlapping or total channel steps such that the entire channel is calibrated.

### CHANNEL CHECK

1.10 A CHANNEL CHECK shall be the qualitative assessment of channel behavior during operation by observation. This determination shall include, where possible, comparison of the channel indication and/or status with other indications and/or status derived from independent instrument channels measuring the same parameter.

### CHANNEL FUNCTIONAL TEST

1.11 A CHANNEL FUNCTIONAL TEST shall be the injection of a simulated signal into the channel as close to the primary sensor as practicable to verify OPERABILITY including alarm and/or trip functions.

## 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 6.6.1, 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.

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

<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>
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
6. Electrical Penetration Rooms				
East (14'6") (20)	--	--	3	2
West (14'6") (17)	--	--	2	1

REACTOR COOLANT SYSTEM

SURVEILLANCE REQUIREMENTS (Continued)

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4.4.5.1.5 Reports

- a. Following each inservice inspection of steam generator tubes, the number of tubes plugged in each steam generator shall be reported to the Commission within 15 days.
- b. The complete results of the steam generator tube inservice inspection shall be included in the Annual Operating Report for the period in which this inspection was completed. This report shall include:
  1. Number and extent of tubes inspected.
  2. Location and percent of wall-thickness penetration for each indication of an imperfection.
  3. Identification of tubes plugged or sleeved.
- c. Results of steam generator tube inspections which fall into Category C-3 shall be reported pursuant to 10 CFR 50.72. In lieu of any report required pursuant to Specification 6.6.1, a Special Report pursuant to Specification 6.9.2 shall be submitted prior to resumption of plant operation and shall provide a description of investigations conducted to determine the cause of the tube degradation and corrective measures taken to prevent recurrence.

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TABLE 4.4-6

## STEAM GENERATOR TUBE INSPECTION

1ST SAMPLE INSPECTION			2ND SAMPLE INSPECTION		3RD SAMPLE INSPECTION	
Sample Size	Result	Action Required	Result	Action Required	Result	Action Required
A minimum of S tubes per S.G.*	C-1	None	N/A	N/A	N/A	N/A
	C-2	Repair defective tubes and inspect additional 25 tubes in this S.G.*	C-1	None	N/A	N/A
			C-2	Repair defective tubes and inspect additional 45 tubes in this S.G.*	C-1	None
					C-2	Repair defective tubes*
	C-3	Perform action for C-3 result of first sample	N/A	N/A		
	C-3	Inspect all tubes in this S.G., repair defective tubes and inspect 25 tubes in each other S.G.*  Prompt notification to NRC pursuant to 10 CFR 50.72	All other S.G.s are C-1	None	N/A	N/A
			Some S.G.s C-2 but no additional S.G. are C-3	Perform action for C-2 result of second sample	N/A	N/A
Additional S.G. is C-3			Inspect all tubes in each S.G. and repair defective tubes.* Prompt notification to NRC pursuant to 10 CFR 50.72	N/A	N/A	

$S = 3 \frac{N}{n}$  Where N is the number of steam generators in the unit, and n is the number of steam generators inspected during an inspection

\* Repair of defective tubes shall be limited to plugging with the exception of those tubes which may be sleeved. Tubes with defective sleeves shall be plugged.

## REACTOR COOLANT SYSTEM

### 3/4.4.6 REACTOR COOLANT SYSTEM LEAKAGE

#### LEAKAGE DETECTION SYSTEMS

#### LIMITING CONDITION FOR OPERATION

---

3.4.6.1 The following Reactor Coolant System leakage detection systems shall be OPERABLE:

- a. A containment atmosphere particulate radioactivity monitoring system,
- b. The containment sump level monitoring system, and
- c. A containment atmosphere gaseous radioactivity monitoring system.

APPLICABILITY: MODES 1, 2, 3 and 4.

#### ACTION:

- a. With one of the above radioactivity monitoring leakage detection systems inoperable, operations may continue for up to 30 days provided:
  1. The other two above required leakage detection systems are OPERABLE, and
  2. Appropriate grab samples are obtained and analyzed at least once per 24 hours:  
otherwise, be in COLD SHUTDOWN within the next 36 hours.
- b. With the containment sump level monitoring system inoperable, restore the inoperable system to OPERABLE status within 7 days or be in COLD SHUTDOWN within the next 36 hours.

#### SURVEILLANCE REQUIREMENTS

---

4.4.6.1 The leakage detection systems shall be demonstrated OPERABLE by:

- a. Containment atmosphere gaseous and particulate monitoring systems-performance of CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST at the frequencies specified in Table 4.3-3, and
- b. Containment sump level monitoring system-performance of CHANNEL CALIBRATION TEST at least once per 18 months.

REACTOR COOLANT SYSTEM

SPECIFIC ACTIVITY

LIMITING CONDITION FOR OPERATION

---

3.4.8 The specific activity of the primary coolant shall be limited to:

- a.  $\leq 1.0 \mu\text{Ci/gram DOSE EQUIVALENT I-131}$ , and
- b.  $\leq 100/\bar{E} \mu\text{Ci/gram}$ .

APPLICABILITY: MODES 1, 2, 3, 4 and 5.

ACTION:

MODES 1, 2 and 3\*:

- a. With the specific activity of the primary coolant  $> 1.0 \mu\text{Ci/gram DOSE EQUIVALENT I-131}$  but within the allowable limit (below and to the left of the line) shown on Figure 3.4-1, operation may continue for up to 48 hours provided that operation under these circumstances shall not exceed 10 percent of the unit's total yearly operating time. The provisions of Specification 3.0.4 are not applicable.
- b. With the specific activity of the primary coolant  $> 1.0 \mu\text{Ci/gram DOSE EQUIVALENT I-131}$  for more than 48 hours during one continuous time interval or exceeding the limit line shown on Figure 3.4-1, be in HOT STANDBY with  $T_{\text{avg}} < 515^\circ\text{F}$  within 4 hours.
- c. With the specific activity of the primary coolant  $> 100/\bar{E} \mu\text{Ci/gram}$ , be in HOT STANDBY with  $T_{\text{avg}} < 515^\circ\text{F}$  within 4 hours.

MODES 1, 2, 3, 4 and 5:

- d. With the specific activity of the primary coolant  $> 1.0 \mu\text{Ci/gram DOSE EQUIVALENT I-131}$  or  $> 100/\bar{E} \mu\text{Ci/gram}$ , perform the sampling and analysis requirements of item 4 a) of Table 4.4-2 until the specific activity of the primary coolant is restored to within its limits. A Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2. This report shall contain the results of the specific activity analyses together with the following information:

---

\*With  $T_{\text{avg}} \geq 515^\circ\text{F}$ .



## REACTOR COOLANT SYSTEM

### ACTION: (Continued)

1. reactor power history starting 48 hours prior to the first sample in which the limit was exceeded,
2. fuel burnup by core region,
3. clean-up flow history starting 48 hours prior to the first sample in which the limit was exceeded,
4. history of de-gassing operation, if any, and
5. the time duration when the specific activity of the primary coolant exceeded 1.0  $\mu\text{Ci}/\text{gram}$  DOSE EQUIVALENT I-131.

### SURVEILLANCE REQUIREMENTS

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4.4.8 The specific activity of the primary coolant shall be determined to be within the limits by performance of the sampling and analysis program of Table 4.4-2.

## CONTAINMENT SYSTEMS

### SURVEILLANCE REQUIREMENTS (Continued)

- b. Removing one wire from a dome, a vertical and a hoop tendon checked for lift off force pursuant to Specification 4.6.1.6.1.a and determining that over the entire length of the removed wire that:
1. The tendon wires are free of corrosion.
  2. There are no changes in physical appearance of the sheathing filler grease.
  3. A minimum tensile strength of 11,760 pounds for at least three wire samples (one from each end and one at mid-length) cut from each removed wire. Failure of any one of the wire samples to meet the minimum tensile strength test is evidence of abnormal degradation of the containment structure.

4.6.1.6.2 End Anchorages and Adjacent Concrete Surfaces The structural integrity of the end anchorages and adjacent concrete surfaces shall be demonstrated by determining through inspection that no apparent changes have occurred in the visual appearance of the end anchorage concrete exterior surfaces or the concrete crack patterns adjacent to the end anchorages. Inspections of the concrete shall be performed during the Type A containment leakage rate tests (reference Specification 4.6.1.2) while the containment is at its maximum test pressure.

4.6.1.6.3 Liner Plate The structural integrity of the containment liner plate shall be determined during the shutdown for each Type A containment leakage rate test (reference Specification 4.6.1.2) by a visual inspection of the plate and verifying no apparent changes in appearance or other abnormal degradation.

4.6.1.6.4 Reports In lieu of any other report required by Specification 6.6.1, an initial report of any abnormal degradation of the containment structure detected during the above required tests and inspections shall be made within 10 days after completion of the surveillance requirements of this specification and the detailed report shall be submitted pursuant to Specification 6.9.2 within 90 days after completion. This report shall include a description of the condition of the concrete (especially at tendon anchorages), the inspection procedure, the tolerances on cracking, and the corrective actions taken.

## CONTAINMENT SYSTEMS

### 3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

#### CONTAINMENT SPRAY SYSTEM

##### LIMITING CONDITION FOR OPERATION

---

3.6.2.1 Two separate and independent containment spray systems shall be OPERABLE with each spray system capable of taking suction from the RWST on a Containment Spray Actuation Signal and automatically transferring suction to the containment sump on a Sump Recirculation Actuation Signal. Each spray system flow path from the containment sump shall be via an OPERABLE shutdown cooling heat exchanger.

APPLICABILITY: MODES 1, 2 and 3\*.

##### ACTION:

- a. With one containment spray system inoperable and all four containment air recirculation and cooling units OPERABLE, restore the inoperable spray system to OPERABLE status within 30 days or be in HOT SHUTDOWN within the next 12 hours.
- b. With one containment spray system inoperable and one containment air recirculation and cooling unit inoperable, restore either the inoperable spray system or the inoperable air recirculation and cooling unit to OPERABLE status within 48 hours or be in HOT SHUTDOWN within the next 12 hours.

##### SURVEILLANCE REQUIREMENTS

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4.6.2.1 Each containment spray system shall be demonstrated OPERABLE:

- a. At least once per 31 days on a STAGGERED TEST BASIS by:
  1. Starting each spray pump from the control room,
  2. Verifying, that on recirculation flow, each spray pump develops a discharge pressure of  $\geq 254$  psig,

\*Applicable when pressurizer pressure is  $\geq 1750$  psia.

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. Three high pressure pumps, each with a capacity of at least 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 6.6.1, 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 two pumps inoperable, establish a continuous fire watch of the turbine building with backup fire suppression equipment within 1 hour; restore the inoperable equipment to OPERABLE status within 14 days or, in lieu of any other report required by Specification 6.6.1, 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 equipment to OPERABLE status. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

PLANT SYSTEMS

LIMITING CONDITION FOR OPERATION (Continued)

- c. 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
    - 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

- 4.7.9.1.1 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.

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)
  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
  1. 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 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 6.6.1, 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 Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

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

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

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- 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.

## REACTOR COOLANT SYSTEM

### BASES

evidence of mechanical damage or progressive degradation due to design, manufacturing errors, or inservice conditions that lead to corrosion. Inservice inspection of steam generator tubing also provides a means of characterizing the nature and cause of any tube degradation so that corrective measures can be taken.

The plant is expected to be operated in a manner such that the secondary coolant will be maintained within those chemistry limits found to result in negligible corrosion of the steam generator tubes. If the secondary coolant chemistry is not maintained within these limits, localized corrosion may likely result in stress corrosion cracking.

The extent of cracking during plant operation would be limited by the limitation of steam generator tube leakage between the primary coolant system and the secondary coolant system (primary-to-secondary leakage = 0.5 GPM, per steam generator). Cracks having a primary-to-secondary leakage less than this limit during operation will have an adequate margin of safety to withstand the loads imposed during normal operation and by postulated accidents. Operating plants have demonstrated that primary-to-secondary leakage of 0.5 gallon per minute can readily be detected by radiation monitors of steam generator blow-down. Leakage in excess of this limit will require plant shutdown and an unscheduled inspection, during which the leaking tubes will be located and plugged.

Wastage-type defects are unlikely with proper chemistry treatment of the secondary coolant. However, even if a defect should develop in service, it will be found during scheduled inservice steam generator tube examinations. Plugging or sleeving will be required for all tubes with imperfections exceeding the plugging limit of 40% of the tube nominal wall thickness. Sleeving repair will be limited to those steam generator tubes with a defect between the tube sheet and the first eggcrate support. Tubes containing sleeves with imperfections exceeding the plugging limit will be plugged. Steam generator tube inspections of operating plants have demonstrated the capability to reliably detect degradation that has penetrated 20% of the original tube wall thickness.

Whenever the results of any steam generator tubing inservice inspection fall into Category C-3, these results will be immediately reported to the Commission pursuant to 10 CFR 50.72. Such cases will be considered by the Commission on a case-by-case basis and may result in a requirement for analysis, laboratory examinations, tests, additional eddy-current inspection, and revision of the Technical Specifications, if necessary.



## ADMINISTRATIVE CONTROLS

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### 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 Station 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 Vice President Nuclear Operations and to the Chairman of the Nuclear Review Board.
- f. Review of all REPORTABLE EVENTS.
- 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

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### REVIEW

6.5.3.6 The NRB shall review:

- a. The safety evaluations for 1) changes to procedures, equipment or systems, and 2) tests or experiments completed under the provisions of Section 50.59, 10 CFR, to verify that such actions did not constitute an unreviewed safety question.
- b. Proposed changes to procedures, equipment or systems which involve an unreviewed safety question as defined in Section 50.59, 10 CFR.
- c. Proposed tests or experiments which involve an unreviewed safety question as defined in Section 50.59, 10 CFR.
- d. Proposed changes in Sections 1.0 - 5.0 of these Technical Specifications or licenses.
- e. Violations of applicable statutes, codes, regulations, orders, Technical Specifications, license requirements, or of internal procedures or instructions having nuclear safety significance.
- f. Significant operating abnormalities or deviations from normal and expected performance of plant equipment that affect nuclear safety.
- g. ALL REPORTABLE EVENTS.
- h. Indications of a significant unanticipated deficiency, affecting nuclear safety, in some aspect of design or operation of safety related structures, systems or components.
- i. Reports and meeting minutes of the PORC.

### AUDITS

6.5.3.7 Audits of Unit activities shall be performed under the cognizance of the NRB. These audits shall encompass:

- a. The conformance of Unit operation to all provisions contained within the Technical Specifications and applicable license conditions at least once per 12 months.

## ADMINISTRATIVE CONTROLS

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### AUDITS (Continued)

- b. The performance, training, and qualifications of the unit staff at least once per 12 months.
- c. The results of actions taken to correct deficiencies occurring in unit equipment, structures, systems, or method of operation that affect nuclear safety at least once per six months.
- d. Any other area of unit operation considered appropriate by the NRB or the Senior Vice President Nuclear Engineering and Operations.

### AUTHORITY

6.5.3.8 The NRB shall report to and advise the Senior Vice President Nuclear Engineering and Operations on those areas of responsibility specified in Sections 6.5.3.6 and 6.5.3.7. Meeting minutes may be used for this purpose.

### RECORDS

6.5.3.9 Records of NRB activities shall be prepared, approved, and distributed as indicated below:

- a. Minutes of each NRB meeting shall be prepared, approved, and forwarded to the Senior Vice President Nuclear Engineering and Operations within 14 days following each meeting.
- b. Reports of reviews encompassed by Section 6.5.3.6 above shall be prepared, approved and forwarded to the Senior Vice President Nuclear Engineering and Operations within 14 days following completion of the review.
- c. Audit reports encompassed by Section 6.5.3.7 above shall be forwarded to the Senior Vice President Nuclear Engineering and Operations and to the management positions responsible for the areas audited within 30 days after completion of the audit.

## ADMINISTRATIVE CONTROLS

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### AUTHORITY

6.5.4.8 The SNRB reports to and advises the Senior Vice President Nuclear Engineering and Operations on those areas of responsibility specified in Sections 6.5.4.6 and 6.5.4.7. Meeting minutes may be used for this purpose.

### RECORDS

6.5.4.9 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 Senior Vice President Nuclear Engineering and Operations within 14 days following each meeting.
- b. Reports of reviews encompassed by Section 6.5.4.6 above shall be prepared, approved, and forwarded to the Senior Vice President Nuclear Engineering and Operations within 14 days following completion of the review.
- c. Audit reports encompassed by Section 6.5.4.7 above shall be forwarded to the Senior Vice President Nuclear Engineering and Operations and to the management positions responsible for the areas audited within 30 days after completion of the audit.

### 6.6 REPORTABLE EVENT ACTION

6.6.1 The following actions shall be taken for REPORTABLE EVENTS:

- a. The Commission shall be notified and a report submitted pursuant to the requirement of Section 50.73 to 10 CFR Part 50, and
- b. Each REPORTABLE EVENT shall be reviewed by the PORC and the results of this review shall be submitted to the NRB and the Vice President Nuclear Operations.

### 6.7 SAFETY LIMIT VIOLATION

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

- a. The Unit shall be placed in at least HOT STANDBY within one hour.

## ADMINISTRATIVE CONTROLS

### SAFETY LIMIT VIOLATION (Continued)

- b. The NRC Operations Center shall be notified by telephone as soon as possible and in all cases within one hour. The Vice President Nuclear Operations and the NRB shall be notified within 24 hours.
- 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 Vice President Nuclear Operations within 14 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, February 1978.
- b. Refueling operations.
- c. Surveillance activities of safety related equipment.
- d. Security Plan implementation.
- e. Emergency Plan implementation.
- f. Fire Protection Program implementation.
- g. Quality controls for effluent monitoring, using the guidance in Regulatory Guide 1.21, Rev. 1, June 1974.
- h. Radiological Effluent Monitoring and Offsite Dose Calculation Manual (REMDCM) implementation except for Section I.E, Radiological Environmental Monitoring.

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/Station 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/SGRC, as applicable, and approved by the Unit Superintendent/Station Superintendent within 14 days of implementation.

6.8.4 Written procedures shall be established, implemented and maintained covering Section I.E, Radiological Environmental Monitoring, of the REMODCM.

6.8.5 All procedures and procedure changes required for the Radiological Environmental Monitoring Program of 6.8.4 above shall be reviewed by an individual (other than the author) from the Radiological Assessment Branch or the Production Operation Services Laboratory (POSL) and approved by appropriate supervision.

Temporary changes may be made provided the intent of the original procedure is not altered and the change is documented and reviewed by an individual (other than the author) from the Radiological Assessment Branch or the POSL, within 14 days of implementation.

## 6.9 REPORTING REQUIREMENTS

### ROUTINE REPORTS

6.9.1 In addition to the applicable reporting requirements of Title 10, Code of Federal Regulations, the following reports shall be submitted to Regional Administrator, Region I, U.S. Nuclear Regulatory Commission, unless otherwise noted.

### STARTUP REPORT

6.9.1.1 A summary report of plant startup and power escalation testing shall be submitted following (1) receipt of an operating license, (2) amendment to the license involving a planned increase in power level, (3) installation of fuel that has a different design or has been manufactured by a different fuel supplier, and (4) modifications that may have significantly altered the nuclear, thermal or hydraulic performance of the plant.

6.9.1.2 The startup report shall address each of the tests identified in the FSAR and shall include a description of the measured values of the operating conditions or characteristics obtained during the test program and a comparison of these values with design predictions and specifications. Any additional specific details required in license conditions based on other commitments shall be included in this report.

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6.9.1.3 Startup reports shall be submitted within (1) 90 days following completion of the startup test program, (2) 90 days following resumption or commencement of commercial power operation, or (3) 9 months following initial criticality, whichever is earliest. If the Startup Report does not cover all three events (i.e., initial criticality, completion of startup test program, and resumption or commencement of commercial power operation), supplementary reports shall be submitted at least every three months until all three events have been completed.

### ANNUAL REPORTS<sup>1/</sup>

6.9.1.4 Annual reports covering the activities of the unit as described below for the previous calendar year shall be submitted prior to March 1 of each year. The initial report shall be submitted prior to March 1 of the year following initial criticality.

6.9.1.5 Reports required on an annual basis shall include:

- a. A tabulation on an annual basis of the number of station, utility and other personnel (including contractors) receiving exposures greater than 100 mrem/yr and their associated man-rem exposure according to work and job functions,<sup>2/</sup> e.g., reactor operations and surveillance, inservice inspection, routine maintenance, special maintenance (describe maintenance), waste processing and refueling. The dose assignment to various duty functions may be estimates based on pocket dosimeter, TLD or film badge measurements. Small exposures totalling less than 20% of the individual total dose need not be accounted for. In the aggregate, at least 80% of the total whole body dose received from external sources shall be assigned to specific major work functions.
- b. The complete results of steam generator tube inservice inspections performed during the report period (reference Specification 4.4.5.5.b).

<sup>1/</sup> A single submittal may be made for a multiple unit station. The submittal should combine those sections that are common to all units at the station.

<sup>2/</sup> This tabulation supplements the requirements of §20.407 of 10 CFR Part 20.

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### MONTHLY OPERATING REPORT

6.9.1.6 Routine reports of operating statistics and shutdown experience shall be submitted on a monthly basis to the Director, Office of Resource Management, U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, with a copy to the Regional Administrator, Region I, U. S. Nuclear Regulatory Commission, no later than the 15th of each month following the calendar month covered by the report.

### 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, Specification 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. Radiological Effluent Reports required by Specifications 3.11.1.2, 3.11.2.2, 3.11.2.3, and 3.11.4.
- i. Specific activity levels, Specification 3.4.8.
- j. Degradation of containment structure, Specification 4.6.1.6.4.
- k. Steam Generator Tube Inspection, Specification 4.4.5.1.5.



## ADMINISTRATIVE CONTROLS

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### 6.10 RECORD RETENTION

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 EVENTS.
- 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.

## ADMINISTRATIVE CONTROLS

- g. Records of training and qualification for current members of the plant staff.
- h. Records of inservice inspections performed pursuant to these Technical Specifications.
- i. Records of quality assurance activities required by the QA Manual.
- j. Records of reviews performed for changes made to procedures or equipment or reviews of tests and experiments pursuant to 10 CFR Part 50.59.
- k. Records of meetings of the PORC, the NRB, the SORC and the SNRB.
- l. Records of Environmental Qualification.

### 6.11 RADIATION PROTECTION PROGRAM

Procedures for personnel radiation protection shall be prepared consistent with the requirements of 10 CFR Part 20 and shall be approved, maintained and adhered to for all operations involving personnel radiation exposure.

### 6.12 HIGH RADIATION AREA

6.12.1 In lieu of the "control device" or "alarm signal" required by paragraph 20.203(c)(2) of 10 CFR 20, each high radiation area in which the intensity of radiation is greater than 100 mrem/hr but less than 1000 mrem/hr shall be barricaded and conspicuously posted as a high radiation area and entrance thereto shall be controlled by requiring issuance of a Radiation Work Permit\*. Any individual or group of individuals permitted to enter such areas shall be provided with or accompanied by one or more of the following:

- a. A radiation monitoring device which continuously indicates the radiation dose rate in the area.
- b. A radiation monitoring device which continuously integrates the radiation dose rate in the area and alarms when a preset integrated dose is received. Entry into such areas with this monitoring device may be made after the dose rate level in the area has been established and personnel have been made knowledgeable of them.

\*Health Physics personnel or personnel escorted by Health Physics personnel shall be exempt from the RWP issuance requirement during the performance of their assigned radiation protection duties, provided they comply with approved radiation protection procedures for entry into high radiation areas.

## ADMINISTRATIVE CONTROLS

- c. An individual qualified in radiation protection procedures who is equipped with a radiation dose rate monitoring device. This individual shall be responsible for providing positive control over the activities within the area and shall perform periodic radiation surveillance at the frequency specified in the Radiation Work Permit. The surveillance frequency shall be established by the Health Physics Supervisor.

6.12.2 The requirements of 6.12.1, above, shall also apply to each high radiation area in which the intensity of radiation is greater than 1000 mrem/hr. In addition, locked doors shall be provided to prevent unauthorized entry into such areas and the keys shall be maintained under the administrative control of the Shift Supervisor on duty and/or the Health Physics Supervisor.

### 6.13 SYSTEMS INTEGRITY

The licensee shall implement a program to reduce leakage from systems outside containment that would or could contain highly radioactive fluids during a serious transient or accident to as low as practical levels. This program shall include the following:

1. Provisions establishing preventive maintenance and periodic visual inspection requirements, and
2. Integrated leak test requirements for each system at a frequency not to exceed refueling cycle intervals.

### 6.14 IODINE MONITORING

The licensee shall implement a program which will ensure the capability to accurately determine the airborne iodine concentration in vital areas under accident conditions. This program shall include the following:

1. Training of personnel,
2. Procedures for monitoring, and
3. Provisions for maintenance of sampling and analysis equipment.

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### 6.15 RADIOLOGICAL EFFLUENT MONITORING AND OFFSITE DOSE CALCULATION MANUAL (REMODCM)

Section I, Radiological Effluents Monitoring Manual, shall outline the sampling and analysis programs to determine the concentration of radioactive materials released offsite as well as dose commitments to individuals in those exposure pathways and for those radionuclides released as a result of station operation. It shall also specify operating guidelines for radioactive waste treatment systems and report content.

Changes to Section I shall be submitted to the Commission for approval prior to implementation.

Section II, the Offsite Dose Calculation Manual (ODCM), shall describe the methodology and parameters to be used in the calculation of offsite doses due to radioactive gaseous and liquid effluents and in the calculations of gaseous and liquid effluent monitoring instrumentation alarm/trip setpoints consistent with the applicable LCOs contained in these technical specifications. Changes to Section II need not be submitted to the Commission for approval prior to implementation, but shall be included in the next Semi-Annual Radioactive Effluent Release Report.

### 6.16 RADIOACTIVE WASTE TREATMENT

Procedures for liquid and gaseous radioactive effluent discharges from the unit shall be prepared, approved, maintained and adhered to for all operations involving offsite releases of radioactive effluents. These procedures shall specify the use of appropriate waste treatment systems utilizing the guidance provided in the REMODCM.

The Solid Radioactive Waste Treatment System shall be operated in accordance with the Process Control Program to process wet radioactive wastes to meet shipping and burial ground requirements.