UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

WASHINGTON PUBLIC POWER SUPPLY SYSTEM

DOCKET NO. 50-397

NUCLEAR PROJECT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 145
License No. NPF-21

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by the Washington Public Power Supply System (licensee) dated October 26, 1995, as supplemented by letters dated March 12, 1996, May 8, 1996, and May 16, 1996, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's 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. NPF-21 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 145 and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

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

FOR THE NUCLEAR REGULATORY COMMISSION

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Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications

Date of Issuance: June 3, 1996

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 145 TO FACILITY OPERATING LICENSE NO. NPF-21

DOCKET NO. 50-397

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 areas of change. The corresponding overleaf pages are also provided to maintain document completeness.

REMOVE	INSERT
3/4 2-7	3/4 2-7
3/4 2-9	3/4 2-9
3/4 4-1	3/4 4-1
3/4 4-2	3/4 4-2
3/4 4-3	3/4 4-3
3/4 4-4	3/4 4-4
3/4 6-22	3/4 6-22
3/4 6-33	3/4 6-33
B 3/4 3-3	B 3/4 3-3

3/4.2 POWER DISTRIBUTION LIMITS

3/4.2.7 STABILITY MONITORING - TWO LOOP OPERATION

LIMITING CONDITION FOR OPERATION

3.2.7 The stability monitoring system shall be operable* and the decay ratio of the neutron signals shall be less than .75 when operating in the region of APPLICABILITY.

APPLICABILITY: OPERATIONAL CONDITION 1, with two recirculation loops in operation and THERMAL POWER/core flow conditions which lay in Region C of Figure 3.2.7-1.

ACTION:

a. With decay ratios of any two (2) neutron signals greater than or equal to 0.75 or with two (2) consecutive decay ratios on any single neutron signal greater than or equal to 0.75:

   As soon as practical, but in all cases within 15 minutes, initiate action to reduce the decay ratio by either decreasing THERMAL POWER with control rod insertion or increasing core flow. The starting of a recirculation pump for the purpose of decreasing decay ratio is specifically prohibited.

b. With the stability monitoring system inoperable and when operating in the region of APPLICABILITY:

   As soon as practical, but in all cases within 15 minutes, initiate action to exit the region of APPLICABILITY by either decreasing THERMAL POWER with control rod insertion or increasing core flow. The starting of a recirculation pump for the purpose of exiting the region of APPLICABILITY when the stability monitoring system is inoperable is specifically prohibited. Exit the region of APPLICABILITY within one (1) hour.

SURVEILLANCE REQUIREMENTS

4.2.7.1 The provisions of Specification 4.0.4 are not applicable.

4.2.7.2 The stability monitoring system shall be demonstrated operable* within one (1) hour prior to entry into the region of APPLICABILITY.

4.2.7.3 Decay ratio and peak-to-peak noise values calculated by the stability monitoring system shall be monitored when operating in the region of APPLICABILITY.

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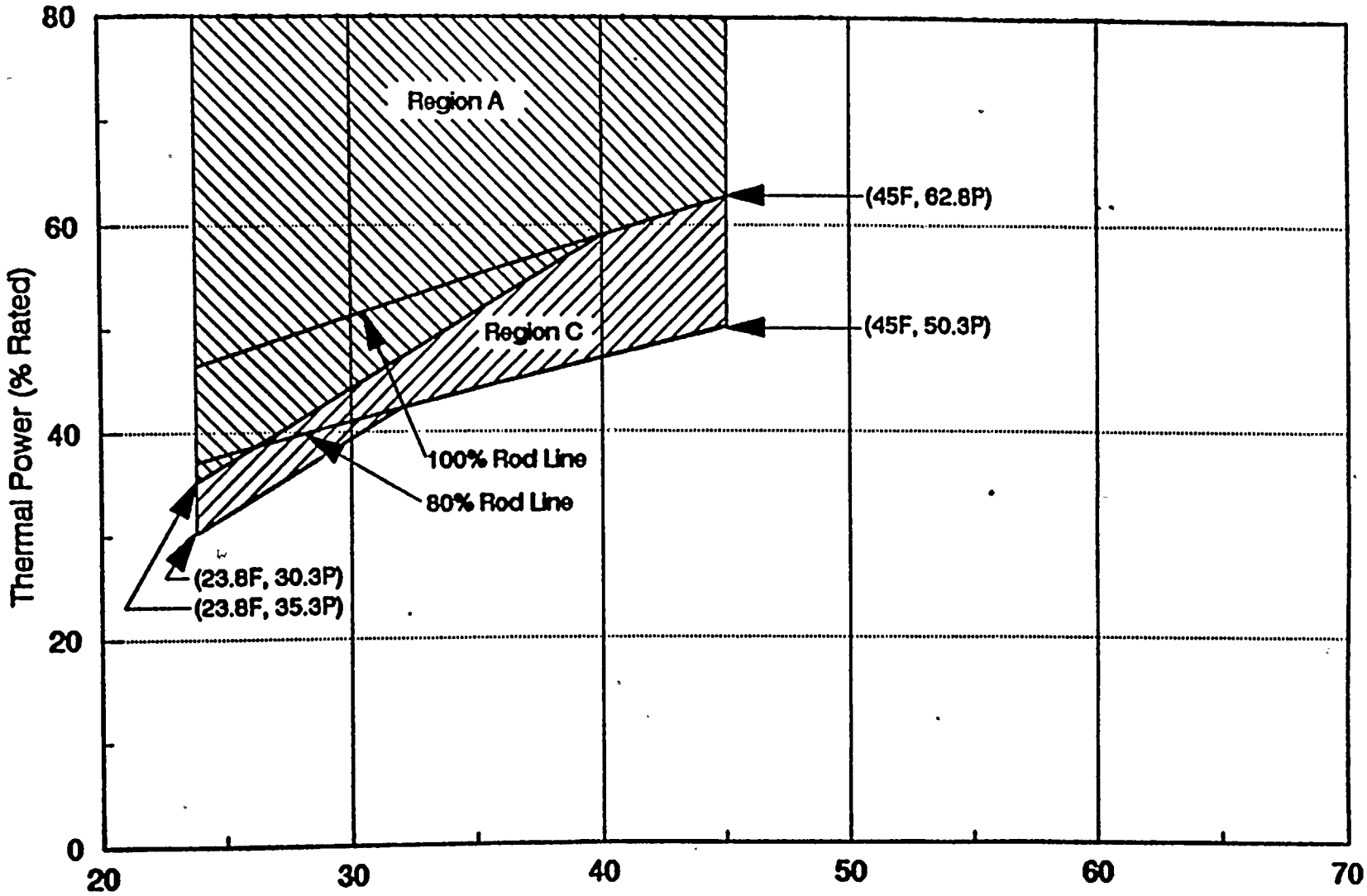
*Verify that the stability monitoring system data acquisition and calculational modules are functioning, and that displayed values of signal decay ratio and peak-to-peak noise are being updated.... Detector levels A and C (or B and D) of one LPRM string in each of the nine core regions (a total of 18 LPRM detectors) shall be monitored. A minimum of four (4) APRMs shall also be monitored.



Operating Region Limits of Specification 3.2.7
Figure 3.2.7-1

3/4.2 POWER DISTRIBUTION LIMITS

3/4.2.8 STABILITY MONITORING - SINGLE LOOP OPERATION

LIMITING CONDITION FOR OPERATION

3.2.8 The stability monitoring system shall be operable* and the decay ratio of the neutron signals shall be less than .75 when operating in the region of APPLICABILITY.

APPLICABILITY: OPERATIONAL CONDITION 1, with one recirculation loop in operation and THERMAL POWER/core flow conditions which lay in Region C of Figure 3.2.8-1.

ACTION:

a. With decay ratios of any two (2) neutron signals greater than or equal to 0.75 or with two (2) consecutive decay ratios on any single neutron signal greater than or equal to 0.75:

   As soon as practical, but in all cases within 15 minutes, initiate action to reduce the decay ratio by either decreasing THERMAL POWER with control rod insertion or increasing core flow. The starting of a recirculation pump for the purpose of decreasing decay ratio is specifically prohibited.

b. With the stability monitoring system inoperable and when operating in the region of APPLICABILITY:

   As soon as practical, but in all cases within 15 minutes, initiate action to exit the region of APPLICABILITY by decreasing THERMAL POWER with control rod insertion. Exit the region of APPLICABILITY within one (1) hour.

SURVEILLANCE REQUIREMENTS

4.2.8.1 The provisions of Specification 4.0.4 are not applicable.

4.2.8.2 The stability monitoring system shall be demonstrated operable* within one (1) hour prior to entry into the region of APPLICABILITY.

4.2.8.3 Decay ratio and peak-to-peak noise values calculated by the stability monitoring system shall be monitored when operating in the region of APPLICABILITY.

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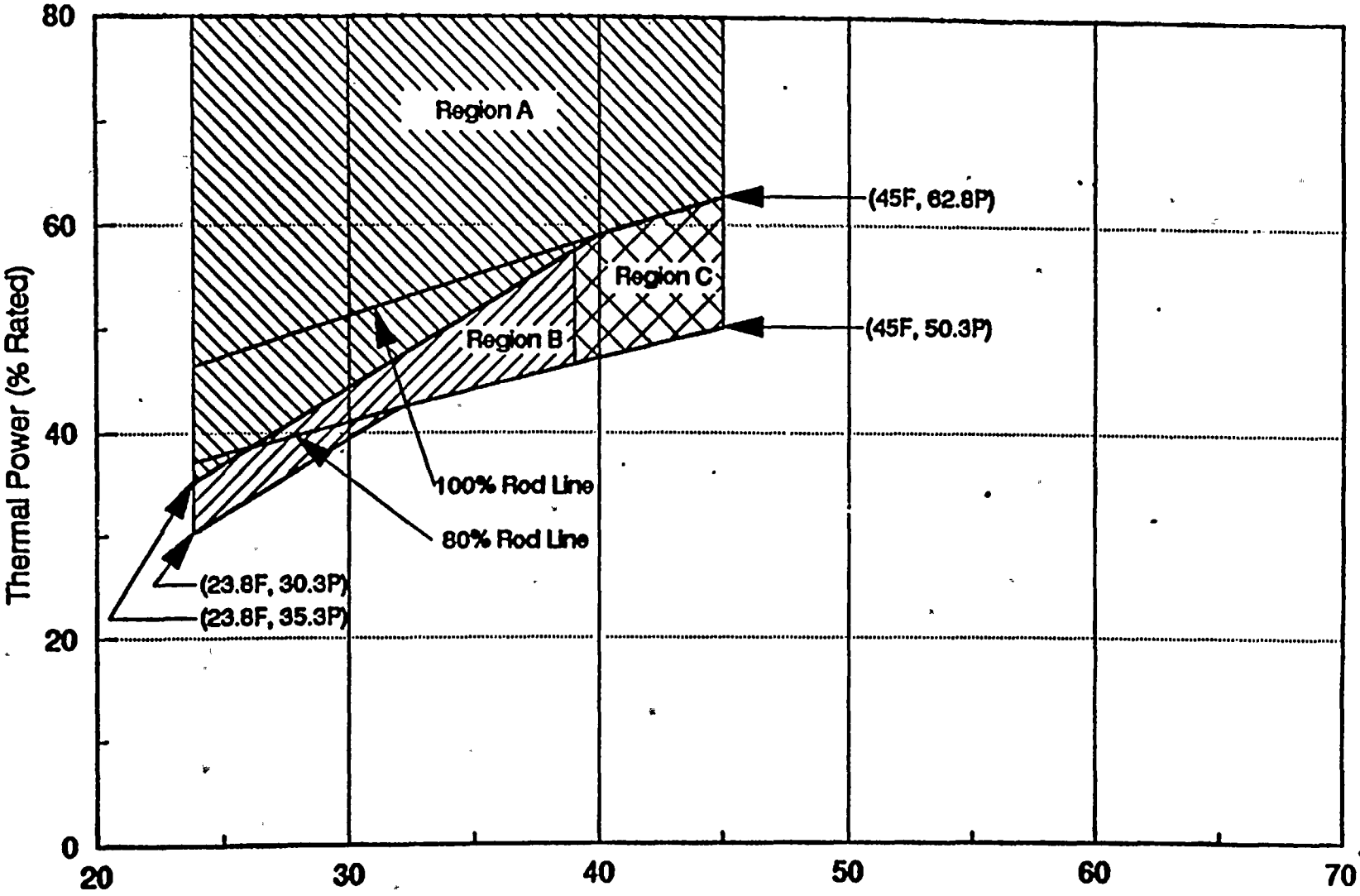
*Verify that the stability monitoring system data acquisition and calculational modules are functioning, and that displayed values of signal decay ratio and peak-to-peak noise are being updated. Detector levels A and C (or B and D) of one LPRM string in each of the nine core regions (a total of 18 LPRM detectors) shall be monitored. A minimum of four (4) APRMs shall also be monitored.



Core Flow (% RATED)
Operating Region Limits of Specification 3.2.8
Figure 3.2.8-1

3/4.4 REACTOR COOLANT SYSTEM

3/4.4.1 RECIRCULATION SYSTEM

RECIRCULATION LOOPS

LIMITING CONDITION FOR OPERATION

3.4.1.1 Two reactor coolant system recirculation loops shall be in operation.

APPLICABILITY: OPERATIONAL CONDITIONS 1* and 2*.

ACTION:

a. With one reactor coolant system recirculation loop not in operation:

1. Verify that the requirements of LCO 3.2.6 and LCO 3.2.8 are met, or comply with the associated ACTION statements.

2. Verify that THERMAL POWER/core flow conditions lay outside Region B of Figure 3.4.1.1-1.

With THERMAL POWER/core flow conditions which lay in Region B of Figure 3.4.1.1-1, as soon as practical, but in all cases within 15 minutes, initiate action to exit Region B by either decreasing THERMAL POWER with control rod insertion or increasing core flow. Within 1 hour exit Region B. The starting of a recirculation pump for the purpose of exiting Region B is specifically prohibited.

3. Within 4 hours:

a) Deleted.

b) Increase the MINIMUM CRITICAL POWER RATIO (MCPR) Safety Limit per Specification 2.1.2, and,

c) Reduce the Maximum Average Planar Linear Heat Generation Rate (MAPLHGR) for General Electric fuel limit to the single recirculation loop operation limit specified in the Core Operating Limits Report, and

d) Reduce the volumetric flow rate of the operating recirculation loop to $\leq$ 41,725** gpm.

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* See Special Test Exception 3.10.4.

**This value represents the actual volumetric recirculation loop flow which produces 100% core flow at 100% THERMAL POWER. This value was determined during the Startup Test Program.

LIMITING CONDITION FOR OPERATION (Continued)

ACTION: (Continued)

e) Perform Surveillance Requirement 4.4.1.1.2 if THERMAL POWER is ≤ 25%*** of RATED THERMAL POWER or the recirculation loop flow in the operating loop is ≤ 10%*** of rated loop flow.

4. The provisions of Specification 3.0.4 are not applicable.

5. Otherwise, be in at least HOT SHUTDOWN within the next 12 hours.

b. With no reactor coolant system recirculation loops in operation, immediately initiate measures to place the unit in at least HOT SHUTDOWN within the next 6 hours.

SURVEILLANCE REQUIREMENTS

4.4.1.1.1 With one reactor coolant system recirculation loop not in operation, at least once per 8 hours verify that:

a. Deleted.

b. The volumetric flow rate of the operating loop is ≤ 41,725 gpm.**

** This value represents the actual volumetric recirculation loop flow which produces 100% core flow at 100% THERMAL POWER. This value was determined during the Startup Test Program

***Final values were determined during Startup Testing based upon actual THERMAL POWER and recirculation loop flow which will sweep the cold water from the vessel bottom head preventing stratification.

SURVEILLANCE REQUIREMENTS (Continued)

c. Core flow is greater than or equal to 39% of rated core flow when core THERMAL POWER is greater than the limit specified in Figure 3.4.1.1-1.

4.4.1.1.2 With one reactor coolant system recirculation loop not in operation, within no more than 15 minutes prior to either THERMAL POWER increase or recirculation loop flow increase, verify that the following differential temperature requirements are met if THERMAL POWER is ≤ 25%*** of RATED THERMAL POWER or the recirculation loop flow in the operating recirculation loop is ≤ 10%*** of rated loop flow:

a. ≤ 145°F between reactor vessel steam space coolant and bottom head drain line coolant,

b. ≤ 50°F between the reactor coolant within the loop not in operation and the coolant in the reactor pressure vessel, and

c. ≤ 50°F between the reactor coolant within the loop not in operation and the operating loop.

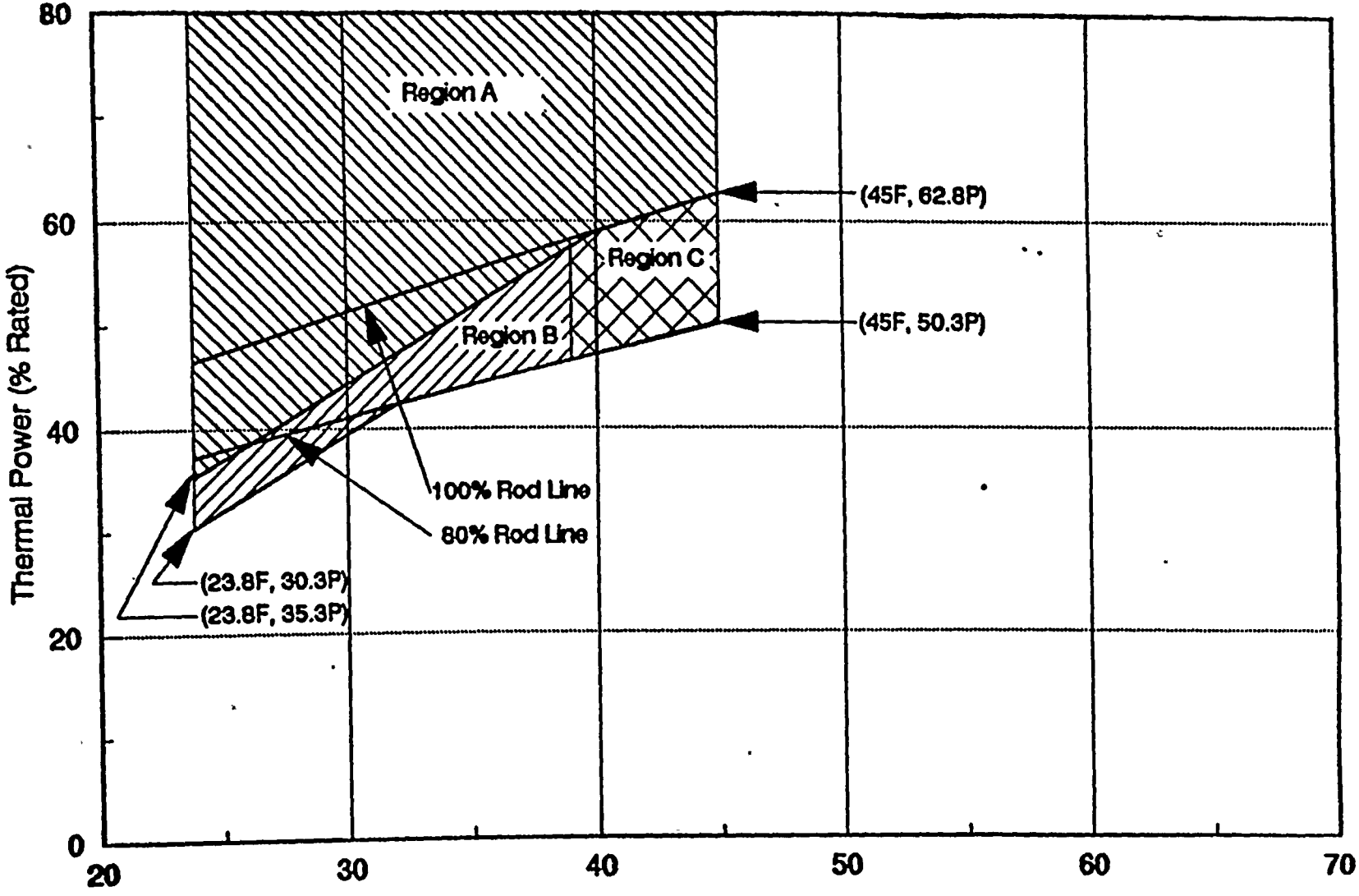
The differential temperature requirements of Specification 4.4.1.1.2b. and c. do not apply when the loop not in operation is isolated from the reactor pressure vessel.

4.4.1.1.3 Each reactor coolant system recirculation loop pump speed controller shall be demonstrated OPERABLE at least once per 24 months by verifying that the average rate of change of pump speed is:

a. Less than or equal to 10% of rated pump speed per second increasing, and

b. Less than or equal to 10% of rated pump speed per second decreasing.

***Final values were determined during Startup Testing based upon actual THERMAL POWER and recirculation loop flow which will sweep the cold water from the vessel bottom head preventing stratification.



OPERATING REGION LIMITS OF SPECIFICATION 3.4.1.1
FIGURE 3.4.1.1-1

REACTOR COOLANT SYSTEM

JET PUMPS

LIMITING CONDITION FOR OPERATION

3.4.1.2 All jet pumps shall be OPERABLE.

APPLICABILITY: OPERATIONAL CONDITIONS 1 and 2.

ACTION:

With one or more jet pumps inoperable, be in at least HOT SHUTDOWN within 12 hours.

SURVEILLANCE REQUIREMENTS

NOTES

The provisions of Specification 4.0.4 are not applicable provided the surveillance is:

1. Performed within 4 hours after the associated recirculation loop is in operation.

2. Performed within 24 hours after exceeding 25% of RATED THERMAL POWER.

These notes are applicable to both surveillance 4.4.1.2.1 and 4.4.1.2.2.

4.4.1.2.1 Each of the above required jet pumps shall be demonstrated OPERABLE at least once per 24 hours by determining recirculation loop flow, total core flow and diffuser-to-lower plenum differential pressure for each jet pump and verifying that no two of the following conditions occur when both recirculation loops are operating.

a. The indicated recirculation loop flow differs by more than 10% from the established recirculation pump speed and flow characteristics for two recirculation loop operation.

b. The indicated total core flow differs by more than 10% from the established total core flow value derived from two recirculation loop flow measurements.

c. The indicated diffuser-to-lower plenum differential pressure of any individual jet pump differs from established two recirculation loop operation patterns by more than 20%.

4.4.1.2.2 During single recirculation loop operation, each of the above required jet pumps shall be demonstrated OPERABLE at least once per 24 hours by verifying that no two of the following conditions occur:

a. The indicated recirculation loop flow in the operating loop differs by more than 10% from the established single recirculation pump speed and flow characteristics.

b. The indicated total core flow differs by more than 10% from the established total core flow value derived from single recirculation loop flow measurements.

c. The indicated diffuser-to-lower plenum differential pressure of any individual jet pump differs from established single recirculation loop patterns by more than 20%.

Reissued by NRC letter dated January 19, 1993

TABLE 3.6.3-1

PRIMARY CONTAINMENT ISOLATION VALVES

VALVE FUNCTION AND NUMBER	VALVE GROUP(a)	MAXIMUM ISOLATION TIME (Seconds)
a. Automatic Isolation Valves		
Main Steam Isolation Valves	1	5*
MS-V-22A,B,C,D(b)		
MS-V-28A,B,C,D(b)		
Main Steam Line Drains	1	
MS-V-16		25
MS-V-19		25
MS-V-67A,B,C,D(b)		15
Reactor Recirc. Cooling Sample Valves	2	5
RRC-V-19		
RRC-V-20		
Containment Purge Exhaust & Supply#	3	
CEP-V-1A,2A,3A,4A		4
CEP-V-1B,2B,3B,4B		4
CSP-V-1		4
CSP-V-2		4
CSP-V-3		4
CSP-V-4		4
CSP-V-93		4
CSP-V-96		4
CSP-V-97		4
CSP-V-98		4

TABLE 3.6.3-1 (Continued)

PRIMARY CONTAINMENT ISOLATION VALVES

VALVE FUNCTION AND NUMBER	VALVE GROUP(a)	MAXIMUM ISOLATION TIME (Seconds)
a. Automatic Isolation Valves (Continued)		
Equipment Drain (Radioactive)	4	15
EDR-V-19 EDR-V-20		
Floor Drain (Radioactive)	4	15
FDR-V-3 FDR-V-4		
Fuel Pool Cooling/Suppression Pool Cleanup	4	35
FPC-V-149 FPC-V-153(f) FPC-V-154(f) FPC-V-156		
Traversing Incore Probe	4	5
TIP-V-1,2,3,4,5 TIP-V-15		

TABLE 3.6.3-1 (Continued)

PRIMARY CONTAINMENT ISOLATION VALVES

VALVE FUNCTION AND NUMBER	VALVE GROUP(a)	MAXIMUM ISOLATION TIME (Seconds)
d. Other Containment Isolation Valves (Continued)		
Radiation Monitoring		N.A.
PI-V-X72f/1		
PI-V-X73e/1		
Transversing Incore Probe System		N.A.
TIP-V-6		
TIP-V-7,8,9,10,11(e)		

TABLE NOTATIONS

*But greater than 3 seconds.
#Provisions of Technical Specification 3.0.4 are not applicable.

(a) See Technical Specification 3.3.2 for the isolation signal(s) which operate each group.
(b) Valve leakage not included in sum of Type B and C tests.
(c) May be opened on an intermittent basis under administrative control.
(d) Not closed by SLC actuation signal.
(e) Not subject to Type C Leak Rate Test.
(f) Hydraulic leak test at 1.10 P_a.
(g) Not subject to Type C test. Test per Technical Specification 4.4.3.2.2
(h) Tested as part of Type A test.
(i) May be tested as part of Type A test. If so tested, Type C test results may be excluded from sum of other Type B and C tests.
(j) Reflects closure times for containment isolation only.
(k) During operational conditions 1, 2 & 3 the requirement for automatic isolation does not apply to RHR-V-8. Except that RHR-V-8 may be opened in operational conditions 2 & 3 provided control is returned to the control room, with the interlocks reestablished, and reactor pressure is less than 135 psig.

3/4.6.4 VACUUM RELIEF

SUPPRESSION CHAMBER - DRYWELL VACUUM BREAKERS

LIMITING CONDITION FOR OPERATION

3.6.4.1 Seven of the nine pairs of suppression chamber - drywell vacuum breakers shall be OPERABLE and all nine pairs shall be closed.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3.

ACTION:

a. With one or more vacuum breakers in up to two pairs of suppression chamber - drywell vacuum breakers inoperable for opening, verify both vacuum breakers of each pair to be closed within two (2) hours.

b. With one or more vacuum breakers in three or more pairs of suppression chamber - drywell vacuum breakers inoperable for opening but known to be closed, restore the inoperable pairs of vacuum breakers such that a minimum of seven pairs are in an OPERABLE status within 72 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

c. With one suppression chamber - drywell vacuum breaker open, verify the other vacuum breaker in the pair to be closed within 2 hours; restore the open vacuum breaker to the closed position within 72 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

d. With one closed position indicator of any suppression chamber - drywell vacuum breaker inoperable:

   1. Verify the other vacuum breaker in the pair to be closed within 2 hours and at least once per 15 days thereafter, or

   2. Verify the vacuum breaker(s) with the inoperable position indicator to be closed by conducting a test which demonstrates that the ΔP is maintained at greater than or equal to 0.5 psi for 1 hour without makeup within 24 hours and at least once per 15 days thereafter.

   3. Otherwise, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

3/4.3.4 RECIRCULATION PUMP TRIP ACTUATION INSTRUMENTATION

The anticipated transient without scram (ATWS) recirculation pump trip system provides a means of limiting the consequences of the unlikely occurrence of a failure to scram during an anticipated transient. The response of the plant to this postulated event falls within the envelope of study events in General Electric Company Topical Report NEDO-10349, dated March 1971, and NEDO-24222, dated December 1979.

The end-of-cycle recirculation pump trip (EOC-RPT) system is a part of the reactor protection system and is an essential safety supplement to the reactor trip. The purpose of the EOC-RPT is to recover the loss of thermal margin which occurs at the end-of-cycle. The physical phenomenon involved is that the void reactivity feedback due to a pressurization transient can add positive reactivity to the reactor system at a faster rate than the control rods add negative scram reactivity. Each EOC-RPT system trips both recirculation pumps, reducing coolant flow in order to reduce the void collapse in the core during two of the most limiting pressurization events. The two events for which the EOC-RPT protective feature will function are closure of the turbine throttle valves and fast closure of the turbine governor valves.

A fast closure sensor from each of two turbine governor valves provides input to the EOC-RPT system; a fast closure sensor from each of the other two turbine governor valves provides input to the second EOC-RPT system. Similarly, a position switch for each of two turbine throttle valves provides input to one EOC-RPT system; a position switch from each of the other two throttle valves provides input to the other EOC-RPT system. For each EOC-RPT system, the sensor relay contacts are arranged to form a 2-out-of-2 logic for the fast closure of turbine governor valves and a 2-out-of-2 logic for the turbine throttle valves. The operation of either logic will actuate the EOC-RPT system and trip both recirculation pumps.

Each EOC-RPT system may be manually bypassed by use of a keyswitch which is administratively controlled. The manual bypasses and the automatic Operating Bypass at less than 30% of RATED THERMAL POWER are annunciated in the control room. The EOC-RPT System instrumentation that provides a trip signal measures first stage turbine pressure to initiate a trip signal. The safety analysis requiring an EOC-RPT bases initial conditions on rated power and specifies turbine bypass operability at greater than or equal to 30% of rated thermal power. Because first stage pressure can vary depending on operating conditions, the qualifying notes describing when the turbine bypass feature is to disabled specify a turbine first stage pressure corresponding to less than 30% RTP (turbine first stage pressure is dependent on the operating parameters of the reactor, turbine, and condenser). Therefore, because a value for turbine first stage pressure cannot be precisely fixed and because pressure measurement initiates the trip the Technical Specification refers to a pressure associated with a specific Rated Thermal Power value rather than a value for pressure.

The EOC-RPT system response time is the time assumed in the analysis between initiation of valve motion and complete suppression of the electric arc, i.e., 190ms, less the time allotted for sensor response, i.e., 10 ms, and less the time allotted for breaker arc suppression determined by test, as correlated to manufacturer's test results, i.e., 83ms, and plant preoperational test results. The response times assume a 60 Hz output frequency from the adjustable speed drives (ASDs).

Operation with a trip set less conservative than its Trip Setpoint but within its specified Allowable Value is acceptable on the basis that the difference between each Trip Setpoint and the Allowable Value is equal to or less than the drift allowance assumed for each trip in the safety analyses.

3/4.3.5 REACTOR CORE ISOLATION COOLING SYSTEM ACTUATION INSTRUMENTATION

The reactor core isolation cooling system actuation instrumentation is provided to initiate actions to assure adequate core cooling in the event of reactor isolation from its primary heat sink and the loss of feedwater flow to the reactor vessel without providing actuation of any of the emergency core cooling equipment.

Operation with a trip set less conservative than its Trip Setpoint but within its specified Allowable Value is acceptable on the basis that the difference between each Trip Setpoint and the Allowable Value is equal to or less than the drift allowance assumed for each trip in the safety analyses.

3/4.3.6 CONTROL ROD BLOCK INSTRUMENTATION

The control rod block functions are provided consistent with the requirements of Specifications 3/4.1.4, Control Rod Program Controls, 3/4.2, Power Distribution Limits and 3/4.3.1 Reactor Protection System Instrumentation. The trip logic is arranged so that a trip in any one of the inputs will result in a control rod block.

Operation with a trip set less conservative than its Trip Setpoint but within its specified Allowable Value is acceptable on the basis that the difference between each Trip Setpoint and the Allowable Value is equal to or less than the drift allowance assumed for each trip in the safety analyses.

The test exception to the weekly Channel Functional Test of the SRM/IRM Detector Not Full In instrumentation noted in Table 4.3.6-1, Control Rod Block Instrumentation Requirements, is intended to avoid cable damage and radiation exposure during operational condition 5 periods when outage work is being done in the under core region. Upon completion of all the work in this area, when access for maintenance or construction efforts is no longer required, the test will be completed per the prescribed frequency within seven days.

3/4.3.7 MONITORING INSTRUMENTATION

3/4.3.7.1 RADIATION MONITORING INSTRUMENTATION

The OPERABILITY of the radiation monitoring instrumentation ensures that; (1) the radiation levels are continually measured in the areas served by the individual channels; (2) the alarm is initiated when the radiation level trip setpoint is exceeded; and (3) sufficient information is available on selected plant parameters to monitor and assess these variables following an accident. This capability is consistent with 10 CFR Part 50, Appendix A, General Design Criteria 19, 41, 60, 61, 63, and 64.

The criticality monitor alarm setpoints were calculated using the criteria from 10 CFR 70.24.a.1 that requires detecting a dose rate of 20 Rads per minute of combined neutron and gamma radiation at 2 meters. The alarm setpoint was determined by calculational methods using the gamma to gamma plus neutron ratios from ANSI/ANS 8.3-1979, Criticality Accident Alarm System, Appendix B and assuming a critical mass was formed from a seismic event, with a volume of 6' x 6' x 6' at a distance of 27.7 feet from the two detectors. The calculated dose rate using the methodology is 5.05 R/hr. The allowable value for the alarm setpoint was, therefore, established at 5R/hr.