



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

WASHINGTON PUBLIC POWER SUPPLY SYSTEM

DOCKET NO. 50-397

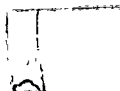
NUCLEAR PROJECT NO. 2

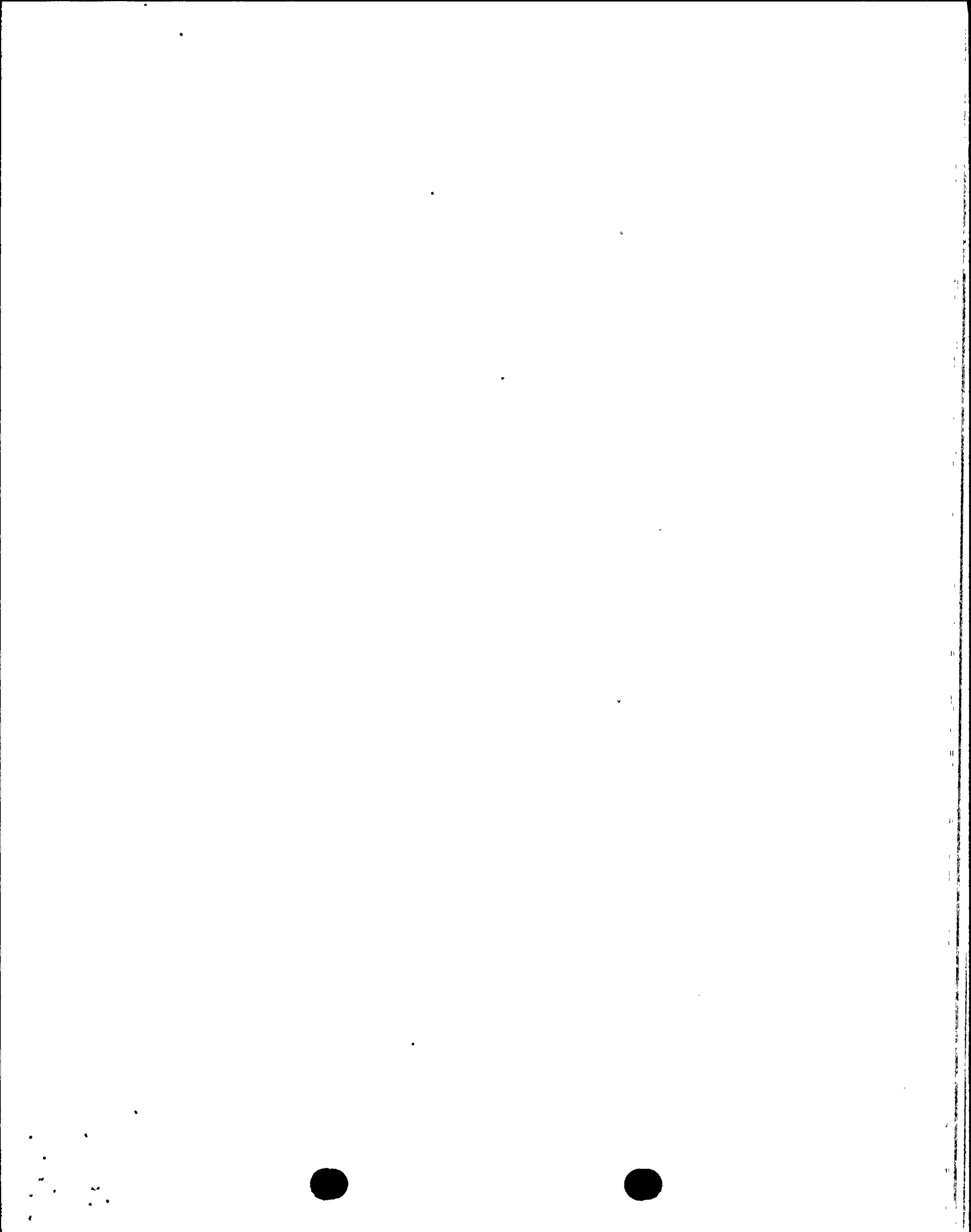
AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 139
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 July 12, 1994, 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:

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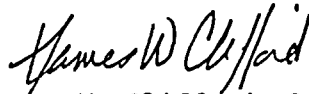


(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 139 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 to be implemented within 30 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



James W. Clifford, Senior Project Manager
Project Directorate IV-2
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications

Date of Issuance: June 26, 1995

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 139 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.

<u>REMOVE</u>	<u>INSERT</u>
xxi	xxi
3/4 3-1	3/4 3-1
3/4 3-6	3/4 3-6
3/4 3-10	3/4 3-10
3/4 3-11	3/4 3-11
3/4 3-12*	---
3/4 3-19	3/4 3-19
3/4 3-20	3/4 3-20
3/4 3-21	3/4 3-21
3/4 3-25	3/4 3-25
3/4 3-26*	---
3/4 3-33	3/4 3-33
B 3/4 3-1	B 3/4 3-1
B 3/4 3-2	B 3/4 3-2

*These pages are unchanged. They are being reissued to retain consistency as being overleaf pages.



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3/4.3 INSTRUMENTATION

3/4.3.1 REACTOR PROTECTION SYSTEM INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.1 As a minimum, the reactor protection system instrumentation channels shown in Table 3.3.1-1 shall be OPERABLE.

APPLICABILITY: As shown in Table 3.3.1-1.

ACTION:

- a. With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement for one trip system, place the inoperable channel(s) and/or that trip system in the tripped condition* within twelve hours. The provisions of Specification 3.0.4 are not applicable.
- b. With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement for both trip systems, place at least one trip system** in the tripped condition within 1 hour and take the ACTION required by Table 3.3.1-1.

SURVEILLANCE REQUIREMENTS

4.3.1.1 Each reactor protection system instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL FUNCTIONAL TEST and CHANNEL CALIBRATION operations for the OPERATIONAL CONDITIONS and at the frequencies shown in Table 4.3.1.1-1.

4.3.1.2 LOGIC SYSTEM FUNCTIONAL TESTS and simulated automatic operation of all channels shall be performed at least once per 18 months.

4.3.1.3 The REACTOR PROTECTION SYSTEM RESPONSE TIME of each reactor trip functional unit shall be demonstrated to be within its limit at least once per 18 months. Neutron detectors are exempt from response time testing. Each test shall include at least one channel per trip system such that all channels are tested at least once every N times 18 months where N is the total number of redundant channels in a specific reactor trip system.

* An inoperable channel need not be placed in the tripped condition where this would cause the Trip Function to occur. In these cases, the inoperable channel shall be restored to OPERABLE status within six hours after the channel was first determined to be inoperable or the ACTION required by Table 3.3.1-1 for that Trip Function shall be taken.

**If more channels are inoperable in one trip system than in the other, place the trip system with more inoperable channels in the tripped condition, except when this would cause the Trip Function to occur.

TABLE 3.3.1-1

REACTOR PROTECTION SYSTEM INSTRUMENTATION

<u>FUNCTIONAL UNIT</u>	<u>APPLICABLE OPERATIONAL CONDITIONS</u>	<u>MINIMUM OPERABLE CHANNELS PER TRIP SYSTEM (a)</u>	<u>ACTION</u>
1. Intermediate Range Monitors:			
a. Neutron Flux - High	2	3	1
	3, 4	2	2
	5(b)	3	3
b. Inoperative	2	3	1
	3, 4	2	2
	5	3	3
2. Average Power Range Monitor(c):			
a. Neutron Flux - High, Setdown	2	2	1
	3	2	2
	5(b)	2	3
b. Flow Biased Simulated Thermal Power - High	1	2	4
c. Fixed Neutron Flux - High	1	2	4
d. Inoperative	1, 2	2	1
	3	2	2
	5	2	3
3. Reactor Vessel Steam Dome Pressure - High	1, 2(e)	2	1
4. Reactor Vessel Water Level - Low, Level 3	1, 2	2	1
5. Main Steam Line Isolation Valve - Closure	1(d)	4	4

TABLE 3.3.1-1 (Continued)

REACTOR PROTECTION SYSTEM INSTRUMENTATION

TABLE NOTATIONS

- (a) A channel may be placed in an inoperable status for up to six hours for required surveillance without placing the trip system in the tripped condition provided at least one OPERABLE channel in the same trip system is monitoring that parameter.
- (b) The "shorting links" shall be removed from the RPS circuitry prior to and during the time any control rod is withdrawn* and shutdown margin demonstrations are being performed per Specification 3.10.3.
- (c) An APRM channel is inoperable if there are less than 2 LPRM inputs per level or less than 14 LPRM inputs to an APRM channel.
- (d) This function shall be automatically bypassed when the reactor mode switch is not in the Run position and reactor pressure < 1060 psig.
- (e) This function is not required to be OPERABLE when the reactor pressure vessel head is removed per Specification 3.10.1.
- (f) This function is not required to be OPERABLE when PRIMARY CONTAINMENT INTEGRITY is not required.
- (g) Also actuates the standby gas treatment system.
- (h) With any control rod withdrawn. Not applicable to control rods removed per Specification 3.9.10.1 or 3.9.10.2.
- (i) This function shall be automatically bypassed based on turbine first stage pressure when THERMAL POWER is less than 30% of RATED THERMAL POWER.
- (j) Also actuates the EOC-RPT system.

*Not required for control rods removed per Specification 3.9.10.1 or 3.9.10.2.

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TABLE 4.3.1.1-1 (Continued)

REACTOR PROTECTION SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

TABLE NOTATIONS

- (a) Neutron detectors may be excluded from CHANNEL CALIBRATION.
- (b) The IRM and SRM channels shall be determined to overlap for at least 1/2 decade during each startup after entering OPERATIONAL CONDITION 2 and the IRM and APRM channels shall be determined to overlap for at least 1/2 decade during each controlled shutdown, if not performed within the previous 7 days.
- (c) Within 24 hours prior to startup, if not performed within the previous 7 days.
- (d) This calibration shall consist of the adjustment of the APRM channel to conform to the power values calculated by a heat balance during OPERATIONAL CONDITION 1 when THERMAL POWER > 25% of RATED THERMAL POWER. Adjust the APRM channel if the absolute difference is greater than 2% of RATED THERMAL POWER. Any APRM channel gain adjustment made in compliance with Specification 3.2.2 shall not be included in determining the absolute difference.
- (e) This calibration shall consist of the adjustment of the APRM flow biased channel to conform to a calibrated flow signal.
- (f) The LPRMs shall be calibrated at least once per 1000 effective full power hours (EFPH) using the TIP system.
- (g) Measure and compare core flow to rated core flow.
- (h) This calibration shall consist of verifying the 6 ± 1 second simulated thermal power time constant.
- (i) DELETED
- (j) With any control rod withdrawn. Not applicable to control rods removed per Specification 3.9.10.1 or 3.9.10.2.

INSTRUMENTATION

3/4.3.2 ISOLATION ACTUATION INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.2 The isolation actuation instrumentation channels shown in Table 3.3.2-1 shall be OPERABLE with their trip setpoints set consistent with the values shown in the Trip Setpoint column of Table 3.3.2-2.

APPLICABILITY: As shown in Table 3.3.2-1.

ACTION:

- a. With an isolation actuation instrumentation channel trip setpoint less conservative than the value shown in the Allowable Values column of Table 3.3.2-2, declare the channel inoperable until the channel is restored to OPERABLE status with its trip setpoint adjusted consistent with the Trip Setpoint value.
- b. With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement for one trip system:
 1. If placing the inoperable channel(s) in the tripped condition would cause an isolation, the inoperable channel(s) shall be restored to OPERABLE status within
 - a) 12 hours for trip functions common to RPS Instrumentation; and
 - b) 24 hours for trip functions not common to RPS Instrumentation.or the ACTION required by Table 3.3.2-1 for the affected trip function shall be taken.

OR

2. If placing the inoperable channel(s) in the tripped conditions would not cause an isolation, the inoperable channel(s) and/or that trip system shall be placed in the tripped condition within
 - a) 12 hours for trip functions common to RPS Instrumentation; and
 - b) 24 hours for trip functions not common to RPS Instrumentation.

The provisions of Specification 3.0.4 are not applicable.

- c. With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement for both trip systems, place at least one trip system* in the tripped condition within one hour and take the ACTION required by Table 3.3.2-1.

*Place one trip system (with the most inoperable channels) in the tripped condition. The trip system need not be placed in the tripped condition when this would cause the isolation to occur.

INSTRUMENTATION

SURVEILLANCE REQUIREMENTS

4.3.2.1 Each isolation actuation instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL FUNCTIONAL TEST and CHANNEL CALIBRATION operations for the OPERATIONAL CONDITIONS and at the frequencies shown in Table 4.3.2.1-1.

4.3.2.2 LOGIC SYSTEM FUNCTIONAL TESTS and simulated automatic operation of all channels shall be performed at least once per 18 months.

4.3.2.3 The ISOLATION SYSTEM RESPONSE TIME of each isolation trip function shall be demonstrated to be within its limit at least once per 18 months. Radiation detectors are exempt from response time testing. Each test shall include at least one channel per trip system such that all channels are tested at least once every N times 18 months, where N is the total number of redundant channels in a specific isolation trip system.

TABLE 3.3.2-1

ISOLATION ACTUATION INSTRUMENTATION

<u>TRIP FUNCTION</u>	<u>VALVE GROUPS OPERATED BY SIGNAL</u>	<u>MINIMUM OPERABLE CHANNELS PER TRIP SYSTEM (a)</u>	<u>APPLICABLE OPERATIONAL CONDITION</u>	<u>ACTION</u>
1. <u>PRIMARY CONTAINMENT ISOLATION</u>				
a. Reactor Vessel Water Level				
1) Low, Level 3	5(g)	2	1, 2, 3	20
2) Low Low, Level 2	1, 2, 4	2	1, 2, 3	20
b. Drywell Pressure - High	4, 5(b)(g)	2	1, 2, 3	20
c. Main Steam Line				
1) DELETED				
2) Pressure - Low	1	2	1	23
3) Flow - High	1	2(d)	1, 2, 3	21
d. Main Steam Line Tunnel				
Temperature - High	1	2	1, 2, 3	21
e. Main Steam Line Tunnel				
Δ Temperature - High	1	2	1, 2, 3	21
f. Condenser Vacuum - Low	1	2	1, 2*, 3*	21
g. Manual Initiation	1	2/group	1, 2, 3	24
	2	1/group	1, 2, 3	24
	5(b)(g)	1/group	1, 2, 3	24
2. <u>SECONDARY CONTAINMENT ISOLATION</u>				
a. Reactor Building Vent				
Exhaust Plenum				
Radiation - High	3(b)(e)	2	1, 2, 3, and **	25
b. Drywell Pressure - High	3(b)(e)	2	1, 2, 3	25
c. Reactor Vessel Water				
Level - Low Low, Level 2	3(b)(e)	2	1, 2, 3, and #	25
d. Manual Initiation	3(b)	1/group	1, 2, 3	24
	3(b)	1/group	**	24

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TABLE 4.3.2.1-1

ISOLATION ACTUATION INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>TRIP FUNCTION</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL FUNCTIONAL TEST</u>	<u>CHANNEL CALIBRATION</u>	<u>OPERATIONAL CONDITIONS FOR WHICH SURVEILLANCE REQUIRED</u>
1. PRIMARY CONTAINMENT ISOLATION				
a. Reactor Vessel Water Level-				
1) Low, Level 3	S	Q	R	1, 2, 3
2) Low Low, Level 2	N.A.	Q	R	1, 2, 3
b. Drywell Pressure - High	N.A.	Q	R	1, 2, 3
c. Main Steam Line				
1) DELETED				
2) Pressure - Low	N.A.	Q	R	1
3) Flow - High	S	Q	R	1, 2, 3
d. Main Steam Line Tunnel				
Temperature - High	N.A.	SA	R	1, 2, 3
e. Main Steam Line Tunnel				
Δ Temperature - High	N.A.	SA	R	1, 2, 3
f. Condenser Vacuum - Low	N.A.	Q	R	1, 2*, 3*
g. Manual Initiation	N.A.	R	N.A.	1, 2, 3
2. SECONDARY CONTAINMENT ISOLATION				
a. Reactor Building Vent				
Exhaust Plenum				
Radiation - High	S	Q	R	1, 2, 3, and **
b. Drywell Pressure - High	N.A.	Q	R	1, 2, 3
c. Reactor Vessel Water				
Level - Low Low, Level 2	N.A.	Q	R	1, 2, 3, and #
d. Manual Initiation	N.A.	R	N.A.	1, 2, 3, and **

INSTRUMENTATION

3/4.3.3 EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3 The emergency core cooling system (ECCS) actuation instrumentation channels shown in Table 3.3.3-1 shall be OPERABLE with their trip setpoints set consistent with the values shown in the Trip Setpoint column of Table 3.3.3-2.

APPLICABILITY: As shown in Table 3.3.3-1.

ACTION:

- a. With an ECCS actuation instrumentation channel trip setpoint less conservative than the value shown in the Allowable Values column of Table 3.3.3-2, declare the channel inoperable until the channel is restored to OPERABLE status with its trip setpoint adjusted consistent with the Trip Setpoint value.
- b. With one or more ECCS actuation instrumentation channels inoperable, within 24 hours take the ACTION required by Table 3.3.3-1.
- c. With either ADS trip system "A" or "B" inoperable, restore the inoperable trip system to OPERABLE status:
 1. Within 7 days, provided that the HPCS and RCIC systems are OPERABLE; otherwise,
 2. Within 72 hours.

Otherwise, be in at least HOT SHUTDOWN within the next 12 hours and reduce reactor steam dome pressure to less than or equal to 128 psig within the following 24 hours.

SURVEILLANCE REQUIREMENTS

4.3.3.1 Each ECCS actuation instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL FUNCTIONAL TEST, and CHANNEL CALIBRATION operations for the OPERATIONAL CONDITIONS and at the frequencies shown in Table 4.3.3.1-1.

4.3.3.2 LOGIC SYSTEM FUNCTIONAL TESTS and simulated automatic operation of all channels shall be performed at least once per 18 months.

4.3.3.3 The ECCS RESPONSE TIME of each ECCS trip function shall be demonstrated to be within the limit at least once per 18 months. Each test shall include at least one channel per trip system such that all channels are tested at least once every N times 18 months where N is the total number of redundant channels in a specific ECCS trip system.

TABLE 3.3.3-1

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION

<u>TRIP FUNCTION</u>	<u>MINIMUM OPERABLE CHANNELS PER TRIP SYSTEM^(a)</u>	<u>APPLICABLE OPERATIONAL CONDITIONS</u>	<u>ACTION</u>
A. <u>DIVISION 1 TRIP SYSTEM</u>			
1. <u>RHR-A (LPCI MODE) & LPCS SYSTEM</u>			
a. Reactor Vessel Water Level - Low Low Low, Level 1	2	1, 2, 3, 4*, 5*	30
b. Drywell Pressure - High	2	1, 2, 3	30
c. LPCS Pump Discharge Flow-Low (Minimum Flow)	1	1, 2, 3, 4*, 5*	31
d. Reactor Vessel Pressure-Low (LPCS Permissive)	1	1, 2, 3, 4*, 5*	32 33
e. Reactor Vessel Pressure-Low (LPCI Permissive)	1	1, 2, 3, 4*, 5*	32 33
f. LPCI Pump A Start Time Delay Relay	1	1, 2, 3, 4*, 5*	32
g. LPCI Pump A Discharge Flow-Low (Minimum Flow)	1	1, 2, 3, 4*, 5*	31
h. Manual Initiation	1/division	1, 2, 3, 4*, 5*	34
2. <u>AUTOMATIC DEPRESSURIZATION SYSTEM TRIP SYSTEM "A"*</u>			
a. Reactor Vessel Water Level - Low Low Low, Level 1	2	1, 2, 3	30
b. ADS Timer	1	1, 2, 3	32
c. Reactor Vessel Water Level - Low, Level 3 (Permissive)	1	1, 2, 3	32
d. LPCS Pump Discharge Pressure-High (Pump Running)	2	1, 2, 3	32
e. LPCI Pump A Discharge Pressure-High (Pump Running)	2	1, 2, 3	32
f. Manual Initiation	2/division	1, 2, 3	35
g. Inhibit Switch	1/division	1, 2, 3	35

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TABLE 4.3.3.1-1

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>TRIP FUNCTION</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL FUNCTIONAL TEST</u>	<u>CHANNEL CALIBRATION</u>	<u>OPERATIONAL CONDITIONS FOR WHICH SURVEILLANCE REQUIRED</u>
A. DIVISION I TRIP SYSTEM				
1. RHR-A (LPCI MODE) AND LPCS SYSTEM				
a. Reactor Vessel Water Level - Low Low Low, Level 1	S	Q	R	1, 2, 3, 4*, 5*
b. Drywell Pressure - High	N.A.	Q	R	1, 2, 3
c. LPCS Pump Discharge Flow-Low (Minimum Flow)	N.A.	Q	R	1, 2, 3, 4*, 5*
d. Reactor Vessel Pressure-Low (LPCS Permissive)	N.A.	Q	R	1, 2, 3, 4*, 5*
e. Reactor Vessel Pressure-Low (LPCI Permissive)	N.A.	Q	R	1, 2, 3, 4*, 5*
f. LPCI Pump A Start Time Delay Relay	N.A.	Q	Q	1, 2, 3, 4*, 5*
g. LPCI Pump A Flow-Low (Minimum Flow)	N.A.	Q	R	1, 2, 3, 4*, 5*
h. Manual Initiation	N.A.	R	N.A.	1, 2, 3, 4*, 5*
2. AUTOMATIC DEPRESSURIZATION SYSTEM				
TRIP SYSTEM "A" #				
a. Reactor Vessel Water Level - Low Low Low, Level 1	S	Q	R	1, 2, 3
b. ADS Timer	N.A.	Q	Q	1, 2, 3
c. Reactor Vessel Water Level - Low, Level 3 (Permissive)	S	Q	R	1, 2, 3
d. LPCS Pump Discharge Pressure-High (Pump Running)	N.A.	Q	R	1, 2, 3
e. LPCI Pump A Discharge Pressure-High (Pump Running)	N.A.	Q	R	1, 2, 3
f. Manual Initiation	N.A.	R	N.A.	1, 2, 3
g. Inhibit Switch	N.A.	Q	N.A.	1, 2, 3

3/4.3 INSTRUMENTATION

BASES

3/4.3.1 REACTOR PROTECTION SYSTEM INSTRUMENTATION

The reactor protection system automatically initiates a reactor scram to:

- a. Preserve the integrity of the fuel cladding.
- b. Preserve the integrity of the reactor coolant system.
- c. Minimize the energy which must be adsorbed following a loss-of-coolant accident, and
- d. Prevent inadvertent criticality.

This specification provides the limiting conditions for operation necessary to preserve the ability of the system to perform its intended function even during periods when instrument channels may be out of service because of maintenance. When necessary, one channel may be made inoperable for brief intervals to conduct required surveillance.

The reactor protection system is made up of two independent trip systems. There are usually four channels to monitor each parameter with two channels in each trip system. The outputs of the channels in a trip system are combined in a logic so that either channel will trip that trip system. The tripping of both trip systems will produce a reactor scram. The system meets the intent of IEEE-279 for nuclear power plant protection systems. Specified surveillance intervals and surveillance and maintenance outage times have been determined in accordance with NEDC 30851 P, "Technical Specification Improvement Analyses for BWR Reactor Protection System," as approved by the NRC and documented in the SER (letter to T. A. Pickens from A. Thadani dated July 15, 1987). The bases for the trip settings of the RPS are discussed in the bases for Specification 2.2.1.

The RPS instrumentation that provides 1) the Turbine Throttle Valve-Closure and 2) Turbine Governor Valve Fast Closure, Valve Trip System Oil Pressure - Low trip signals measures first stage turbine pressure to initiate a trip signal. The Load Rejection safety analysis (FSAR 15.2.2) 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 be 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 measurement of response time at the specified frequencies provides assurance that the protective functions associated with each channel are completed within the time limit assumed in the safety analyses. No credit was taken for those channels with response times indicated as not applicable. Response time may be demonstrated by any series of sequential, overlapping or total channel test measurement, provided such tests demonstrate the total channel response time as defined. Sensor response time verification may be demonstrated by either (1) in-place, onsite or offsite test measurements, or (2) utilizing replacement sensors with certified response times. The response time limits are contained in FSAR Chapter 7.

INSTRUMENTATION

BASES

3/4.3.2 ISOLATION ACTUATION INSTRUMENTATION

This specification ensures the effectiveness of the instrumentation used to mitigate the consequences of accidents by prescribing the OPERABILITY trip setpoints for isolation of the reactor systems. When necessary, one channel may be inoperable for brief intervals to conduct required surveillance. Some of the trip settings may have tolerances explicitly stated where both the high and low values are critical and may have a substantial effect on safety. The setpoints of other instrumentation, where only the high or low end of the setting have a direct bearing on safety, are established at a level away from the normal operating range to prevent inadvertent actuation of the systems involved.

Except for the MSIVs, the safety analysis does not address individual sensor response times or the response times of the logic systems to which the sensors are connected. For D.C.-operated valves, a 3-second delay is assumed before the valve starts to move. For A.C.-operated valves, it is assumed that the A.C. power supply is lost and is restored by startup of the emergency diesel generators. In this event, a time of 13 seconds is assumed before the valve starts to move. In addition to the pipe break, the failure of the D.C.-operated valve is assumed; thus the signal delay (sensor response) is concurrent with the 13-second diesel startup. The safety analysis considers an allowable inventory loss in each case which in turn determines the valve speed in conjunction with the 13-second delay. It follows that checking the valve speeds and the 13-second time for emergency power establishment will establish the response time for the isolation functions. However, to enhance overall system reliability and to monitor instrument channel response time trends, the isolation actuation instrumentation response time shall be measured and recorded as a part of the ISOLATION SYSTEM RESPONSE TIME. The response time limits are contained in FSAR Chapter 7.

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.

3/4.3.3 EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION

The emergency core cooling system actuation instrumentation is provided to initiate actions to mitigate the consequences of accidents that are beyond the ability of the operator to control. This specification provides the OPERABILITY requirements and trip setpoints that will ensure effectiveness of the systems to provide the design protection. Although the instruments are listed by system, in some cases the same instrument may be used to send the actuation signal to more than one system at the same time. The response time limits are contained in FSAR Chapter 7.

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.