Docket No. 50-416 January 6, 1993

Mr. William T. Cottle
Vice President, Operations GGNS
Entergy Operations, Inc.
Post Office Box 756
Port Gibson, Mississippi 39150

Dear Mr. Cottle:

SUBJECT: ISSUANCE OF AMENDMENT NO.105 TO FACILITY OPERATING LICENSE NO. NPF-29 - GRAND GULF NUCLEAR STATION, UNIT 1, REGARDING (TAC NO. M84190)

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 105 to Facility Operating License No. NPF-29 for the Grand Gulf Nuclear Station, Unit 1. This amendment consists of changes to the Technical Specifications (TS) in response to your application dated July 29, 1992.

The amendment modifies selected TS Instrumentation Surveillance Test Intervals (STI) and Allowed Outage Times (AOT) based upon General Electric Company (GE) Reports GENE-770-06-1, "Bases for Changes to Surveillance Test Intervals and Allowed Out-of-Service Times for Selected Instrumentation Technical Specifications," February 1991, and GENE-770-06-2, "Addendum to Bases for Changes to Surveillance Test Intervals and Allowed Out-of-Service Times for Selected Instrumentation Technical Specifications," February 1991.

A copy of our related Safety Evaluation is also enclosed. A Notice of Issuance will be included in the Commission's next biweekly Federal Register notice.

Sincerely,

ORIGINAL SIGNED BY:
Paul W. O'Connor, Sr. Project Manager
Project Directorate IV-1
Division of Reactor Projects - III/IV/V
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No.105 to NPF-29
2. Safety Evaluation

cc w/enclosures:
See next page

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Docket File	NRC/Local PDR	PD4-1 Reading	J. Roe
P. Noonan	M. Virgilio	GPA/PA(MS2G5)	C. Doutt
J.Larkins	PD4-1 Plant File	P. O'Connor(2)	
OGC(MS15B18)	D.Hagan(MS3206)	G. Hill(4)	
Wanda Jones(MS7103)	C. Grimes(MS11E22)	ACRS(10)(MSP315)	
ARM/LFMB(MS4503)	D. Verrelli	H. Rathbun	

OFC	LA:PD4-1	I:PD4-1	PM:PD4-1	SICB	OGC	D:PD4-1
NAME	PNoonan	HRathbun:pk	PO'Connor	CDoutt	RBachmann	JLarkins
DATE	10/27/92	1/15/93	1/15/93	12/21/92	12/30/92	1/16/93

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

January 6, 1993

Docket No. 50-416

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Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 105 to NPF-29
2. Safety Evaluation

cc w/enclosures:
See next page

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Grand Gulf Nuclear Station

cc:

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

ENTERGY OPERATIONS, INC.

SYSTEM ENERGY RESOURCES, INC.

SOUTH MISSISSIPPI ELECTRIC POWER ASSOCIATION

MISSISSIPPI POWER AND LIGHT COMPANY

DOCKET NO. 50-416

GRAND GULF NUCLEAR STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 105
License No. NPF-29

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

   A. The application for amendment by Entergy Operations, Inc. (the licensee) dated July 29, 1992, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications, as indicated in the attachment to this license amendment; and paragraph 2.C.(2) of Facility Operating License No. NPF-29 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 105, are hereby incorporated into this license. Entergy Operations, Inc. shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

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

FOR THE NUCLEAR REGULATORY COMMISSION

Paul W O'Connor

for John T. Larkins, Director
Project Directorate IV-1
Division of Reactor Projects - III/IV/V
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications

Date of Issuance: January 6, 1993

ATTACHMENT TO LICENSE AMENDMENT NO. 105

FACILITY OPERATING LICENSE NO. NPF-29

DOCKET NO. 50-416

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

REMOVE PAGES	INSERT PAGES
3/4 3-41	3/4 3-41
3/4 3-43	3/4 3-43
3/4 3-46	3/4 3-46
3/4 3-48	3/4 3-48
3/4 3-49	3/4 3-49
3/4 3-51	3/4 3-51
3/4 3-52	3/4 3-52
3/4 3-53	3/4 3-53
3/4 3-54	3/4 3-54
3/4 3-60	3/4 3-60
3/4 3-61	3/4 3-61
3/4 3-62	3/4 3-62
3/4 3-93	3/4 3-93
3/4 3-94	3/4 3-94
3/4 3-96	3/4 3-96
3/4 4-5	3/4 4-5
3/4 4-6	3/4 4-6
3/4 4-7	3/4 4-7
3/4 5-9	3/4 5-9
-------	3/4 5-10
B 3/4 3-3a	B 3/4 3-3a
-------	B 3/4 3-3b
B 3/4 3-4	B 3/4 3-4
B 3/4 3-6	B 3/4 3-6
B 3/4 4-2	B 3/4 4-2
-------	B 3/4 4-2a
B 3/4 5-3	B 3/4 5-3

END-OF-CYCLE RECIRCULATION PUMP TRIP SYSTEM INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.4.2 The end-of-cycle recirculation pump trip (EOC-RPT) system instrumentation channels shown in Table 3.3.4.2-1 shall be OPERABLE with their trip setpoints set consistent with the values shown in the Trip Setpoint column of Table 3.3.4.2-2 and with the END-OF-CYCLE RECIRCULATION PUMP TRIP SYSTEM RESPONSE TIME as shown in Table 3.3.4.2-3.

APPLICABILITY: OPERATIONAL CONDITION 1, when THERMAL POWER is greater than or equal to 40% of RATED THERMAL POWER.

ACTION:

a. With an end-of-cycle recirculation pump trip system instrumentation channel trip setpoint less conservative than the value shown in the Allowable Values column of Table 3.3.4.2-2, declare the channel inoperable until the channel is restored to OPERABLE status with the channel setpoint adjusted consistent with the Trip Setpoint value.

b. With the number of OPERABLE channels one less than required by the Minimum OPERABLE Channels per Trip System requirement for one or both trip systems, place the inoperable channel(s) in the tripped condition within 12 hours.

c. With the number of OPERABLE channels two or more less than required by the Minimum OPERABLE Channels per Trip System requirement for one trip system and:

   1. If the inoperable channels consist of one turbine control valve channel and one turbine stop valve channel, place both inoperable channels in the tripped condition within 12 hours.

   2. If the inoperable channels include two turbine control valve channels or two turbine stop valve channels, declare the trip system inoperable.

d. With one trip system inoperable, restore the inoperable trip system to OPERABLE status within 72 hours or reduce THERMAL POWER to less than 40% of RATED THERMAL POWER within the next 6 hours.

e. With both trip systems inoperable, restore at least one trip system to OPERABLE status within one hour or reduce THERMAL POWER to less than 40% of RATED THERMAL POWER within the next 6 hours.

SURVEILLANCE REQUIREMENTS

4.3.4.2.1 Each end-of-cycle recirculation pump trip system instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL FUNCTIONAL TEST and CHANNEL CALIBRATION operations at the frequencies shown in Table 4.3.4.2.1-1.

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

4.3.4.2.3 The END-OF-CYCLE RECIRCULATION PUMP TRIP SYSTEM RESPONSE TIME of each trip function shown in Table 3.3.4.2-3 shall be demonstrated to be within its limit at least once per 18 months. Each test shall include two turbine control valve channels from one trip system and two turbine stop valve channels from the other trip system such that all channels are tested at least once per 36 months. The time required for Breaker Interruption* shall be verified at least once per 60 months and added to the 18-month trip system times to verify that the overall END-OF-CYCLE RECIRCULATION PUMP TRIP RESPONSE TIME is within its limit.

*Breaker Interruption time is defined as Breaker Response time plus Arc Suppression time. Breaker Response is the time from application of voltage to the trip coil until the main contacts separate. Arc Suppression is the time from main contact separation until the complete suppression of the electrical arc across the open contacts. Breaker Response shall be verified by testing and added to the manufacturer's design Arc Suppression time of 12 ms to determine Breaker Interruption time. The breaker arc suppression time shall be validated by the performance of periodic contact gap measurements and high potential tests on the breaker vacuum interrupters in accordance with plant procedures.

TABLE 3.3.4.2-1

END-OF-CYCLE RECIRCULATION PUMP TRIP SYSTEM INSTRUMENTATION

TRIP FUNCTION	MINIMUM OPERABLE CHANNELS PER TRIP SYSTEM[a]
1. Turbine Stop Valve - Closure	2[b]
2. Turbine Control Valve - Fast Closure	2[b]

(a) A trip system may be placed in an inoperable status for up to 6 hours for required surveillance provided that the other trip system is OPERABLE.

(b) This function shall be automatically bypassed when operating below the appropriate turbine first stage pressure setpoint of

(1) $\leq$ 26.9% of the value of turbine first-stage pressure at valves wide open (VWO) steam flow when operating with rated feedwater temperature of greater than or equal to 420°F; or

(2) $\leq$ 22.5% of the value of turbine first-stage pressure at VWO steam flow when operating with rated feedwater temperature between 370°F and 420°F.

These represent allowable setpoint values of turbine first-stage pressure equivalent to THERMAL POWER less than 40% of RATED THERMAL POWER.

TABLE 3.3.4.2-2

END-OF-CYCLE RECIRCULATION PUMP TRIP SYSTEM SETPOINTS

TRIP FUNCTION	TRIP SETPOINT	ALLOWABLE VALUE
1. Turbine Stop Valve - Closure	≥ 40 psig*	≥ 37 psig
2. Turbine Control Valve - Fast Closure	≥ 44.3 psig*	≥ 42 psig

*Initial setpoint. Final setpoint to be determined during startup test program. Any required change to this setpoint shall be submitted to the Commission within 90 days of test completion.

TABLE 3.3.4.2-3

END-OF-CYCLE RECIRCULATION PUMP TRIP SYSTEM RESPONSE TIME

	TRIP FUNCTION	RESPONSE TIME (Milliseconds)
1.	Turbine Stop Valve - Closure	$\leq$ 190
2.	Turbine Control Valve - Fast Closure	$\leq$ 190

TABLE 4.3.4.2.1-1

END-OF-CYCLE RECIRCULATION PUMP TRIP SYSTEM
SURVEILLANCE REQUIREMENTS

	TRIP FUNCTION	CHANNEL FUNCTIONAL TEST	CHANNEL CALIBRATION
1.	Turbine Stop Valve - Closure	Q*	R#
2.	Turbine Control Valve - Fast Closure	Q*	R#

*Including Trip system logic testing.
#Calibrate trip units and logic at least once per 92 days.

3/4.3.5 REACTOR CORE ISOLATION COOLING SYSTEM ACTUATION INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.5 The reactor core isolation cooling (RCIC) system actuation instrumentation channels shown in Table 3.3.5-1 shall be OPERABLE with their trip setpoints set consistent with the values shown in the Trip Setpoint column of Table 3.3.5-2.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2 and 3 with reactor steam dome pressure greater than 135 psig.

ACTION:

a. With a RCIC system actuation instrumentation channel trip setpoint less conservative than the value shown in the Allowable Values column of Table 3.3.5-2, 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 RCIC system actuation instrumentation channels inoperable, take the ACTION required by Table 3.3.5-1.

SURVEILLANCE REQUIREMENTS

4.3.5.1 Each RCIC system actuation instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL FUNCTIONAL TEST and CHANNEL CALIBRATION operations at the frequencies shown in Table 4.3.5.1-1.

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

TABLE 3.3.5-1

REACTOR CORE ISOLATION COOLING SYSTEM ACTUATION INSTRUMENTATION

FUNCTIONAL UNITS	MINIMUM OPERABLE CHANNELS[a]	ACTION
a. Reactor Vessel Water Level - Low Low, Level 2	4	50
b. Reactor Vessel Water Level - High, Level 8	2	51
c. Condensate Storage Tank Water Level - Low	2	52
d. Suppression Pool Water Level - High	2	52
e. Manual Initiation	1	53

---

[a] A channel may be placed in an inoperable status for up to 6 hours for required surveillance without placing the trip system in the tripped condition provided at least one other OPERABLE channel in the same trip system is monitoring that parameter.

TABLE 3.3.5-1 (Continued)

REACTOR CORE ISOLATION COOLING SYSTEM

ACTUATION INSTRUMENTATION

ACTION 50 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels requirement:

a. With one channel inoperable, place the inoperable channel in the tripped condition within 24 hours or declare the RCIC system inoperable.

b. With more than one channel inoperable, declare the RCIC system inoperable.

ACTION 51 - With the number of OPERABLE channels less than required by the minimum OPERABLE channels requirement, declare the RCIC system inoperable within 24 hours.

ACTION 52 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels requirement, place at least one inoperable channel in the tripped condition within 24 hours or declare the RCIC system inoperable.

ACTION 53 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels requirement, restore the inoperable channel to OPERABLE status within 24 hours or declare the RCIC system inoperable.

TABLE 3.3.5-2

REACTOR CORE ISOLATION COOLING SYSTEM ACTUATION INSTRUMENTATION SETPOINTS

FUNCTIONAL UNITS	TRIP SETPOINT	ALLOWABLE VALUE
a. Reactor Vessel Water Level - Low Low, Level 2	$\geq$ -41.6 inches*	$\geq$ -43.8 inches
b. Reactor Vessel Water Level - High, Level 8	$\leq$ 53.5 inches*	$\leq$ 55.7 inches
c. Condensate Storage Tank Level - Low	$\geq$ 0 inches	$\geq$ -3 inches
d. Suppression Pool Water Level - High	$\leq$ 5.9 inches	$\leq$ 7.0 inches
e. Manual Initiation	NA	NA

*See Bases Figure B 3/4 3-1.

TABLE 4.3.5.1-1

REACTOR CORE ISOLATION COOLING SYSTEM ACTUATION INSTRUMENTATION SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNITS	CHANNEL CHECK	CHANNEL FUNCTIONAL TEST	CHANNEL CALIBRATION
a. Reactor Vessel Water Level - Low Low, Level 2	S	Q	R[a]
b. Reactor Vessel Water Level - High, Level 8	S	Q	R
c. Condensate Storage Tank Level - Low	S	Q	R
d. Suppression Pool Water Level - High	S	Q	R
e. Manual Initiation	NA	Q[b]	NA

[a] Calibrate trip unit at least once per 92 days.

[b] Manual initiation switches shall be tested at least once per 18 months during shutdown. All other circuitry associated with manual initiation shall receive a CHANNEL FUNCTIONAL TEST at least once per 92 days as a part of circuitry required to be tested for automatic system actuation.

INSTRUMENTATION

3/4.3.6 CONTROL ROD BLOCK INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.6. The control rod block instrumentation channels shown in Table 3.3.6-1 shall be OPERABLE with their trip setpoints set consistent with the values shown in the Trip Setpoint column of Table 3.3.6-2.

APPLICABILITY: As shown in Table 3.3.6-1.

ACTION:

a. With a control rod block instrumentation channel trip setpoint less conservative than the value shown in the Allowable Values column of Table 3.3.6-2, 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 Function requirement, take the ACTION required by Table 3.3.6-1.

SURVEILLANCE REQUIREMENTS

4.3.6.1 Each of the above required control rod block trip systems and instrumentation channels 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 4.3.6-1.

4.3.6.2 The provisions of Specification 4.0.4 are not applicable to the Channel Functional test surveillances for the Intermediate Range Monitors and Source Range Monitors for entry into their applicable OPERATIONAL CONDITIONS (as specified in Table 4.3.6-1) from OPERATIONAL CONDITION 1, provided the surveillances are performed within 12 hours after such entry.

* A channel may be placed in an inoperable status for up to 6 hours for required surveillance without placing the trip system in the tripped condition, provided at least one other OPERABLE channel in the same trip system is monitoring that parameter.

TABLE 3.3.6-1

CONTROL ROD BLOCK INSTRUMENTATION

TRIP FUNCTION	MINIMUM OPERABLE CHANNELS PER TRIP FUNCTION	APPLICABLE OPERATIONAL CONDITIONS	ACTION
1. ROD PATTERN CONTROL SYSTEM			
a. Low Power Setpoint	2	1, 2	60
b. High Power Setpoint	2	1#	60
2. APRM			
a. Flow Biased Neutron Flux-Upscale	6	1	61
b. Inoperative	6	1, 2, 5	61
c. Downscale	6	1	61
d. Neutron Flux - Upscale, Startup	6	2, 5	61
3. SOURCE RANGE MONITORS			
a. Detector not full in[(a)]	4	2##	61
	2**	5	62
b. Upscale[(b)]	4	2##	61
	2**	5	62
c. Inoperative[(b)]	4	2##	61
	2**	5	62
d. Downscale[(c)]	4	2##	61
	2**	5	62
4. INTERMEDIATE RANGE MONITORS			
a. Detector not full in	6	2, 5	61
b. Upscale	6	2, 5	61
c. Inoperative	6	2, 5	61
d. Downscale[(d)]	6	2, 5	61
5. SCRAM DISCHARGE VOLUME			
a. Water Level-High	2	1, 2, 5*	64
6. REACTOR COOLANT SYSTEM RECIRCULATION FLOW			
a. Upscale	3	1	64
7. REACTOR MODE SWITCH SHUTDOWN POSITION	2	3, 4	63

GRAND GULF-UNIT 1

3/4/3-53

Amendment No. 69, ~~101~~, 105

TABLE 3.3.6-1 (Continued)

CONTROL ROD BLOCK INSTRUMENTATION

ACTION

ACTION 60 - Declare the RPCS inoperable and take the ACTION required by Specification 3.1.4.2.

ACTION 61 - With the number of OPERABLE Channels:

a. One less than required by the Minimum OPERABLE Channels per Trip Function requirement, restore the inoperable channel to OPERABLE status within 7 days or place the inoperable channel in the tripped condition within the next hour.

b. Two or more less than required by the Minimum OPERABLE Channels per Trip Function requirement, place at least one inoperable channel in the tripped condition within one hour.

ACTION 62 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip Function requirement, place the inoperable channel in the tripped condition within one hour.

ACTION 63 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip Function requirement, initiate a rod block.

ACTION 64 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip Function requirement, place the inoperable channel in the tripped condition within 12 hours.

NOTES

* With more than one control rod withdrawn. Not applicable to control rods removed per Specification 3.9.10.1 or 3.9.10.2.

** OPERABLE channels must be associated with SRMs required OPERABLE per Specification 3.9.2.

\# With THERMAL POWER greater than the Low Power Setpoint.

\## Whenever the related function is not bypassed as specified in notes (a) through (c).

(a) This function shall be automatically bypassed if detector count rate is > 100 cps or the IRM channels are on range 3 or higher.

(b) This function shall be automatically bypassed when the associated IRM channels are on range 8 or higher.

(c) This function shall be automatically bypassed when the IRM channels are on range 3 or higher.

(d) This function shall be automatically bypassed when the IRM channels are on range 1.

TABLE 3.3.7.1-1 (Continued)

RADIATION MONITORING INSTRUMENTATION

INSTRUMENTATION	MINIMUM CHANNELS OPERABLE	APPLICABLE CONDITIONS	ALARM/TRIP SETPOINT	MEASUREMENT RANGE	ACTION
10. Area Monitors					
a. Fuel Handling Area Monitors					
1) New Fuel Storage Vault	1	(e)	≤2.5 mR/hr/NA	10^{-2} to 10^{3} mR/hr	72
2) Spent Fuel Storage Pool	1	(f)	≤2.5 mR/hr/NA	10^{-2} to 10^{3} mR/hr	72
3) Dryer Storage Area	1	(g)	≤2.5 mR/hr/NA	10^{-2} to 10^{3} mR/hr	72
b. Control Room Radiation Monitor	1	At all times	≤0.5 mR/hr/NA	10^{-2} to 10^{3} mR/hr	72

---

* With RHR heat exchangers in operation.
** When irradiated fuel is being handled in the primary or secondary containment.
\# Initial setpoint. Final Setpoint to be determined during startup test program. Any required change to this setpoint shall be submitted to Commission within 90 days after test completion.
With ADHR heat exchangers in operation.
(a) Trips system with 2 channels upscale-Hi Hi Hi, or one channel upscale Hi Hi Hi and one channel downscale or 2 channels downscale.
(b) Isolates containment/drywell purge penetrations.
(c) With irradiated fuel in spent fuel storage pool.
(d) Also isolates the Auxiliary Building and Fuel Handling Area Ventilation Systems.
(e) With fuel in the new fuel storage vault.
(f) With fuel in the spent fuel storage pool.
(g) With fuel in the dryer storage area.
(h) Two upscale Hi Hi, one upscale Hi Hi and one downscale, or two downscale signals from the same trip system actuate the trip system and initiate isolation of the associated isolation valves. A channel may be placed in an inoperable status for up to 6 hours for required surveillance without placing the trip system in the tripped condition, provided at least one other OPERABLE channel in the same trip system is monitoring that parameter.

TABLE 3.3.7.1-1 (Continued)

RADIATION MONITORING INSTRUMENTATION

ACTION

ACTION 70 - With the required monitor inoperable, obtain and analyze at least one grab sample of the monitored parameter at least once per 24 hours.

ACTION 71 - [DELETED]

ACTION 72- With the required monitor inoperable, perform area surveys of the monitored area with portable monitoring instrumentation at least once per 24 hours.

ACTION 73 - a. With one of the required monitors in a trip system inoperable, place the inoperable channel in the downscale tripped condition within 6 hours; restore the inoperable channel to OPERABLE status within 7 days, or, within the next 6 hours, initiate and maintain operation of at least one control room emergency filtration system in the isolation mode of operation.

b. With both of the required monitors in a trip system inoperable, initiate and maintain operation of at least one control room emergency filtration system in the isolation mode of operation within one hour.

ACTION 74 - a. With one of the required monitors in a trip system inoperable, place the inoperable channel in the downscale tripped condition within 24 hours.

b. With two of the required monitors in a trip system inoperable, isolate the containment and drywell purge and vent penetrations within 12 hours.

ACTION 75 - a. With one of the required monitors in a trip system inoperable, place the inoperable channel in the downscale tripped condition within 24 hours.

b. With two of the required monitors in a trip system inoperable, establish SECONDARY CONTAINMENT INTEGRITY with at least one standby gas treatment subsystem operating within 12 hours.

TABLE 4.3.7.1-1
RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENTATION	CHANNEL CHECK	CHANNEL FUNCTIONAL TEST	CHANNEL CALIBRATION	OPERATIONAL CONDITIONS FOR WHICH SURVEILLANCE REQUIRED
1. Component Cooling Water Radiation Monitor	S	M	A	At all times
2. Standby Service Water System Radiation Monitor	S	M	A	1, 2, 3, and*
3. Plant Service Water System Radiation Monitor	S	M	A	#
4. [DELETED]				
5. Carbon Bed Vault Radiation Monitor	S	M	A	1, 2
6. Control Room Ventilation Radiation Monitor	S	Q(a)	A	1, 2, 3, 5 and**
7. Containment and Drywell Ventilation Exhaust Radiation Monitor	S	Q	A	At all times
8. Fuel Handling Area Ventilation Radiation Monitor	S	Q	A	1, 2, 3, 5 and**
9. Fuel Handling Area Pool Sweep Exhaust Radiation Monitor	S	Q	A	(b)
10. Area Monitors				
a. Fuel Handling Area Monitors				
1) New Fuel Storage Vault	S	M	R	(c)
2) Spent Fuel Storage Pool	S	M	R	(d)
3) Dryer Storage Area	S	M	R	(e)
b. Control Room Radiation Monitor	S	M	R	At all times

* With RHR heat exchangers in operation.
** When irradiated fuel is being handled in the primary or secondary containment.
(a) The CHANNEL FUNCTIONAL TEST shall demonstrate that control room annunciation occurs if any of the following conditions exist.
1. Instrument indicates measured levels above the alarm/trip setpoint.
2. Circuit failure.
3. Instrument indicates a downscale failure.
4. Instrument controls not in Operate mode.
(b) With irradiated fuel in the spent fuel storage pool.
(c) With fuel in the new fuel storage vault.
(d) With fuel in the spent fuel storage pool.
(e) With fuel in the dryer storage area.
With ADHR heat exchangers in operation.

TABLE 3.3.8-1

PLANT SYSTEMS ACTUATION INSTRUMENTATION

TRIP FUNCTION	MINIMUM OPERABLE CHANNELS PER TRIP SYSTEM[a]	APPLICABLE OPERATIONAL CONDITIONS	ACTION
1. CONTAINMENT SPRAY SYSTEM			
a. Drywell Pressure-High	2	1, 2, 3	130
b. Containment Pressure-High	1	1, 2, 3	131
c. Reactor Vessel Water Level-Low Low Low, Level 1	2	1, 2, 3	130
d. Timers			
1) System A	1	1, 2, 3	131
2) System B	1	1, 2, 3	131
2. FEEDWATER SYSTEM/MAIN TURBINE TRIP SYSTEM			
a. Reactor Vessel Water Level-High, Level 8	3	1	132
3. SUPPRESSION POOL MAKEUP SYSTEM			
a. Drywell Pressure - High (ECCS)	2	1, 2, 3	135
b. Drywell Pressure - High (RPS)	2	1, 2, 3	135
c. Reactor Vessel Water Level - Low Low Low, Level 1	2	1, 2, 3	135
d. Reactor Vessel Water Level - Low Low, Level 2	2	1, 2, 3	135
e. Suppression Pool Water Level - Low Low	1	1, 2, 3	133
f. Suppression Pool Makeup Timer	1	1, 2, 3	133
g. SPMU Manual Initiation	2	1, 2, 3	134

[a] A channel may be placed in an inoperable status for up to 6 hours (2 hours for Reactor Vessel Water Level - High, Level 8 instrumentation) during periods of required surveillance provided at least one other OPERABLE channel in the same trip system is monitoring that parameter.

PLANT SYSTEMS ACTUATION INSTRUMENTATION

ACTION

ACTION 130 -
a. With the number of OPERABLE channels one less than required by the Minimum OPERABLE Channels per Trip System requirement, place the inoperable channel in the tripped condition within 24 hours; otherwise, declare the associated containment spray system inoperable and take the action required by Technical Specification 3.6.3.2.

b. With the number of OPERABLE channels two less than required by the Minimum OPERABLE channels per Trip System requirement, declare the associated containment spray system inoperable and take the action required by Technical Specification 3.6.3.2.

ACTION 131 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement, restore the inoperable channels to OPERABLE status within one hour; otherwise, declare the associated containment spray system inoperable and take the action required by Technical Specification 3.6.3.2.

ACTION 132 - For the feedwater system/main turbine trip system:

a. With the number of OPERABLE channels one less than required by the Minimum OPERABLE Channels requirement, restore the inoperable channel to OPERABLE status within 7 days or be in at least STARTUP within the next 6 hours.

b. With the number of OPERABLE channels two less than required by the Minimum OPERABLE Channels per Trip System requirement, restore at least one of the inoperable channels to OPERABLE status within 72 hours or be in at least STARTUP within the next 6 hours.

ACTION 133 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement, declare the associated suppression pool makeup system inoperable and take the action required by Specification 3.6.3.4.

ACTION 134 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement, restore the inoperable channels to OPERABLE status within 24 hours; otherwise, declare the associated suppression pool makeup system inoperable and take the action required by Specification 3.6.3.4.

ACTION 135 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip Function requirement:

a. With one channel inoperable, place the inoperable channel in the tripped condition within 24 hours or declare the associated system(s) inoperable.

b. With more than one channel inoperable, declare the associated system(s) inoperable.

TALE 3.3.8-2

PLANT SYSTEMS ACTUATION INSTRUMENTATION SETPOINTS

TRIP FUNCTION	TRIP SETPOINT	ALLOWABLE VALUE
1. CONTAINMENT SPRAY SYSTEM		
a. Drywell Pressure-High	≤ 1.39 psig	≤ 1.44 psig
b. Containment Pressure-High	≤ 7.84 psig	≤ 8.34 psig
c. Reactor Vessel Water Level-Low Low Low, Level 1	≥ - 150.3 inches	≥ - 152.5 inches
d. Timers		
1) System A	10.85 ± 0.10 minutes	10.26 - 0.00, + 1.18 minutes
2) System B	10.85 ± 0.10 minutes**	10.26 - 0.00, + 1.18 minutes
2. FEEDWATER SYSTEM/MAIN TURBINE TRIP SYSTEM		
a. Reactor Vessel Water Level-High, Level 8	≤ 53.5 inches*	≤ 54.1 inches
3. SUPPRESSION POOL MAKEUP SYSTEM		
a. Drywell Pressure - High (ECCS)	≤ 1.39 psig	≤ 1.44 psig
b. Drywell Pressure - High (RPS)	≤ 1.23 psig	≤ 1.43 psig
c. Reactor Vessel Water Level - Low Low Low, Level 1	≥ -150.3 inches*	≥ -152.5 inches
d. Reactor Vessel Water Level - Low Low, Level 2	≥ -41.6 inches*	≥ -43.8 inches
e. Suppression Pool Water Level - Low Low	≥ 17 ft 5 inches	≥ 17 ft 2 inches
f. Suppression Pool Makeup Timer	≤ 29.0 minutes	≤ 29.5 minutes
g. SPMU Manual Initiation	NA	NA

*See Bases Figure B 3/4 3-1.
**Setpoint for System B is the sum of E12-K093B plus E12-K116. E12-K116 is not to exceed 10.00 seconds.

Amendment No. 00, 87, 105
DEC 18 1991

TABLE 4.3.8.1-1

PLANT SYSTEMS ACTUATION INSTRUMENTATION SURVEILLANCE REQUIREMENTS

TRIP FUNCTION	CHANNEL CHECK	CHANNEL FUNCTIONAL TEST	CHANNEL CALIBRATION	OPERATIONAL CONDITIONS IN WHICH SURVEILLANCE REQUIRED
1. CONTAINMENT SPRAY SYSTEM				
a. Drywell Pressure-High	S	Q	R[a]	1, 2, 3
b. Containment Pressure-High	S	Q	R[a]	1, 2, 3
c. Reactor Vessel Water Level - Low Low Low, Level 1	S	Q	R[a]	1, 2, 3
d. Timers	NA	Q	Q	1, 2, 3
2. FEEDWATER SYSTEM/MAIN TURBINE TRIP SYSTEM				
a. Reactor Vessel Water Level-High, Level 8	S	M	R	1
3. SUPPRESSION POOL MAKEUP SYSTEM				
a. Drywell Pressure - High (ECCS)	S	Q	R[a]	1, 2, 3
b. Drywell Pressure - High (RPS)	S	Q	R[a]	1, 2, 3
c. Reactor Vessel Water Level - Low Low Low, Level 1	S	Q	R[a]	1, 2, 3
d. Reactor Vessel Water Level - Low Low, Level 2	S	Q	R[a]	1, 2, 3
e. Suppression Pool Water Level - Low Low	S	Q	R[a]	1, 2, 3
f. Suppression Pool Makeup Timer	NA	Q	Q	1, 2, 3
g. SPMU Manual Initiation	NA	R	NA	1, 2, 3

[a]Calibrate trip unit at least once per 92 days.

3/4.4.2 SAFETY VALVES

SAFETY/RELIEF VALVES

LIMITING CONDITION FOR OPERATION

3.4.2.1 For the following safety/relief valves:

a. The safety valve function of at least 7 valves and the relief valve function of at least 6 valves other than those satisfying the safety valve function requirement shall be OPERABLE with the specified lift settings, and
b. The safety/relief tail-pipe pressure switches for each safety/relief valve shall be OPERABLE.

Number of Valves	Function	Setpoint* (psig)
8	Safety	1165 ± 11.6 psi
6	Safety	1180 ± 11.8 psi
6	Safety	1190 ± 11.9 psi
1	Relief	1103 ± 15 psi
10#	Relief	1113 ± 15 psi
9	Relief	1123 ± 15 psi

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2 and 3.

ACTION:

a. With the safety and/or relief valve function of one or more of the above required safety/relief valves inoperable, be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN within the next 24 hours.
b. With one or more safety/relief valves stuck open, provided that suppression pool average water temperature is less than 110°F, take action to close the stuck open relief valve(s); if suppression pool average water temperature is 110°F or greater, place the reactor mode switch in the Shutdown position.
c. With one or more safety/relief tail-pipe pressure switches inoperable, restore the inoperable switch(es) to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
d. With either relief valve function pressure actuation trip system "A" or "B" inoperable, restore the inoperable trip system to OPERABLE status within 7 days; otherwise be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN within the following 24 hours.

SURVEILLANCE REQUIREMENTS

4.4.2.1.1 The tail-pipe pressure switch for each safety/relief valve shall be demonstrated OPERABLE** with the setpoint verified to be 30 ± 5 psig by performance of a:

---

* The lift setting pressure shall correspond to ambient conditions of the valves at nominal operating temperatures and pressures.
\# Initial opening of 1B21-F051B is 1103 ± 15 psig due to low-low set function.
** A channel may be placed in an inoperable status for up to 6 hours for required surveillance without placing the trip system in the tripped condition.

REACTOR COOLANT SYSTEM

SURVEILLANCE REQUIREMENTS

a. CHANNEL FUNCTIONAL TEST at least once per 92 days, and a

b. CHANNEL CALIBRATION at least once per 18 months.*

4.4.2.1.2 The relief valve function pressure actuation instrumentation shall be demonstrated OPERABLE** by performance of a:

a. CHANNEL FUNCTIONAL TEST, including calibration of the trip unit, at least once per 92 days.

b. CHANNEL CALIBRATION, LOGIC SYSTEM FUNCTIONAL TEST and simulated automatic operation of the entire system at least once per 18 months.

---

* The provisions of Specification 4.0.4 are not applicable provided the surveillance is performed within 12 hours after reactor steam pressure is adequate to perform the test.

** A channel may be placed in an inoperable status for up to 6 hours for required surveillance without placing the trip system in the tripped condition.

REACTOR COOLANT SYSTEM

SAFETY/RELIEF VALVES LOW-LOW SET FUNCTION

LIMITING CONDITION FOR OPERATION

3.4.2.2 The relief valve function and the low-low set function of the following reactor coolant system safety/relief valves shall be operable with the following low-low set function lift settings.

	Setpoint* (psig) ± 15 psi	
Valve No.	Open	Close
F051D	1033	926
F051B	1073	936
F047D	1113	946
F047G	1113	946
F051A	1113	946
F051F	1113	946

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2 AND 3.

ACTION:

a. With the relief valve function and/or the low-low set function of one of the above required reactor coolant system safety/relief valves inoperable, restore the inoperable relief valve function and the low-low set function to OPERABLE status within 14 days or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
b. With the relief valve function and/or the low-low set function of more than one of the above required reactor coolant system safety/relief valves inoperable, be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN within the nest 24 hours.
c. With either relief valve/low-low set function pressure actuation trip system "A" or "B" inoperable, restore the inoperable trip system to OPERABLE status within 7 days; otherwise, be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN within the following 24 hours.

SURVEILLANCE REQUIREMENTS

4.4.2.2.1 The relief valve function and the low-low set function pressure actuation instrumentation shall be demonstrated OPERABLE** by performance of a:

a. CHANNEL FUNCTIONAL TEST, including calibration of the trip unit, at least once per 92 days.

b. CHANNEL CALIBRATION, LOGIC SYSTEM FUNCTIONAL TEST and simulated automatic operation of the entire system at least once per 18 months.

---

*The lift setting pressure shall correspond to ambient conditions of the valves at nominal operating temperatures and pressure.

**A channel may be placed in an inoperable status for up to 6 hours for required surveillance without placing the trip system in the tripped condition.

3/4.4.3 REACTOR COOLANT SYSTEM LEAKAGE

LEAKAGE DETECTION SYSTEMS

LIMITING CONDITION FOR OPERATION

3.4.3.1 The following reactor coolant system leakage detection systems shall be OPERABLE:

a. The drywell atmosphere particulate radioactivity monitoring system,

b. The drywell floor and equipment drain sump level and flow monitoring systems, and

c. Either the drywell air coolers condensate flow rate monitoring system or the drywell atmosphere gaseous radioactivity monitoring system.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2 and 3.

ACTION:

With only two of the above required leakage detection systems OPERABLE, operation may continue for up to 30 days provided grab samples of the drywell atmosphere are obtained and analyzed at least once per 24 hours when the required gaseous and/or particulate radioactive monitoring system is inoperable; otherwise, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

SURVEILLANCE REQUIREMENTS

4.4.3.1 The reactor coolant system leakage detection systems shall be demonstrated OPERABLE by:

a. Drywell atmosphere particulate and gaseous monitoring systems-performance of a CHANNEL CHECK at least once per 12 hours, a CHANNEL FUNCTIONAL TEST at least once per 31 days and a CHANNEL CALIBRATION at least once per 18 months.

b. Drywell floor and equipment drain sump level and flow monitoring systems-performance of a CHANNEL FUNCTIONAL TEST at least once per 31 days and a CHANNEL CALIBRATION TEST at least once per 18 months.

c. Drywell air coolers condensate flow rate monitoring system-performance of a CHANNEL FUNCTIONAL TEST at least once per 31 days and a CHANNEL CALIBRATION at least once per 18 months.

LIMITING CONDITION FOR OPERATION

ACTION: (Continued)

c. With one suppression pool water level instrumentation division inoperable, restore the inoperable division to OPERABLE status within 7 days or verify the suppression pool water level to be greater than or equal to 18'4-1/12" or 12'8", as applicable, at least once per 12 hours by an alternate indicator.

d. With both suppression pool water level instrumentation divisions inoperable, restore at least one inoperable division to OPERABLE status within 8 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours and verify the suppression pool water level to be greater than or equal to 18'4-1/12" or 12'8", as applicable, at least once per 12 hours by at least one alternate indicator.

SURVEILLANCE REQUIREMENTS

4.5.3.1 The suppression pool shall be determined OPERABLE by verifying:

a. The water level to be greater than or equal to, as applicable:

1. 18'4-1/12" at least once per 24 hours.

2. 12'8" at least once per 12 hours.

b. Two suppression pool water level instrumentation divisions, with 1 channel per division, OPERABLE with the low water level alarm setpoint $\geq$ 18'5½" by performance of a:

1. CHANNEL CHECK at least once per 24 hours,

2. CHANNEL FUNCTIONAL TEST at least once per 31 days, and

3. CHANNEL CALIBRATION at least once per 18 months.

c. Two suppression pool water level instrumentation divisions, with 1 channel per division, OPERABLE[#] with the low water level alarm setpoint $\geq$ 12'8" per performance of a:

1. CHANNEL CHECK at least once per 24 hours,

2. CHANNEL FUNCTIONAL TEST at least once per 92 days, and

3. CHANNEL CALIBRATION at least once per 18 months.

[#]A channel may be placed in an inoperable status for up to 6 hours during periods of required surveillance provided at least one other OPERABLE channel in the same system is monitoring that parameter.

SURVEILLANCE REQUIREMENTS (Continued)

4.5.3.2 With the suppression pool level less than the above limit or drained in OPERATIONAL CONDITION 4 or 5*, at least once per 12 hours:

a. Verify the required conditions of Specification 3.5.3.b to be satisfied, or

b. Verify footnote conditions * to be satisfied.

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION (Continued)

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 greater than the drift allowance assumed for each trip in the safety analyses.

3/4.3.4 RECIRCULATION PUMP TRIP ACTUATION INSTRUMENTATION

The anticipated transient without scram recirculation pump trip (ATWS-RPT) 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 has been evaluated in General Electric Company report NEDC-32408 dated March 1987. The results of the analysis show that the Grand Gulf ATWS-RPT design provides adequate protection for these events in which the normal scram paths fail.

The ATWS-RPT provides fully redundant trip of the recirculation pump motors so that the pumps coast down to zero speed. This trip function reduces core flow creating steam voids in the core, thereby decreasing power generation and limiting any power or pressure excursions. The Grand Gulf ATWS-RPT design provides compliance with the requirements of the NRC ATWS Rule 10CFR50.62.

The ATWS-RPT and Alternate Rod Insertion (ARI) system use common setpoints and trip channels (transmitters and trip systems). Therefore, the ARI trip function and the RPT trip function will be initiated simultaneously. The instrumentation setpoints for the RPV pressure and water level trip channels are established such that the normal scram paths for these variables would already be initiated.

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 stop valves and fast closure of the turbine control valves.

A fast closure sensor from each of two turbine control valves provides input to the EOC-RPT system; a fast closure sensor from each of the other two turbine control valves provides input to the second EOC-RPT system. Similarly, a closure sensor for each of two turbine stop valves provides input to one EOC-RPT system; a closure sensor from each of the other two stop 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 control valves and a 2-out-of-2 logic for the turbine stop valves. The operation of either logic will actuate the EOC-RPT system and trip both recirculation pumps.

RECIRCULATION PUMP TRIP ACTUATION INSTRUMENTATION (Continued)

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 40% of RATED THERMAL POWER are annunciated in the control room. The automatic bypass setpoint is feedwater temperature dependent due to the subcooling changes that affect the turbine first-stage pressure-reactor power relationship. For RATED THERMAL POWER operation with feedwater temperature greater than or equal to 420°, an allowable setpoint of $\leq$ 26.9% of control valve wide open turbine first-stage pressure is provided for the bypass function. This setpoint is also applicable to operation at less than RATED THERMAL POWER with the correspondingly lower feedwater temperature. The allowable setpoint is reduced to $\leq$ 22.5% of control valve wide open turbine first-stage pressure for RATED THERMAL POWER operation with a feedwater temperature between 370°F and 420°F. Similarly, the reduced setpoint is applicable to operation at less than RATED THERMAL POWER with the corresponding lower feedwater temperature.

Specified surveillance intervals and surveillance and maintenance outage times have been determined in accordance with General Electric Report GENE-770-06-1, "Bases for Changes to Surveillance Test Intervals and Allowed Out-of-Service Times for Selected Instrumentation Technical Specifications", February 1991.

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., 190 ms. Included in this time are: the response time of the sensor, the response time of the system logic and the breaker interruption time. Breaker interruption time includes both breaker response time and the manufacturer's design arc suppression time of 12 ms.

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 greater then 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.

Specified surveillance intervals and surveillance and maintenance outage times have been determined in accordance with General Electric Report GENE-770-06-2, "Addendum to Bases for Changes to Surveillance Test Intervals and Allowed Out-of-Service Times for Selected Instrumentation Technical Specifications", February 1991.

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 greater 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 the specifications in Section 3/4.1.4, Control Rod Program Controls and Section 3/4.2 Power Distribution Limits. The trip logic is arranged so that a trip in any one of the inputs will results in a control rod block.

3/4.3.6 CONTROL ROD BLOCK INSTRUMENTATION (Continued)

The OPERABILITY of the control rod block instrumentation in OPERATIONAL CONDITION 5 is to provide diversity of rod block protection to the one-rod-out interlock.

Specified surveillance intervals have been determined in accordance with NEDC-30851P-A, Supplement 1, "Technical Specification Improvement Analysis for BWR Control Rod Block Instrumentation" as approved by the NRC and documented in the NRC Safety Evaluation Report (letter to D. N. Grace from C. E. Rossi dated September 22, 1988). Specified surveillance and maintenance outage times have been determined in accordance with General Electric Report GENE-770-06-1, "Bases for Changes to Surveillance Test Intervals and Allowed Out-of-Service Times for Selected Instrumentation Technical Specifications", February 1991.

3/4.3.6 CONTROL ROD BLOCK INSTRUMENTATION (Continued)

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 greater than the drift allowance assumed for each trip in the safety analyses.

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 or automatic action 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 the recommendations of NUREG-0737, "Clarification of TMI Action Plan Requirements," November, 1980.

Specified surveillance intervals and surveillance and maintenance outage times have been determined in accordance with General Electric Report GENE-770-06-1, "Bases for Changes to Surveillance Test Intervals and Allowed Out-of-Service Times for Selected Instrumentation Technical Specifications", February 1991.

3/4.3.7.2 SEISMIC MONITORING INSTRUMENTATION

The OPERABILITY of the seismic monitoring instrumentation ensures that sufficient capability is available to promptly determine the magnitude of a seismic event and evaluate the response of those features important to safety. This capability is required to permit comparison of the measured response to that used in the design basis for the unit.

3/4.3.7.3 METEOROLOGICAL MONITORING INSTRUMENTATION

The OPERABILITY of the meteorological monitoring instrumentation ensures that sufficient meteorological data are available for estimating potential radiation doses to the public as a result of routine or accidental release of radioactive materials to the atmosphere. This capability is required to evaluate the need for initiating protective measures to protect the health and safety of the public. This instrumentation is consistent with the recommendations of Regulatory Guide 1.23 "Onsite Meteorological Programs," February, 1972.

3/4.3.7.4 REMOTE SHUTDOWN SYSTEM INSTRUMENTATION AND CONTROLS

The OPERABILITY of the remote shutdown system instrumentation and controls ensures that sufficient capability is available to permit shutdown and maintenance of HOT SHUTDOWN of the unit from locations outside of the control room. This capability is required in the event control room habitability is lost and is consistent with General Design Criterion 19 of 10 CFR 50.

3/4.3.7.5 ACCIDENT MONITORING INSTRUMENTATION

The OPERABILITY of the accident monitoring instrumentation ensures that sufficient information is available on selected plant parameters to monitor and assess important variables following an accident. This capability is consistent with the recommendations of NUREG-0578, "TMI-2 Lessons Learned Task Force Status Report and Short-Term Recommendations".

3/4.3.7.6 SOURCE RANGE MONITORS

The source range monitors provide the operator with information of the status of the neutron level in the core at very low power levels during startup and shutdown. At these power levels, reactivity additions should not be made without this flux level information available to the operator. When the intermediate range monitors are on scale adequate information is available without the SRMs and they can be retracted.

The SRMs are required OPERABLE in OPERATIONAL CONDITION 2 to provide for rod block capability, and are required OPERABLE in OPERATIONAL CONDITIONS 3 and 4 to provide monitoring capability which provides diversity of protection to the mode switch interlocks.

3/4.3.7.7 TRAVERSING IN-CORE PROBE SYSTEM

The OPERABILITY of the traversing in-core probe system with the specified minimum complement of equipment ensures that the measurements obtained from use of this equipment accurately represent the spatial neutron flux distribution of the reactor core.

The TIP system OPERABILITY is demonstrated by normalizing all probes (i.e., detectors) prior to performing an LPRM calibration function. Monitoring core thermal limits may involve utilizing individual detectors to monitor selected areas of the reactor core, thus all detectors may not be required to be OPERABLE. The OPERABILITY of individual detectors to be used for monitoring is demonstrated by comparing the detector(s) output with data obtained during the previous LPRM calibrations.

3/4.3.7.8 CHLORINE DETECTION SYSTEM

DELETED

3/4.3.7.9 FIRE DETECTION INSTRUMENTATION

DELETED

3/4.3.7.10 LOOSE-PART DETECTION SYSTEM

The OPERABILITY of the loose-part detection system ensures that sufficient capability is available to detect loose metallic parts in the primary system and avoid or mitigate damage to primary system components. The system consists of 16 sensors, of which only 8 are selected and need to be OPERABLE at a time, to provide the inputs to the 8 monitoring channels. The remaining 8 sensors may be used as replacement sensor inputs for failed sensors or to provide a change in location of the area being monitored. The allowable out-of-service times and surveillance requirements are consistent with the recommendations of Regulatory Guide 1.133, "Loose-Part Detection Program for the Primary System of Light-Water-Cooled Reactors," May 1981.

3/4.3.7.12 MAIN CONDENSER OFFGAS TREATMENT SYSTEM - EXPLOSIVE GAS MONITORING SYSTEM INSTRUMENTATION

The explosive gas monitoring system instrumentation of the main condenser offgas treatment system is provided to monitor the concentrations of potentially explosive gas mixtures in the main condenser offgas treatment system. This instrumentation is calibrated in accordance with plant procedures.

3/4.3.8 PLANT SYSTEMS ACTUATION INSTRUMENTATION

The plant systems actuation instrumentation is provided to initiate action to mitigate the consequences of accidents that are beyond the ability of the operator to control. The LPCI mode of the RHR system is automatically initiated on a high drywell pressure signal and/or a low reactor water level, level 1, signal. The containment spray system will then actuate automatically following high drywell and high containment pressure signals. Negative barometric pressure fluctuations are accounted for in the trip setpoints and allowable values specified for drywell and containment pressure-high. A 10-minute minimum, 13-minute maximum time delay exists between initiation of LPCI and containment spray actuation. A high reactor water level, level 8, signal will actuate the feedwater system/main turbine trip system. The suppression pool makeup system is automatically initiated on a low low suppression pool water level signal with a concurrent LOCA signal or following a specified time delay after receipt of a LOCA signal. The low low suppression pool water level Trip Setpoint and Allowable Value are relative to the surface floor of the suppression pool (93'0¼" above mean sea level).

Specified surveillance intervals and surveillance and maintenance outage times have been determined in accordance with General Electric Report GENE-770-06-1, "Bases for Changes to Surveillance Test and Allowed Out-of-Service Times for Selected Instrumentation Technical Specifications", February 1991.

3/4.4.2 SAFETY/RELIEF VALVES

The safety valve function of the safety/relief valves (SRV) operate to prevent the reactor coolant system from being pressurized above the Safety Limit of 1325 psig in accordance with the ASME Code. A total of 13 OPERABLE safety/ relief valves is required to limit reactor pressure to within ASME III allowable values for the worst case upset transient. Any combination of 6 SRVs operating in the relief mode and 7 SRVs operating in the safety mode is acceptable.

Demonstration of the safety/relief valve lift settings will occur only during shutdown and will be performed in accordance with the provisions of Specification 4.0.5.

The low-low set system ensures that safety/relief valve discharges are minimized for a second opening of these valves, following any overpressure transient. This is achieved by automatically lowering the closing setpoint of 6 valves and lowering the opening setpoint of 2 valves following the initial opening. In this way, the frequency and magnitude of the containment blowdown duty cycle is substantially reduced. Sufficient redundancy is provided for the low-low set system such that failure of any one valve to open or close at its reduced setpoint does not violate the design basis.

Specified surveillance intervals and surveillance outage times have been determined in accordance with General Electric Report GENE-770-06-1, "Bases for Changes to Surveillance Test Intervals and Allowed Out-of-Service Times for Selected Instrumentation Technical Specifications", February 1991.

3/4.4.3 REACTOR COOLANT SYSTEM LEAKAGE

3/4.4.3.1 LEAKAGE DETECTION SYSTEMS

The RCS leakage detection systems required by this specification are provided to monitor and detect leakage from the reactor coolant pressure boundary. These systems provide the ability to measure leakage from fluid systems in the drywell.

3/4.4.3.2 OPERATIONAL LEAKAGE

The allowable leakage rates from the reactor coolant system have been based on the predicted and experimentally observed behavior of cracks in pipes. The normally expected background leakage due to equipment design and the detection capability of the instrumentation for determining system leakage was also considered. The evidence obtained from experiments suggests that for leakage somewhat greater than that specified for UNIDENTIFIED LEAKAGE the probability is small that the imperfection or crack associated with such leakage would grow rapidly. However, in all cases, if the leakage rates exceed the values specified or the leakage is located and known to be PRESSURE BOUNDARY LEAKAGE, the reactor will be shut down to allow further investigation and corrective action. Service sensitive reactor coolant system Type 304 and 316 austenitic stainless steel piping, i.e., those that are subject to high stress or that contain relatively stagnant, intermittent, or low flow fluids, requires additional surveillance and leakage limits.

3/4.4.3.2 OPERATIONAL LEAKAGE (Continued)

The Surveillance Requirements for RCS pressure isolation valves provide added assurance of valve integrity, thereby reducing the probability of gross valve failure and consequent intersystem LOCA. Leakage from the RCS pressure isolation valves is IDENTIFIED LEAKAGE and will be considered as a portion of the allowed limit.

SUPPRESSION POOL (Continued)

In OPERATIONAL CONDITION 4 and 5 the suppression chamber minimum required water volume is reduced because the reactor coolant is maintained at or below 200°F. Since pressure suppression is not required below 212°F, the minimum required water volume is based on NPSH, recirculation volume, and vortex prevention plus a 1'2" safety margin for conservatism.

Specified surveillance intervals and surveillance outage times for the wide range suppression pool water level instrumentation have been determined in accordance with General Electric Report GENE-770-06-1, "Bases for Changes to Surveillance Test Intervals and Allowed Out-of-Service Times for Selected Instrumentation Technical Specifications", February 1991.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 105 TO FACILITY OPERATING LICENSE NO. NPF-29

ENTERGY OPERATIONS, INC., ET AL.

GRAND GULF NUCLEAR STATION, UNIT 1

DOCKET NO. 50-416

1.0 INTRODUCTION

By letter dated July 29, 1992, the licensee (Entergy Operations, Inc.) submitted a request for changes to the Grand Gulf Nuclear Station, Unit 1 (GGNS) Technical Specifications (TS). The proposed TS changes incorporate reliability-based improvements to instrumentation Action Statements and surveillance test intervals based on NRC-approved Licensing Topical Reports previously submitted by the Boiling Water Reactor Owners Group (BWROG), of which Entergy Operations, Inc., is a member. This safety evaluation verifies that the TS changes proposed by the licensee and their associated justifications are bounded by the analyses provided in the approved topical reports and that any plant-specific issues are adequately addressed.

2.0 EVALUATION

The licensee's proposed changes modify the following TS sections: (1) Section 3.3.4.2, End-of-Cycle Recirculation Pump Trip System Instrumentation; (2) Table 3.3.5-1 and Table 4.3.5.1-1, Reactor Core Isolation Cooling (RCIC) System Actuation Instrumentation; (3) Section 3/4.3.6, Control Rod Block Instrumentation; (4) Table 3.3.7.1-1 and Table 4.3.7.1-1, Radiation Monitoring Instrumentation; (5) Table 3.3.8-1 and Table 4.3.8.1-1, Plant Systems Actuation Instrumentation; (6) Sections 4.4.2.1.1, 4.4.2.1.2, and 4.4.2.2.1, Reactor Coolant System; (7) Sections 4.5.3.1 and 4.5.3.2, Emergency Core Cooling Systems (ECCSs); and (8) Modifications to related Bases.

Staff approval of plant-specific TS changes was conditional upon satisfactory resolution of two issues:

(1) The licensee must confirm that the generic analyses of the topical reports are applicable to the plant.

In the license amendment requests cited in References 16 and 19, the licensee confirmed that the generic analyses of References 4 through 9 apply to GGNS. In addition, a review of the instrumentation logic configuration descriptions of GENE-770-06-1 (Reference 1) confirmed

that the technical bases presented in Reference 1 are applicable to GGNS.

GENE-770-06-2 (Reference 2) provided analyses of the RCIC instrumentation using fault tree and input data described in Reference 5 and using the BWR 5/6 model described in Case 5A of Reference 6. As described in the amendment request for ECCS instrumentation (Reference 19), Entergy Operations, Inc., confirmed that the ECCS generic model (which included the RCIC system) described in References 5 and 6 was applicable to GGNS. It is therefore confirmed that the generic analyses of GENE-770-06-2 are applicable to GGNS.

(2) The licensee must confirm that any increase in instrument drift due to the extended surveillance test intervals (STIs) is properly accounted for in the setpoint calculation methodology.

The instrumentation channel drift characteristics in question are considered when the TS trip setpoints are established. The setpoint calculations for GGNS conservatively assume that the channel setpoint drift occurs without correction during the entire 18-month channel calibration interval. Extension of the functional test intervals and associated calibrations, as proposed herein, will therefore have no effect on the instrumentation setpoint calculations. The GGNS setpoint methodology thus continues to properly account for instrument drift.

A TS change is proposed for TS Section 3/4.3.7.1, Radiation Monitoring Instrumentation, to extend the STIs and the Allowed Outage Times (AOTs) for the Containment and Drywell Ventilation Exhaust Radiation Monitor, the Fuel Handling Area Ventilation Exhaust Radiation Monitor, and the Fuel Handling Area Pool Sweep Exhaust Radiation Monitor. These monitors are the same radiation monitors for the Isolation Actuation functions for which STI and AOT extensions were requested in Reference 19 and approved by the NRC in Reference 24. The changes proposed in this amendment would increase the STI for functional tests from monthly to quarterly, their AOT from 1 to 24 hours, and their surveillance AOT from 2 to 6 hours. These changes are wholly consistent with the proposed changes to primary containment isolation instrumentation and secondary containment isolation instrumentation STIs and AOTs approved by the NRC in Reference 24, and are needed to ensure that the specifications governing the same equipment are not in conflict. Further justification for the extensions is described in Reference 19. Discussion of the applicability of the analysis to these proposed changes was transmitted to the NRC in the Response to Question 9 of Reference 23.

An additional change is requested to TS Section 4.5.3.1 to extend the Channel Functional STI from 31 to 92 days and to provide a 6-hour surveillance AOT for the wide-range suppression pool water level instrumentation. The wide-range suppression pool water level instrumentation uses the same trip units as the Suppression Pool Makeup System (SPMS) instrumentation. This amendment request proposes changing the Channel Functional STI and the surveillance AOT for the SPMS instrumentation in an identical fashion. This change is therefore needed to ensure consistency among the specifications.

2.1 End-of-Cycle Recirculation Pump Trip System Instrumentation

The licensee has proposed modifications to the End-of-Cycle Recirculation Pump Trip System Instrumentation TS. Under TS 3.3.4.2, the time limits for Action Statements b. and c.1. are increased from 1 to 12 hours. The time limit in footnote (a) for Table 3.3.4.2-1 is changed from 2 to 6 hours. These changes are consistent with the approved changes in Reference 1, and are therefore acceptable.

The proposed changes to TS Section 3/4.3.4.2 include an additional change on Table 4.3.4.2.1-1, which is not reflected in the TS mark-ups provided in Reference 1. This additional change consists of changing the calibration frequency required by footnote # from once per 31 days to once per 92 days. This additional proposed change is justified by the analysis of Reference 1, since, as discussed in Section 3.2 of Reference 1, the changes proposed are bounded by the analysis of Reference 4. The scope of the analysis of Reference 4 included the evaluation of the effects of the extension of the required calibration intervals to 92 days; therefore, the extension of the surveillance interval required by footnote # to 92 days is bounded by these analyses and is acceptable.

2.2 Reactor Core Isolation Cooling System Actuation Instrumentation

The licensee has proposed several modifications to the RCIC System Actuation Instrumentation TS. In Table 3.3.5-1, footnote (a), the time limit is changed from 2 to 6 hours. Action Statement 50 is rewritten to state:

> With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels requirement:
>
> a. With one channel inoperable, place the inoperable channel in the tripped condition within 24 hours or declare the RCIC system inoperable.
>
> b. With more than one channel inoperable, declare the RCIC system inoperable.

The proposed changes to TS Table 3.3.5-1 modify the GGNS Action 50 to correspond to the BWR 6 Standard TS and Action 50 proposed in Reference 2 and accepted by the NRC via Reference 22. The GGNS proposed Action 50 does differ from the Action 50 marked up in Reference 2 in that the GGNS Action 50 does not discuss the inoperability of a channel on a per trip system basis. The GGNS TS to which this Action requirement applies does not address the minimum number of channels per trip system but addresses the minimum total number of channels available. Therefore, the proposed GGNS Action requirement does not refer to the number of channels available in a trip system. The changes proposed to Action 50 are consistent with the configurations assumed in the analysis presented in References 2 and 5. The staff has reviewed the proposed changes and finds them to be acceptable.

The licensee has proposed that the time limits for Action Statements 51, 52, and 53 in Table 3.3.5-1 be extended to 24 hours. In Table 4.3.5.1-1, the Channel Functional Test frequency is extended from monthly to quarterly. In addition, the calibration and testing frequency in footnotes (a) and (b) are changed from 31 to 92 days. These changes are consistent with Reference 2 and are therefore acceptable.

2.3 Control Rod Block Instrumentation

The licensee has proposed modifications to the Control Rod Block Instrumentation TS. The operability condition of Surveillance Requirement 4.3.6.1 will refer to a new footnote stating:

> * A channel may be placed in an operable status for up to 6 hours for required surveillance without placing the trip system in the tripped condition, provided at least one other OPERABLE channel in the same trip system is monitoring that parameter.

A new Action Statement 64 is added to Table 3.3.6-1 for the Scram Discharge Volume and Reactor Coolant System Recirculation Flow Trip Functions:

> Action 64 With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip Function requirement, place the inoperable channel in the tripped condition within 12 hours.

The proposed changes to TS Section 3/4.3.6, Control Rod Block Instrumentation, are consistent with the changes justified in Section 3.10 of Reference 1 and mark-ups on Attachment pages A-40 and A-42 of Reference 1. The proposed TS changes create a new Action 64 instead of modifying the existing Action 62 as marked up in Reference 1. As a result, a new Action requirement was needed to comply with the evaluation presented in Section 3.10 of Reference 1. The staff has reviewed the proposed changes and finds them to be acceptable.

2.4 Radiation Monitoring Instrumentation

The licensee has proposed modifications to the Radiation Monitoring Instrumentation TS.

In Table 3.3.7.1-1, footnote (h) has the following statement appended to it:

> A channel may be placed in an inoperable status for up to 6 hours for required surveillance without placing the trip system in the tripped condition, provided at least one other OPERABLE channel in the same trip system is monitoring that parameter.

Part a. of Action 73 is revised to state:

> With one of the required monitors in a trip system inoperable, place the inoperable channel in the downscale tripped condition within 6 hours;...

The licensee had requested a 6 hour AOT for Action 73 which applies to the Control Room Ventilation Radiation monitor. The request was based on the staff's approval of a 24 hour AOT for this issue as part of the generic review of BWR6 improved standard technical specifications. The staff, however, is not accepting the 24 hour AOT for this item separately from the improved standard technical specifications, and has changed the AOT to the currently approved 6 hour AOT. This change was discussed with the licensee and is acceptable.

Part a. of Actions 74 and 75 is revised to state:

> With one of the required monitors in a trip system inoperable, place the inoperable channel in the downscale tripped condition 24 hours...

The Channel Functional Test frequency for the Control Room Ventilation Radiation Monitor, Containment and Drywell Ventilation Exhaust Radiation Monitor, Fuel Handling Area Ventilation Radiation Monitor, and Fuel Handling Area Pool Sweep Exhaust Radiation Monitor is changed from monthly to quarterly.

The proposed changes to TS Section 3/4.3.7.1 on pages 3/4 3-60 through 3-62 involve changes to the STIs and AOTs for the Fuel Handling Area Ventilation Radiation Monitor, the Fuel Handling Area Pool Sweep Exhaust Radiation Monitor, the Containment and Drywell Ventilation Exhaust Radiation Monitor, and the Control Room Ventilation Radiation Monitor.

The Fuel Handling Area Ventilation Radiation Monitor, the Fuel Handling Area Pool Sweep Exhaust Radiation Monitor, and the Containment and Drywell Ventilation Exhaust Radiation Monitor instrumentation function both as Isolation Actuation instrumentation, as addressed in TS 3/4.3.2, and as radiation monitoring/alarm instrumentation, as addressed in TS 3/4.3.7.1.

These monitors use the same radiation detectors and analog conditioning circuitry to perform both of these functions. Extensions to AOTs and STIs required by TS Section 3/4.3.2 were evaluated and requested in References 19 and 25 and approved by the NRC in Reference 24 for the Isolation Actuation function of the instrumentation. The changes proposed in this amendment request to the TS 3/4.3.7.1 affect the radiation monitoring/alarm function of the instruments and are needed to ensure consistency between different specifications for the same equipment. Discussion of the applicability of the analysis to these proposed changes was transmitted to the NRC in the Response to Question 9 of Reference 23. The staff has reviewed these changes and finds them acceptable.

2.5 Plant Systems Actuation Instrumentation

The licensee has proposed several modifications to the Plant Systems Actuation Instrumentation. Footnote (a) in Table 3.3.8-1 is revised to state:

> (a) A channel may be placed in an operable status for up to 6 hours (2 hours for the Reactor Vessel Water Level - High, Level 8 instrumentation) during periods of required surveillance provided at least one other OPERABLE channel in the same trip system is monitoring that parameter.

The time limit in part a. of Action 130 in Table 3.3.8-1 is increased from 1 hour to 24 hours. The time limit in Action 134 in Table 3.3.8-1 is increased from 8 hours to 24 hours. The time limit in part a. of Action 135 is increased from 1 hour to 24 hours.

In Table 4.3.8.1-1, the frequency of the Channel Functional Tests for the Containment Spray System is decreased from monthly to quarterly. Also, the frequency of the Channel Functional Tests for the Suppression Pool Make Up System is decreased from monthly to quarterly. Footnote (a) is changed to read:

> (a) Calibrate trip unit at least once per 92 days.

These modifications are consistent with Reference 1 and are therefore acceptable.

2.6 Reactor Coolant System

The licensee has proposed modifications to the Reactor Coolant System TS. A footnote is added to the operability conditions of Surveillance Requirement 4.4.2.1.1, as follows:

> A channel may be placed in an inoperable status for up to 6 hours for required surveillance without placing the trip system in the tripped condition.

The Channel Functional Test frequency under Surveillance Requirement 4.4.2.1.1.a is decreased from 31 to 92 days. A footnote is added to the operability conditions of Surveillance Requirement 4.4.2.1.2, as follows:

> A channel may be placed in an inoperable status for up to 6 hours for required surveillance without placing the trip system in the tripped condition.

The Channel Functional Test frequency under Surveillance Requirement 4.4.2.1.2.a is decreased from 31 to 92 days. A footnote is added to the operability requirements of Surveillance Requirement 4.4.2.2.1, as follows:

> A channel may be placed in an inoperable status for up to 6 hours for required surveillance without placing the trip system in the tripped condition.

The Channel Functional Test frequency under Surveillance Requirement 4.4.2.2.1.a is decreased from 31 to 92 days. The proposed changes to the Reactor Coolant System TS are consistent with Reference 1 and are therefore acceptable.

2.7 Emergency Core Cooling Systems

The licensee has proposed several modifications to the Emergency Core Cooling Systems. Under Surveillance Requirement 4.5.3.1, a new operability condition is added which states:

> c. Two suppression pool water level instrumentation divisions, with 1 channel per division, OPERABLE# with the low water level alarm setpoint ≥ 12'8" per performance of a:
>
> 1. CHANNEL CHECK at least once per 24 hours,
>
> 2. CHANNEL FUNCTIONAL TEST at least once per 92 days, and
>
> 3. CHANNEL CALIBRATION at least once per 18 months

The corresponding footnote for this new section states:

> # A channel may be placed in an inoperable status for up to 6 hours during periods of required surveillance provided at least one other OPERABLE channel in the same system is monitoring that parameter.

The proposed changes to TS Section 4.5.3.1 on page 3/4 5-9 involve changes to STI and surveillance AOT for the wide-range suppression pool water level instrumentation. TS Section 4.5.3.1 addresses the surveillance requirements for the monitoring and alarm functions of the wide-range suppression pool water level instrumentation, while TS Section 3/4.3.8.1 addresses the SPMS

actuation function of this instrumentation. The changes requested to TS Section 4.5.3.1 are consistent with the changes requested for TS Section 3/4.3.8.1 (SPMS system, suppression pool water level instrumentation). The changes to TS Section 3/4.3.8.1 were evaluated and discussed in Section 3.7 of Reference 1. The SPMS instrumentation controlled by 3/4.3.8.1 uses the same wide-range suppression pool water level trip units as are controlled by TS 4.5.3.1. The proposed changes to TS Section 4.5.3.1 are, therefore, bounded by the analysis provided in Section 3.7 of Reference 1 and are needed for consistency. The requirements for narrow-range suppression pool water level instrumentation are not changed. The staff has reviewed these modifications and finds them acceptable.

2.8 Modifications to Related Bases

The licensee has proposed that the following statements be added to the Bases for the corresponding sections:

(1) Recirculation Pump Trip Actuation Instrumentation

Specified surveillance intervals and surveillance and maintenance outage times have been determined in accordance with General Electric Report GENE-770-06-1, "Bases for Changes to Surveillance Test Intervals and Allowed Out-Of-Service Times for Selected Instrumentation Technical Specifications," February 1991.

(2) Reactor Core Isolation Cooling System Actuation Instrumentation

Specified surveillance intervals and surveillance and maintenance outage times have been determined in accordance with General Electric Report GENE-770-06-2, "Addendum to Bases for Changes to Surveillance Test Intervals and Allowed Out-Of-Service Times for Selected Instrumentation Technical Specifications," February 1991.

(3) Control Rod Block Instrumentation

Specified surveillance and maintenance outage times have been determined in accordance with General Electric Report GENE-770-06-1, "Bases for Changes to Surveillance Test Intervals and Allowed Out-Of-Service Times for Selected Instrumentation Technical Specifications," February 1991.

(4) Radiation Monitoring Instrumentation

Specified surveillance intervals and surveillance and maintenance outage times have been determined in accordance with General Electric Report GENE-770-06-1, "Bases for Changes to Surveillance Test Intervals and Allowed Out-Of Service Times for Selected Instrumentation Technical Specifications," February 1991.

(5) Plant Systems Actuation Instrumentation

Specified surveillance intervals and surveillance and maintenance outage times have been determined in accordance with General Electric Report GENE-770-06-1, "Bases for Changes to Surveillance Test Intervals and Allowed Out-Of-Service Times for Selected Instrumentation Technical Specifications," February 1991.

(6) Safety/Relief Valves

Specified surveillance intervals and surveillance outage times have been determined in accordance with General Electric Report GENE-770-06-1, "Bases for Changes to Surveillance Test Intervals and Allowed Out-Of-Service Times for Selected Instrumentation Technical Specifications," February 1991.

(7) Suppression Pool

Specified surveillance intervals and surveillance outage times for the wide-range suppression pool water level instrumentation have been determined in accordance with General Electric Report GENE-770-06-1, "Bases for Changes to Surveillance Test Intervals and Allowed Out-Of-Service Times for Selected Instrumentation Technical Specification," February 1991.

The staff has reviewed the proposed modifications and finds them to be acceptable.

3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Mississippi State official was notified of the proposed issuance of the amendment. The State official had no comments.

4.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes surveillance requirements. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding (57 FR 40212). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR

51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

5.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

6.0 SELECTED REFERENCES

1) GE Report GENE-770-06-1, "Bases for Changes to Surveillance Test Intervals and Allowed Out-Of-Service Times for Selected Instrumentation Technical Specifications," February 1991.

2) GE Report GENE-770-06-2, "Addendum to Bases for Changes to Surveillance Test Intervals and Allowed Out-Of-Service Times for Selected Instrumentation Technical Specifications," February 1991.

4) GE Topical Report NEDC-30851P-A, "BWR Owners Group Technical Specification Improvement Analyses for BWR Reactor Protection System," March 1988.

5) GE Topical Report NEDC-30936P-A, "BWR Owners Group Technical Specification Improvement Methodology (With Demonstration for BWR ECCS Actuation Instrumentation) Part 1," December 1988.

6) GE Topical Report NEDC-30936P-A, "Technical Specification Improvement Methodology (With Demonstration for BWR ECCS Actuation Instrumentation) Part 2," December 1988.

7) GE Topical Report NEDC-30851P-A, Supplement 1, "Technical Specification Improvement Analysis for BWR Control Rod Block Instrumentation," October 1988.

8) GE Topical Report NEDC-30851P-A, Supplement 2, "Technical Specification Improvement Analysis for BWR Isolation Instrumentation Common to RPS and ECCS Instrumentation," March 1989.

9) GE Topical Report NEDC-31677P-A, "Technical Specification Improvement Analysis for BWR Isolation Actuation Instrumentation," July 1990.

16) Letter, O.D. Kingsley, Jr. (GGNS) to USNRC, "Extension of RPS Instrumentation Surveillance Intervals and Allowed Outage Times (PCOL-88/09)," dated June 30, 1988.

19) Letter, W.T. Cottle (GGNS) to USNRC, "Extension of Instrumentation Surveillance Intervals and Allowed Outage Times (PCOL 91/12)," dated June 26, 1991.

22) Letter, C.E. Rossi (NRR) to G.J. Beck (BWROG), "General Electric Company (GE) Topical Report GENE-770-06-2, 'Addendum to Bases for Changes to Surveillance Test Intervals and Allowed Out-Of-Service Times for Selected Instrumentation Technical Specifications' (BWR RCIC Instrumentation)," dated September 13, 1991.

23) Letter, R.D. Binz IV (BWROG) to T.E. Murley (NRR), "BWR Owners' Group Response to Questions on Topical Report GENE-770-06-1," dated December 20, 1991.

24) Letter, P.W. O'Connor (NRR) to W.T. Cottle (Entergy), "Issuance of Amendment No. 97 to Facility Operating License No. NPF-29 - Grand Gulf Nuclear Station, Unit 1 (TAC No. M80700)," dated May 20, 1992.

25) Letter, W.T. Cottle (GGNS) to USNRC, "Extension of Instrumentation Surveillance Intervals and Allowed Outage Times," dated April 22, 1992.

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