TABLE 4.3.1.1-1 (Continued)

REACTOR PROTECTION SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL FUNCTIONAL TEST	CHANNEL CALIBRATION	OPERATIONAL CONDITIONS FOR WHICH SURVEILLANCE REQUIRED
9. Scram Discharge Volume Water Level - High	S	M	R(g)	1, 2, 5
10. Turbine Stop Valve - Closure	S	M	R(g)	1
11. Turbine Control Valve Fast Closure Valve Trip System Oil Pressure - Low	S	M	R(g)	1
12. Reactor Mode Switch Shutdown Position	NA	R	NA	1, 2, 3, 4, 5
13. Manual Scram	NA	M	NA	1, 2, 3, 4, 5

(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) Calibrate trip unit at least once per 31 days.
(h) Verify measured ~~core~~ drive flow to be less than or equal to established ~~core~~ drive flow at the existing flow control valve position.
(i) This calibration shall consist of verifying the 6 ± 1 second simulated thermal power time constant.

{ unless an APRM channel gain adjustment has been made to comply with specification 3.2.2.

(GGNS-96)

PCOL 83/09 159

c. At least once per 92 days and from new oil prior to addition to the storage tanks by verifying that a sample obtained in accordance with ASTM-D270-1975 has a water and sediment content of less than or equal to .05 volume percent and a kinematic viscosity @ 40°C of greater than or equal to 1.9 but less than or equal to 4.1 when tested in accordance with ASTM-D975-77, and an impurity level of less than 2 mg. of insolubles per 100 ml. when tested in accordance with ASTM-D2274-70, except that the test of new fuel for impurity level shall be performed within 7 days after addition of the new fuel to the storage tank.

d. At least once per 18 months, during shutdown, by:

1. Subjecting the diesel to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendations for this class of standby service.

1200 kW (LPCS Pump)

2. Verifying the diesel generator capability to reject a load of greater than or equal to ~~1735 kW~~ for diesel generator 11, greater than or equal to ~~890 kW~~ for diesel generator 12, and greater than or equal to ~~2780 kW~~ for diesel generator 13 while maintaining less than or equal to 75% of the difference between nominal speed and the overspeed trip setpoint, or 15% above nominal, whichever is less.

550 kW (RHR B/C Pump)

2180 kW (HPCS Pump)

3. Verifying the diesel generator capability to reject a load of 7000 kW for diesel generators 11 and 12 and 3300 kW for diesel generator 13 without tripping. The generator voltage shall not exceed 5000 volts during and following the load rejection.

4. Simulating a loss of offsite power by itself, and:

a) For Divisions 1 and 2:

1) Verifying deenergization of the emergency busses and load shedding from the emergency busses.

2) Verifying the diesel generator starts on the auto-start signal, energizes the emergency busses with permanently connected loads within 10 seconds, energizes the auto-connected shutdown loads through the load sequencer and operates for greater than or equal to 5 minutes while its generator is loaded with the shutdown loads. After energization, the steady state voltage and frequency of the emergency busses shall be maintained at 4160 ± 416 volts and 60 ± 1.2 Hz during this test.

b) For Division 3:

1) Verifying de-energization of the emergency bus.

2) Verifying the diesel generator starts on the auto-start signal, energizes the emergency bus with the loads within 10 seconds and operates for greater than or equal to 5 minutes while its generator is loaded with the shutdown loads. After energization, the steady state voltage and frequency of the emergency bus shall be maintained at 4160 ± 416 volts and 60 ± 1.2 Hz during this test.

3. (GGNS-152, 211, 211a, 223, 241)

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS

4.7.6.3.1 Each of the above required CO_2 systems shall be demonstrated OPERABLE at least once per 31 days by verifying that each valve, manual, power operated or automatic, in the flow path is in its correct position.

4.7.6.3.2 Each of the above required low pressure CO_2 systems shall be demonstrated OPERABLE:

a. At least once per 7 days by verifying the CO_2 storage tank level to be greater than 50% and pressure to be greater than 275 psig, and

b. At least once per 18 months by:

1. ~~Verifying that the system valves, associated ventilation dampers and electro-thermal links actuate automatically upon receipt of a simulated actuation signal, and~~

2. Flow from each nozzle by performance of a "Puff Test".

3. Exercising each ventilation system fire damper to the closed position and verifying the dampers move freely.

Verifying that the system, including associated ventilation system fire damper logic, actuates automatically, or manually if applicable, upon receipt of a simulated actuation signal (actual CO_2 release, electro-thermal link burning, and differential pressure valve opening may be excluded from this test), and

Position verification of differential pressure selector valves is not required, however, the valves' release levers shall be verified to be in the correct position.

3. (GGNS-152, 211, 211a, 223, 241)

PLANT SYSTEMS

HALON SYSTEMS

LIMITING CONDITION FOR OPERATION

3.7.6.4 The following Halon systems shall be OPERABLE with the storage tanks having at least 95% of full charge weight and 90% of full charge pressure:

a. Control Building, elev. 148'0", Computer and Control Panel Room

b. Control Building, elev. 166'0", PGCC ~~Room~~ under Floor area

c. Control Cabinet Room, elev. 189'0", PGCC ~~Room~~ under Floor area

APPLICABILITY: Whenever equipment protected by the Halon systems is required to be OPERABLE.

ACTION:

a. With one or more of the above required Halon systems inoperable, within one hour establish a continuous fire watch with backup fire suppression equipment for those areas in which redundant systems or components could be damaged; for other areas, establish an hourly fire watch patrol. Restore the system to OPERABLE status within 14 days or, in lieu of any other report required by Specification 6.9.1, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.

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

SURVEILLANCE REQUIREMENTS

4.7.6.4 Each of the above required Halon systems shall be demonstrated OPERABLE:

a. ~~At least once per 31 days by verifying that each valve, manual, power operated or automatic, in the flow path is in its correct position.~~

b. At least once per 6 months by verifying Halon storage tank weight and pressure.

c. At least once per 18 months by:

1. ~~Verifying the system and associated ventilation dampers actuation automatically upon receipt of a simulated actuation signal, and~~

Insert "A"

2. Performance of a flow test through headers and nozzles to assure no blockage.

3. (GGNS - 152, 211, 211a, 223, 241)

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

3. Exercising each ventilation system fire dampers to the closed position and verifying the dampers move freely.

(Insert "A") Insert to page 3/4 7-34

Verifying that the system, including associated ventilation system fire damper logic, actuates automatically upon receipt of a simulated actuation signal (Actual Halon release, Halon bottle initiator valve acuation, and electro-thermal link burning may be excluded from the test), and

4. (GGNS-153, 232, 239)

TABLE 3.7.6.6-1

YARD FIRE HYDRANTS AND ASSOCIATED HYDRANT HOSE HOUSES

LOCATION			HYDRANT NUMBER/~~FIRE WATER LOOP SCHEDULE NUMBER~~ HYDRANT HOSE HOUSE NUMBER		
North Coord.	East Coord.		Elevation		
9,616.00	10,500.00		133	~~126'0"~~	~~47~~/D021/HHD029B
9,570.00	~~10,260.33~~	10,299.00	133	~~126'0"~~	~~48~~/D023/HHD029C
9,570.00	10,012.50		133	~~126'0"~~	~~51~~/D024/HHD029D
~~9,795.00~~	9,798.00		133	~~126'0"~~	~~60~~/D025/HHD029E
10,112.50	9,753.92		133	~~126'0"~~	~~107~~/D010/HHD029G
9,886.00	9,758.25		133	~~126'0"~~	~~116~~/D009/HHD029Q
9,641.00	9,766.25		133	~~126'0"~~	~~125~~/D008/HHD029F
10,097.12	10,500.00		133	~~126'0"~~	~~26~~/D019/HHD029I
9,871.87	~~10,543.33~~	10,534.33	133	~~126'0"~~	~~29~~/D020/HHD029A

5. (GGNS-688)

INSTRUMENTATION

FIRE DETECTION INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.7.9 As a minimum, the fire detection instrumentation for each fire detection zone shown in Table 3.3.7.9-1 shall be OPERABLE.

APPLICABILITY: Whenever equipment protected by the fire detection instrument is required to be OPERABLE.

ACTION:

With the number of OPERABLE fire detection instruments less than the Minimum Instruments OPERABLE requirement of Table 3.3.7.9-1:

a. Within 1 hour, establish a fire watch patrol to inspect the zone(s) with the inoperable instrument(s) at least once per hour, unless the instrument(s) is located inside the containment, or drywell, or steam tunnel, then inspect the primary containment at least once per 8 hours or monitor the containment, ~~and/or~~ drywell, or steam tunnel air temperature at least once per hour at the locations listed in Specification 4.6.1.8, and 4.6.2.6, and 3.7.8.

b. Restore the minimum number of instruments to OPERABLE status within 14 days or, in lieu of any other report required by Specification 6.9.1, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within 30 days outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the instrument(s) to OPERABLE status.

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

SURVEILLANCE REQUIREMENTS

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

4.3.7.9.2 The NFPA Standard 72D supervised circuits supervision associated with the detector alarms of each of the above required fire detection instruments shall be demonstrated OPERABLE at least once per 6 months.

5. (GGNS-688)

TABLE 3.7.8-1

AREA TEMPERATURE MONITORING

	AREA	TEMPERATURE LIMIT (°F) EQUIPMENT NOT OPERATING	EQUIPMENT OPERATING
a.	Containment		
	Inside Drywell	135	150
	CRD Cavity	135	185
	Outside Drywell	80	105
	Steam Tunnel	125	125
b.	Auxiliary Building		
	General	104	104
	ECCS Rooms	105	150
	ESF Electrical Rooms	104	104
	Steam Tunnel	125	125
c.	Control Building		
	ESF Switchgear and Battery Rooms	104	104
	Control Room	77	77
d.	Diesel Generator Rooms	125	125
e.	SSW Pumphouse	104*	104*

*For this area, the limit shall be the greater of 104°F or outside ambient temperature plus 20°F, not to exceed 122°F for greater than one hour.

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

~~4.7.7.2 Each of the above required fire doors shall be verified OPERABLE by:~~

~~a. Verifying the position of each closed fire door at least once per 24 hours.~~

~~b. Verifying that doors with automatic hold-open and release mechanisms are free of obstructions at least once per 24 hours.~~

~~c. Verifying the position of each locked closed fire door at least once per 7 days.~~

~~d. Verifying OPERABILITY of the fire door supervision system by performing a CHANNEL FUNCTIONAL TEST at least once per 31 days.~~

~~e. Inspecting the automatic hold-open, release and closing mechanism and latches at least once per 6 months.~~

4.7.7.2 Each of the above required fire doors shall be verified OPERABLE by inspecting the automatic hold-open, release and closing mechanism and latches (if applicable) at least once per 6 months, and by verifying:

a. The OPERABILITY of the fire door supervision system for each electrically supervised fire door by performing a CHANNEL FUNCTIONAL TEST at least once per 31 days.

b. That each locked-closed fire door is closed at least once per 7 days.

c. That doors with automatic hold-open and release mechanisms are free of obstructions at least once per 24 hours and performing a functional test of these mechanisms at least once per 18 months.

d. That each unlocked fire door without electrical supervision is closed at least once per 24 hours.

7. (GGNS-479,480,486)

ELECTRICAL POWER SYSTEMS

REACTOR PROTECTION SYSTEM ELECTRIC POWER MONITORING

LIMITING CONDITION FOR OPERATION

3.8.4.3 Two RPS electric power monitoring assemblies for each inservice RPS MG set or alternate power supply shall be OPERABLE.

APPLICABILITY: At all times.

ACTION:

a. With one RPS electric power monitoring assembly for an inservice RPS MG set or alternate power supply inoperable, restore the inoperable power monitoring system to OPERABLE status within 72 hours or remove the associated RPS MG set or alternate power supply from service.

b. With both RPS electric power monitoring assemblies for an inservice RPS MG set or alternate power supply inoperable, restore at least one electric power monitoring assembly to OPERABLE status within 30 minutes or remove the associated RPS MG set or alternate power supply from service.

SURVEILLANCE REQUIREMENTS

4.8.4.3 The above specified RPS electric power monitoring assemblies shall be determined OPERABLE:

a. At least once per six months by performance of a CHANNEL FUNCTIONAL TEST, and

b. At least once per 18 months by demonstrating the OPERABILITY of over-voltage, under-voltage and under-frequency protective instrumentation by performance of a CHANNEL CALIBRATION including simulated automatic actuation of the protective relays, tripping logic and output circuit breakers and verifying the following setpoints:

1. Over-voltage ≤ 132 VAC ~~132 + 0, - 2.5 VAC~~,
2. Under-voltage ≥ 117 VAC ~~117 + 2.5, - 0 VAC~~, and
3. Under-frequency ≥ 57 HZ ~~57 + 2.0, - 0 Hz.~~

PLANT SYSTEMS

SPRAY AND/OR SPRINKLER SYSTEMS

LIMITING CONDITION FOR OPERATION

3.7.6.2 ~~Diesel generator A, B, and C automatic pre-action systems # N1P64D142 A, B and C shall be OPERABLE~~.

INSERT >

APPLICABILITY: Whenever equipment protected by the spray/sprinkler systems is required to be OPERABLE.

ACTION:

a. With one or more of the above required spray and/or sprinkler systems inoperable, within one hour establish a continuous fire watch with backup fire suppression equipment for those areas in which redundant systems or components could be damaged; for other areas, establish an hourly fire watch patrol. Restore the system to OPERABLE status within 14 days or, in lieu of any other report required by Specification 6.9.1, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.

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

SURVEILLANCE REQUIREMENTS

4.7.6.2 The above required spray and sprinkler systems shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying that each valve, manual, power operated or automatic, in the flow path is in its correct position.

b. At least once per 12 months by cycling each testable valve in the flow path through at least one complete cycle of full travel.

c. At least once per 18 months:

1. By performing a system functional test which includes simulated automatic actuation of the system, and: (if applicable)

a) Verifying that the automatic valves in the flow path actuate to their correct positions on a test signal, and

b) Cycling each valve in the flow path that is not testable during plant operation through at least one complete cycle of full travel.

2. By a visual inspection of the dry pipe spray and sprinkler headers to verify their integrity.

(if applicable)

8. (GGNS-26)

Insert pg 3/4 7-31

3.7.6.2 The following spray/sprinkler systems shall be operable:

a. Diesel Generator Building

1. Diesel Generator A pre-action sprinkler system N1P64D142A
2. Diesel Generator B pre-action sprinkler system N1P64D142B
3. Diesel Generator C pre-action sprinkler system N1P64D142C

b. Auxiliary Building

1. Elevation 93'/103' Northeast Corridor N1P64D150
2. Elevation 119' Northeast Corridor N1P64D151
3. Elevation 139' Northeast Corridor N1P64D152
4. Elevation 166' Northeast Corridor N1P64D153
5. Elevation 119' West Corridor N1P64D158
6. Elevation 139' West Corridor N1P64D159

C. Control Building

1. Elevation 148' Lower Cable Room N1P64D154
2. Elevation 189' Upper Cable Room N1P64D155
3. Elevation 93' N1P64D140

D. Fire Pump House N5P64-D136 A/B

9. (GGNS-X09)

6.5.2 SAFETY REVIEW COMMITTEE (SRC)

FUNCTION

6.5.2.1 The SRC shall function to provide independent review and audit of designated activities in the areas of:

a. nuclear power plant operations
b. nuclear engineering
c. chemistry and radiochemistry
d. metallurgy
e. instrumentation and control
f. radiological safety
g. mechanical and electrical engineering
h. quality assurance practices

COMPOSITION

6.5.2.2 The SRC shall be composed of the:

Chairman:	~~Assistant Vice President for Nuclear Production~~ Vice President - Nuclear
Member:	Manager of Nuclear Plant Engineering
Member:	Manager of Quality Assurance
Member:	~~Manager of System Nuclear Operations~~, Middle South Services, Inc. ← Designated Representative
Member:	Nuclear Plant Manager
Member:	Manager of Nuclear Services
Member:	~~Corporate Health Physicist~~ → MANAGER OF RADIOLOGICAL AND ENVIRONMENTAL SERVICES
Member:	Principal Engineer, Operations Analysis
Member:	Advisor to the ~~Assistant~~ Vice-President, Nuclear ~~Operations~~

PCOL 83/03 X02

Two or more additional voting members shall be consultants to Mississippi Power and Light Company consistent with the recommendations of the Advisory Committee on Reactor Safeguards letter, Mark to Palladino dated October 20, 1981.

The SRC members shall hold a Bachelor's degree in an engineering or physical science field or equivalent experience and a minimum of five years of technical experience of which a minimum of three years shall be in one or more of the disciplines of 6.5.2.1a through h. In the aggregate, the membership of the committee shall provide specific practical experience in the majority of the disciplines of 6.5.2.1a through h.

ALTERNATES

6.5.2.3 All alternate members shall be appointed in writing by the SRC Chairman to serve on a temporary basis; however, no more than two alternates shall participate as voting members in SRC activities at any one time.

PCOL 83/03 X02

~~*Non-voting member.~~

4.8.1.1.1 Each of the above required independent circuits between the offsite transmission network and the onsite Class 1E distribution system shall be:

a. Determined OPERABLE at least once per 7 days by verifying correct breaker alignments and indicated power availability, and

b. Demonstrated OPERABLE at least once per 18 months during shutdown by transferring, manually ~~and automatically~~, unit power supply from the normal circuit to the alternate circuit.

8/10/09 JS

4.8.1.1.2 Each of the above required diesel generators shall be demonstrated OPERABLE:

a. In accordance with the frequency specified in Table 4.8.1.1.2-1 on a STAGGERED TEST BASIS by:

1. Verifying the fuel level in the day tank.

2. Verifying the fuel level in the fuel storage tank.

3. Verifying the fuel transfer pump starts and transfers fuel from the storage system to the day tank.

4. Verifying the diesel starts from ambient condition and accelerates to at least 441 rpm for diesel generators 11 and 12 and 882 rpm for diesel generator 13 in less than or equal to 10 seconds. The generator voltage and frequency shall be 4160 ± 416 volts and 60 ± 1.2 Hz within 10 seconds after the start signal. The diesel generator shall be started for this test by using one of the following signals:

a) Manual.

b) Simulated loss of offsite power by itself.

c) Simulated loss of offsite power in conjunction with an ESF actuation test signal.

d) An ESF actuation test signal by itself.

5. Verifying the diesel generator is synchronized, loaded to greater than or equal to 7000 ~~3500~~ kW for diesel generators 11 and 12 and 3300 ~~1650~~ kW for diesel generator 13 in less than or equal to 60 seconds, and operates with these loads for at least 60 minutes.

6. Verifying the diesel generator is aligned to provide standby power to the associated emergency busses.

7. Verifying the pressure in all diesel generator air start receivers to be greater than or equal to:

a) 160 psig for diesel generator 11 and 12, and

b) 175 psig for diesel generator 13.

b. At least once per 31 days and after each operation of the diesel where the period of operation was greater than or equal to 1 hour by checking for and removing accumulated water from the day fuel tanks.

11. (GGNS - 759,546)

TABLE 4.3.7.5-1

ACCIDENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

	INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION	
1.	Reactor Vessel Pressure	M	R	
2.	Reactor Vessel Water Level	M	R	
3.	Suppression Pool Water Level	M	R	
4.	Suppression Pool Water Temperature	M	R	
5.	Drywell/Containment Differential Pressure	M	R	
6.	Drywell Pressure	M	R	
7.	Drywell and Control Rod Cavity Temperature	M	R	
8.	Containment Hydrogen Concentration Analyzer and Monitor	NA	M R*	545
9.	Drywell Hydrogen Concentration Analyzer and Monitor	NA	M R*	545
10.	Containment Pressure	M	R	
11.	Containment Air Temperature	M	R	
12.	Safety/Relief Valve Tail Pipe Pressure Switch Position Indicators	M	R	
13.	Containment/Drywell Area Monitors	M	R**	757
14.	Containment Ventilation Monitor	M	R	
15.	Off-gas and Radwaste Bldg. Ventilation Monitor	M	R	
16.	Fuel Handling Area Ventilation Monitor	M	R	
17.	Turbine Bldg. Ventilation Monitor	M	R	
18.	Standby Gas Treatment System A & B Exhaust Monitors	M	R	757

*Using sample gas containing:

a. One volume percent hydrogen, remainder nitrogen.
b. Four volume percent hydrogen, remainder nitrogen.

** The CHANNEL CALIBRATION shall consist of an electronic calibration of the channel, not including the detector, for range decades above 10 R/hr and a one point calibration check of the detector below 10 R/hr with an installed or portable gamma source.

12. (GGNS - 759, 546)

TABLE 4.3.7.5-1

ACCIDENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

	INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION
1.	Reactor Vessel Pressure	M	R
2.	Reactor Vessel Water Level	M	R
3.	Suppression Pool Water Level	M	R
4.	Suppression Pool Water Temperature	M	R
5.	Drywell/Containment Differential Pressure	M	R
6.	Drywell Pressure	M	R
7.	Drywell and Control Rod Cavity Temperature	M	R
8.	Containment Hydrogen Concentration Analyzer and Monitor	NA	M R*
9.	Drywell Hydrogen Concentration Analyzer and Monitor	NA	M R*
10.	Containment Pressure	M	R
11.	Containment Air Temperature	M	R
12.	Safety/Relief Valve Tail Pipe Pressure Switch Position Indicators	M	R
13.	Containment/Drywell Area Monitors	M	R**
14.	Containment Ventilation Monitor	M	R
15.	Off-gas and Radwaste Bldg. Ventilation Monitor	M	R
16.	Fuel Handling Area Ventilation Monitor	M	R
17.	Turbine Bldg. Ventilation Monitor	M	R
18.	Standby Gas Treatment System A & B Exhaust Monitors	M	R

546

454

454

*Using sample gas containing:

a. One volume percent hydrogen, remainder nitrogen.
b. Four volume percent hydrogen, remainder nitrogen.

** The CHANNEL CALIBRATION shall consist of an electronic calibration of the channel, not including the detector, for range decades above 10 R/hr and a one point calibration check of the detector below 10 R/hr with an installed or portable gamma source.

13. (GGNS-792)

LIMITING CONDITION FOR OPERATION (Continued)

ACTION (Continued)

2. If the inoperable control rod(s) is inserted, within one hour disarm the associated directional control valves** either:

   a) Electrically, or

   b) Hydraulically by closing the drive water and exhaust water isolation valves.

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

3. The provisions of Specification 3.0.4 are not applicable.

c. With more than 8 control rods inoperable, be in at least HOT SHUTDOWN within 12 hours.

SURVEILLANCE REQUIREMENTS

4.1.3.1.1 The scram discharge volume drain and vent valves shall be demonstrated OPERABLE by:

a. At least once per 31 days verifying each valve to be open,* and

b. At least once per 92 days cycling each valve through at least one complete cycle of full travel.

4.1.3.1.2 When above the low power setpoint of the RPCS, all withdrawn control rods not required to have their directional control valves disarmed electrically or hydraulically shall be demonstrated OPERABLE by moving each control rod at least one notch:

a. At least once per 7 days, and

b. At least once per 24 hours when any control rod is immovable as a result of excessive friction or mechanical interference.

4.1.3.1.3 All control rods shall be demonstrated OPERABLE by performance of Surveillance Requirements 4.1.3.2, 4.1.3.3, 4.1.3.4 and 4.1.3.5.

---

* These valves may be closed intermittently for testing under administrative controls.

** May be rearmed intermittently, under administrative control, to permit testing associated with restoring the control rod to OPERABLE status.

13. (GGNS-792)

SURVEILLANCE REQUIREMENTS (Continued)

4.1.3.1.4 The scram discharge volume shall be determined OPERABLE by demonstrating:

a. * The scram discharge volume drain and vent valves OPERABLE, when control rods are scram tested from a normal control rod configuration of less than or equal to 50% ROD DENSITY at least once per 18 months, by verifying that the drain and vent valves:

1. Close within 30 seconds after receipt of a signal for control rods to scram, and

2. Open when the

~~a)~~ Scram signal is reset.

~~b) Trip signal is bypassed.~~

PCOL 83/12 867

b. Proper level sensor response by performance of a CHANNEL FUNCTIONAL TEST of the scram discharge volume scram and control rod block level instrumentation at least once per 31 days.

* The provisions of Specification 4.0.4 are not applicable provided the surveillance requirement is performed prior to exceeding 10% of RATED THERMAL POWER.

3/4.6.6 SECONDARY CONTAINMENT

Secondary containment is designed to minimize any ground level release of radioactive material which may result from an accident. The Auxiliary Building and Enclosure Building provide secondary containment during normal operation when the containment is sealed and in service. When the reactor is in COLD SHUTDOWN or REFUELING, the containment may be open and the Auxiliary Building and Enclosure Building then become the only containment.

Establishing and maintaining a vacuum in the Auxiliary Building and Enclosure Building with the standby gas treatment system once per 18 months, along with the surveillance of the doors, latches, dampers and valves, is adequate to ensure that there are no violations of the integrity of the secondary containment.

The OPERABILITY of the standby gas treatment systems ensures that sufficient iodine removal capability will be available in the event of a LOCA. The reduction in containment iodine inventory reduces the resulting site boundary radiation doses associated with containment leakage. The operation of this system and resultant iodine removal capacity are consistent with the assumptions used in the LOCA analyses. Cumulative operation of the system with the heaters OPERABLE for 10 hours over a 31 day period is sufficient to reduce the buildup of moisture on the absorbers and HEPA filters.

3/4.6.7 ATMOSPHERE CONTROL

The OPERABILITY of the systems required for the detection and control of hydrogen gas ensures that these systems will be available to maintain the hydrogen concentration within the containment below its flammable limit during post-LOCA conditions. The hydrogen recombiner and the hydrogen ignition systems are capable of controlling the expected hydrogen generation associated with (1) zirconium-water reactions, (2) radiolytic decomposition of water and (3) corrosion of metals within containment.

Two 100% drywell purge systems are the primary means of H_2 control within the drywell purging hydrogen produced following a LOCA into the containment volume. Hydrogen generated from the metal-water reaction and radiolysis is assumed to evolve to the drywell atmosphere and form a homogenous mixture through natural forces and mechanical turbulence (ECCS pipe break flow). The drywell purge system forces drywell atmosphere through the horizontal vents and into the containment and as a result no bypass path exists.

The hydrogen control system is consistent with the recommendations of Regulatory Guide 1.7, "Control of Combustible Gas Concentrations in Containment Following a LOCA", March 1971.

The operability of at least 41 of 45 ignitors in either hydrogen ignition subsystem will maintain an effective coverage throughout the containment and drywell. Each subsystem of ignitors will initiate combustion of any significant amount of hydrogen released after a degraded core accident. This system will ensure burning in a controlled manner as the hydrogen is released instead of allowing it to be ignited at high concentrations by a random ignition source.

The surveillance testing for verifying heat dissipation for the Standby Gas Treatment System heaters is performed in accordance with ANSI N510-1975 with the exception of an exemption granted from meeting the 5% current phase balance criteria of Section 14.2.3.

14. (GGNS -87)

3/4.7 PLANT SYSTEMS

BASES

3/4.7.1 SERVICE WATER SYSTEMS

The OPERABILITY of the service water systems ensures that sufficient cooling capacity is available for continued operation of safety-related equipment during normal and accident conditions. The redundant cooling capacity of these systems, assuming a single failure, is consistent with the assumptions used in the accident conditions within acceptable limits.

3/4.7.2 CONTROL ROOM EMERGENCY FILTRATION SYSTEM

The OPERABILITY of the control room emergency filtration system ensures that the control room will remain habitable for operations personnel during and following all design basis accident conditions. Cumulative operation of the system for 10 hours with the heaters OPERABLE over a 31 day period is sufficient to reduce the buildup of moisture on the adsorbers and HEPA filters. The OPERABILITY of this system in conjunction with control room design provisions is based on limiting the radiation exposure to personnel occupying the control room to 5 rem or less whole body, or its equivalent. This limitation is consistent with the requirements of General Design Criteria 19 of Appendix "A", 10 CFR Part 50.

3/4.7.3 REACTOR CORE ISOLATION COOLING SYSTEM

The reactor core isolation cooling (RCIC) system is provided 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 requiring actuation of any of the Emergency Core Cooling System equipment. The RCIC system is conservatively required to be OPERABLE whenever reactor pressure exceeds 135 psig even though the LPCI mode of the residual heat removal (RHR) system provides adequate core cooling up to 225 psig.

The RCIC system specifications are applicable during OPERATIONAL CONDITIONS 1, 2 and 3 when reactor vessel pressure exceeds 135 psig because RCIC is the primary non-ECCS source of emergency core cooling when the reactor is pressurized.

With the RCIC system inoperable, adequate core cooling is assured by the OPERABILITY of the HPCS system and justifies the specified 14 day out-of-service period.

The surveillance requirements provide adequate assurance that RCICS will be OPERABLE when required. Although all active components are testable and full flow can be demonstrated by recirculation during reactor operation, a complete functional test requires reactor shutdown. The pump discharge piping is maintained full to prevent water hammer damage and to start cooling at the earliest possible moment.

The surveillance testing for verifying heat dissipation for the Control Room Emergency Filtration System heaters is performed in accordance with ANSI N510-1975 with the exception of an exemption granted from meeting the 5% current phase balance criteria of Section 14.2.3

TABLE 3.3.3-1 (Continued)

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION

TRIP FUNCTION	MINIMUM OPERABLE CHANNELS PER TRIP FUNCTION(a)	APPLICABLE OPERATIONAL CONDITIONS	ACTION
C. DIVISION 3 TRIP SYSTEM			
1. HPCS SYSTEM			
a. Reactor Vessel Water Level - Low, Low, Level 2	4(b)	1, 2, 3, 4*, 5*	33
b. Drywell Pressure - High ###	4(b)	1, 2, 3	33
c. Reactor Vessel Water Level-High, Level 8	2(c)	1, 2, 3, 4*, 5*	31
d. Condensate Storage Tank Level-Low	2(d)	1, 2, 3, 4*, 5*	34
e. Suppression Pool Water Level-High	2(d)	1, 2, 3, 4*, 5*	34
f. Manual Initiation ###	1/system	1, 2, 3, 4*, 5*	32
D. LOSS OF POWER			
1. Division 1 and 2			
a. 4.16 kV Bus Undervoltage (Loss of Voltage)	4	1, 2, 3, 4**, 5**	30
b. 4.16 kV Bus Undervoltage (BOP Load Shed)	4	1, 2, 3, 4**, 5**	30
c. 4.16 kV Bus Undervoltage (Degraded Voltage)	4	1, 2, 3, 4**, 5**	30
2. Division 3			
a. 4.16 kV Bus Undervoltage (Loss of Voltage)	4	1, 2, 3, 4**, 5**	30

(a) A channel may be placed in an inoperable status for up to 2 hours during periods of 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.
(b) Also actuates the associated division diesel generator.
(c) Provides signal to close HPCS pump discharge valve only.
(d) Provides signal to HPCS pump suction valves only.
(e) One out-of-two taken.
* Applicable when the system is required to be OPERABLE per Specification 3.5.2 or 3.5.3.
** Required when ESF equipment is required to be OPERABLE.
# Not required to be OPERABLE when reactor steam dome pressure is less than or equal to 135 psig.
The provisions of Specification 4.0.4 are not applicable for the portion of the surveillance that requires valve opening provided the surveillance is performed within 12 hours after reactor steam pressure is adequate to perform the test.

15. (GGNS-828)

Rec. 8/10/90 708

15. (GGNS-828)

TABLE 3.3.3-1 (Continued)

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION

NOTATION

Until restart after the first refueling outage, the following note shall apply: with indicated reactor vessel water level on the wide range instrument above the Level 8 setpoint, and the reactor pressure less than 1025 psig, the injection function of Drywell Pressure-High and Manual Initiation are not required to be OPERABLE.

TABLE 4.3.3.1-1 (Continued)

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION SURVEILLANCE REQUIREMENTS

TRIP FUNCTION	CHANNEL CHECK	CHANNEL FUNCTIONAL TEST	CHANNEL CALIBRATION	OPERATIONAL CONDITIONS FOR WHICH SURVEILLANCE REQUIRED
B. DIVISION 2 TRIP SYSTEM (Continued)				
2. AUTOMATIC DEPRESSURIZATION SYSTEM TRIP SYSTEM "B"#				
a. Reactor Vessel Water Level - Low Low Low, Level 1	S	M	R(a)	1, 2, 3
b. Drywell Pressure-High	S	M	R(a)	1, 2, 3
c. ADS Timer	NA	M	Q	1, 2, 3
d. Reactor Vessel Water Level - Low, Level 3	S	M	R(a)	1, 2, 3
e. LPCI Pump B and C Discharge Pressure-High	S	M	R(a)	1, 2, 3
f. Manual Initiation	NA	R M(b)	NA	1, 2, 3
C. DIVISION 3 TRIP SYSTEM				
1. HPCS SYSTEM				
a. Reactor Vessel Water Level - Low Low, Level 2	S	M	R(a)	1, 2, 3, 4*, 5*
b. Drywell Pressure-High ##	S	M	R(a)	1, 2, 3
c. Reactor Vessel Water Level-High, Level 8	S	M	R(a)	1, 2, 3, 4*, 5*
d. Condensate Storage Tank Level - Low	S	M	R(a)	1, 2, 3, 4*, 5*
e. Suppression Pool Water Level - High	S	M	R(a)	1, 2, 3, 4*, 5*
f. Manual Initiation ##	NA	R M(b)	NA	1, 2, 3, 4*, 5*
D. LOSS OF POWER				
1. Division 1 and 2				
a. 4.16 kV Bus Undervoltage (Loss of Voltage)	NA	M	R	1, 2, 3, 4**, 5**
b. 4.16 kV Bus Undervoltage (BOP Load Shed)	NA	M	R	1, 2, 3, 4**, 5**
c. 4.16 kV Bus Undervoltage (Degraded Voltage)	NA	M	R	1, 2, 3, 4**, 5**
2. Division 3				
a. 4.16 kV Bus Undervoltage (Loss of Voltage)	NA	NA	R	1, 2, 3, 4**, 5**

PJ/12 63 243

PJ/12 63 243

L5.(GGNS-828)

TABLE 4.3.3.1-1 (Continued)

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION
SURVEILLANCE REQUIREMENTS

NOTATION

\# Not required to be OPERABLE when reactor steam dome pressure is less than or equal to 135 psig.

* When the system is required to be OPERABLE, ~~after being manually realigned, as applicable,~~ per Specification 3.5.2, or 3.5.3 (Applicable)

** Required when ESF equipment is required to be OPERABLE.

(a) Calibrate trip unit at least once per 31 days.

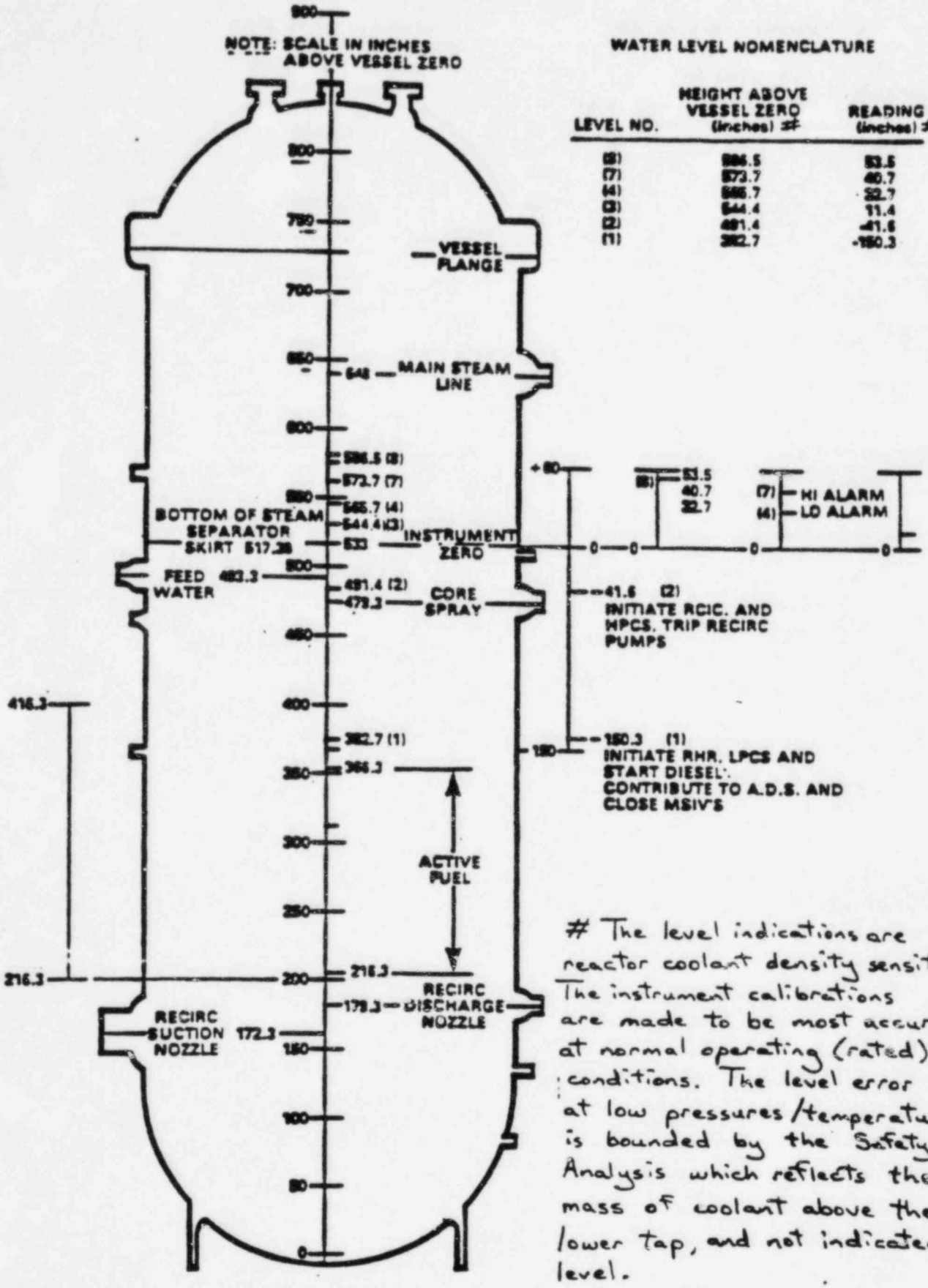
~~(b) Manual initiation switches shall be tested at least once per 18 months during shutdown. All other circuitry associated with manual initiation shall receive a CHANNEL FUNCTIONAL TEST at least once per 31 days as a part of circuitry required to be tested for automatic system actuation.~~

~~(c) Manual initiation test shall include verification of the OPERABILITY of the LPCS and LPCI injection valve interlocks.~~

~~(d) This calibration shall consist of the CHANNEL CALIBRATION of the LPCS and LPCI injection valve interlocks with the interlock setpoint verified to be < 150 psig.~~

HCOL 82/03 249 — 83/12 63, 655

\#\# Until restart after the first refueling outage, the following note shall apply: with indicated reactor vessel water level on the wide range instrument above the Level 8 setpoint, and the reactor pressure less than 1025 psig, the injection function of Drywell Pressure-High and Manual Initiation is not required to be OPERABLE.



The level indications are reactor coolant density sensitive. The instrument calibrations are made to be most accurate at normal operating (rated) conditions. The level error at low pressures/temperatures is bounded by the Safety Analysis which reflects the mass of coolant above the lower tap, and not indicated level.

Bases Figure B 3/4 3-1

REACTOR VESSEL WATER LEVEL