

MARK-UP OF TECHNICAL SPECIFICATION PAGES

ACCIDENT MONITORING INSTRUMENTATION

(GGNS PCOL-93/09)

TABLE 3.3.7.5-1  
ACCIDENT MONITORING INSTRUMENTATION

INSTRUMENT	APPLICABLE OPERATIONAL CONDITIONS	REQUIRED NUMBER OF CHANNELS	MINIMUM CHANNELS OPERABLE	ACTION
1. Reactor Vessel Pressure	1, 2, 3	2	1	80
2. Reactor Vessel Water Level	1, 2, 3, 4, 5	2	1	82
3. Suppression Pool Water Level	1, 2, 3	2	1	80
4. Suppression Pool Water Temperature	1, 2, 3	6, 1/sector	6, 1/sector	80
5. Drywell/Containment Differential Pressure	1, 2, 3	2	1	80
6. Drywell Pressure	1, 2, 3	2	1	80
7. Drywell and Control Rod Drive Cavity Temperature	1, 2, 3	2 (each)	1 (each)	80
8. Containment Hydrogen Concentration Analyzer and Monitor	1, 2, 3	2	1	83
9. Drywell Hydrogen Concentration Analyzer and Monitor	1, 2, 3	2	1	83
10. Containment Pressure (wide and narrow range)	1, 2, 3	2 (each)	1 (each)	80
11. Containment Air Temperature	1, 2, 3	2	1	80
12. Safety/Relief Valve Tail Pipe Pressure Switch Position Indicators	1, 2, 3	1/valve	1/valve	80
13. Containment/Drywell Area Radiation Monitors	1, 2, 3, 4, 5	2 <sup>#</sup>	2 <sup>#</sup>	81
14. Containment Ventilation Exhaust Radiation Monitor	1, 2, 3, 4, 5	1	1	81
15. Off-gas and Radwaste Bldg. Ventilation Exhaust Radiation Monitor	1, 2, 3, 4, 5	1	1	81
16. Fuel Handling Area Ventilation Exhaust Radiation Monitor	1, 2, 3, 4, 5	1	1	81
17. Turbine Bldg. Ventilation Exhaust Radiation Monitor	1, 2, 3	1	1	81
18. Standby Gas Treatment System A & B Exhaust Radiation Monitors	*	1/each	1/each	81

<sup>#</sup>Each for containment and drywell.

\*When its associated train of the standby gas treatment system is required operable (Ref. 3.6.6.3).

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
Deleted	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*
	9. Drywell Hydrogen Concentration Analyzer and Monitor	NA	M*
	10. Containment Pressure	M	R
	11. Containment Air Temperature	M	R
Deleted	12. Safety/Relief Valve Tail Pipe Pressure Switch Position Indicators	M	R
	13. Containment/Drywell Area Radiation Monitors	M	R**
	14. Containment Ventilation Exhaust Radiation Monitor	M	A
Deleted	15. Off-gas and Radwaste Bldg. Ventilation Exhaust Radiation Monitor	M	A
	16. Fuel Handling Area Ventilation Exhaust Radiation Monitor	M	A
	17. Turbine Bldg. Ventilation Exhaust Radiation Monitor	M	A
Deleted	18. Standby Gas Treatment System A & B Exhaust Radiation Monitors	M	A

\*Using sample gas containing:

- One volume percent hydrogen, remainder nitrogen.
- 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 10R/hr and a one point calibration check of the detector below 10R/hr with an installed or portable gamma source.

## REACTOR COOLANT SYSTEM

### 3/4.4.2 SAFETY VALVES

#### SAFETY/RELIEF VALVES

#### LIMITING CONDITION FOR OPERATION

3.4.2.1 For the following safety/relief valves:

- 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
- The safety/relief tail-pipe pressure switches for each safety/relief valve shall be OPERABLE.

<u>Number of Valves</u>	<u>Function</u>	<u>Setpoint* (psig)</u>
8	Safety	1165 $\pm$ 11.6 psi
6	Safety	1180 $\pm$ 11.8 psi
6	Safety	1190 $\pm$ 11.9 psi
1	Relief	1103 $\pm$ 15 psi
10 <sup>#</sup>	Relief	1113 $\pm$ 15 psi
9	Relief	1123 $\pm$ 15 psi

Deleted

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2 and 3.

#### ACTION:

- 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.
- 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.
- 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.
- 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.

Deleted

#### SURVEILLANCE REQUIREMENTS

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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  $\pm$  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  $\pm$  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

### REACTOR COOLANT SYSTEM

#### SURVEILLANCE REQUIREMENTS

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- 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.

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\* 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.

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ACCIDENT MONITORING INSTRUMENTATION

(GGNS PCOL-93/09)

TABLE 3.3.7.5-1  
ACCIDENT MONITORING INSTRUMENTATION

<u>INSTRUMENT</u>	<u>APPLICABLE OPERATIONAL CONDITIONS</u>	<u>REQUIRED NUMBER OF CHANNELS</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>ACTION</u>
1. Reactor Vessel Pressure	1, 2, 3	2	1	80
2. Reactor Vessel Water Level	1, 2, 3, 4, 5	2	1	82
3. Suppression Pool Water Level	1, 2, 3	2	1	80
4. Suppression Pool Water Temperature	1, 2, 3	6, 1/sector	6, 1/sector	80
5. Deleted				
6. Drywell Pressure	1, 2, 3	2	1	80
7. Drywell and Control Rod Drive Cavity Temperature	1, 2, 3	2 (each)	1 (each)	80
8. Containment Hydrogen Concentration Analyzer and Monitor	1, 2, 3	2	1	83
9. Drywell Hydrogen Concentration Analyzer and Monitor	1, 2, 3	2	1	83
10. Containment Pressure (wide and narrow range)	1, 2, 3	2 (each)	1 (each)	80
11. Containment Air Temperature	1, 2, 3	2	1	80
12. Deleted				
13. Containment/Drywell Area Radiation Monitors	1, 2, 3, 4, 5	2 <sup>#</sup>	2 <sup>#</sup>	81
14. Deleted				
15. Deleted				
16. Deleted				
17. Deleted				
18. Deleted				

#Each for containment and drywell.

TABLE 4.3.7.5-1

ACCIDENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>INSTRUMENT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>
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. Deleted		
6. Drywell Pressure	M	R
7. Drywell and Control Rod Cavity Temperature	M	R
8. Containment Hydrogen Concentration Analyzer and Monitor	NA	M*
9. Drywell Hydrogen Concentration Analyzer and Monitor	NA	M*
10. Containment Pressure	M	R
11. Containment Air Temperature	M	R
12. Deleted		
13. Containment/Drywell Area Radiation Monitors	M	R**
14. Deleted		
15. Deleted		
16. Deleted		
17. Deleted		
18. Deleted		

\*Using sample gas containing:

- One volume percent hydrogen, remainder nitrogen.
- 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 10R/hr and a one point calibration check of the detector below 10R/hr with an installed or portable gamma source.

REACTOR COOLANT SYSTEM3/4.4.2 SAFETY VALVESSAFETY/RELIEF VALVESLIMITING 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
- b. Deleted

<u>Number of Valves</u>	<u>Function</u>	<u>Setpoint* (psig)</u>
8	Safety	1165 $\pm$ 11.6 psi
6	Safety	1180 $\pm$ 11.8 psi
6	Safety	1190 $\pm$ 11.9 psi
1	Relief	1103 $\pm$ 15 psi
10 <sup>#</sup>	Relief	1113 $\pm$ 15 psi
9	Relief	1123 $\pm$ 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 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. Deleted
- 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 Deleted

\* 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  $\pm$  15 psig due to low-low set

REACTOR COOLANT SYSTEM

SURVEILLANCE REQUIREMENTS (Continued)

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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.

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\*\* 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.

## REFERENCES

- 1) NUREG-1434, Revision 0 of the Improved Standard Technical Specifications.
- 2) NUREG-0578 "Status of Short term Recommendations"
- 3) Letter L. F. Dale (MP&L) to H. R. Denton (NRC) "Regulatory Guide 1.97 (Rev. 2) Position Report on Accident Monitoring Instrumentation" (AECM-85/0059 "
- 4) Letter L. F. Dale (MP&L) to H. R. Denton (NRC) "Response to Request for Additional Information on MP&L's Position Report on Regulatory Guide 1.97 (Rev. 2)
- 5) Letter L. L. Kintner (NRC) to O. D. Kingsley (SERI) dated January 12, 1987 "Conformance to Regulatory Guide 1.97, Revision 2"
- 6) NEDO-31466 "Technical Specification Screening Criteria Application and Risk Assessment"