

ATTACHMENT 3

ANNOTATED TECHNICAL SPECIFICATION PAGES AND REVISED BASES

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TABLE 3.3-9 (Continued)

REMOTE SHUTDOWN SYSTEM

<u>INSTRUMENT</u>	<u>READOUT LOCATION</u>	<u>TOTAL NO. OF CHANNELS</u>	<u>MINIMUM CHANNELS OPERABLE</u>
8. Auxiliary Feedwater Flow Rate	ASP-QDPS	4-1/steam generator	1/steam generator - 3 steam generators#
9. Auxiliary Feedwater Storage Tank Water Level	ASP-QDPS	3	2
10. Core Exit Thermocouples (DELETED)	ASP-QDPS	##	4 thermocouples/- core quadrant

<u>TRANSFER SWITCHES AND ASSOCIATED CONTROLS</u>	<u>TRANSFER SWITCH LOCATIONS</u>	<u>CONTROLS LOCATION</u>	<u>TOTAL NO. OF CHANNELS</u>	<u>MINIMUM CHANNELS OPERABLE</u>
1. Steam Generator PORVs	ZLP-653 (Train A) ZLP-654 (Train B) ZLP-655 (Train C) ASP (Train D)	ASP	4	2#
2. Reactor Head Vent Throttle Valves	ZLP-700 (Train A) ZLP-701 (Train B)	ASP	2	1
3. Reactor Head Vent Isolation Valves	ZLP-700 (Train A) ZLP-701 (Train B)	ASP	2 pair	1 pair
4. AFW Pumps and Valves	ZLP-653 (Train A-AFW Pump) ZLP-700 (Train A-AFW Valves) ZLP-654 (Train B-AFW Pump) ZLP-701 (Train B-AFW Valves) ZLP-655 (Train C-AFW Pump) ZLP-709 (Train C-AFW Valves) ASP (Train D)	ASP	4	2#

TABLE 3.3-9 (Continued)

REMOTE SHUTDOWN SYSTEM

<u>TRANSFER SWITCHES AND ASSOCIATED CONTROLS</u>	<u>TRANSFER SWITCH LOCATIONS</u>	<u>CONTROLS LOCATION</u>	<u>TOTAL NO. OF CHANNELS</u>	<u>MINIMUM CHANNELS OPERABLE</u>
12. EAB HVAC Fans (Continued)	ZLP-709 (Train C) ZLP-655 (Train C- Battery Room and Electrical Penetration Space Fans)	ZLP-709 (Train C) ZLP-655 (Train C- Battery Room and Electrical Penetration Space Fans)		
13. Reactor Containment Fan Coolers	ZLP-700 (Train A) ZLP-701 (Train B) ZLP-709 (Train C)	ZLP-700 (Train A) ZLP-701 (Train B) ZLP-709 (Train C)	6	3

*ASP - Auxiliary Shutdown Panel

**QDPS - Qualified Display Processing System

#Must be in the same OPERABLE RCS loop/secondary loop.

~~##A total of 50 thermocouples are provided with 25 thermocouples on each of two trains. Quadrants B and D have 6 thermocouples per train each. Quadrants A and C each have 6 thermocouples on one train and 7 thermocouples on the other train. The provisions of ACTION b. are not applicable as long as each quadrant has 4 thermocouples per train OPERABLE.~~

TABLE 4.3-6
REMOTE SHUTDOWN MONITORING INSTRUMENTATION
SURVEILLANCE REQUIREMENTS

<u>INSTRUMENT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>
1. Neutron Flux - Extended Range		
a. Startup Rate	M	R
b. Flux Level	M	R
2. Reactor Trip Breaker Indication	M	N.A.
3. Reactor Coolant Temperature- Wide Range		
a. Hot Leg	M	R
b. Cold Leg	M	R
4. Reactor Coolant Pressure- Wide Range/Extended Range	M	R
5. Pressurizer Water Level	M	R
6. Steam Line Pressure	M	R
7. Steam Generator Water Level-Wide Range	M	R
8. Auxiliary Feedwater Flow Rate	M	R
9. Auxiliary Feedwater Storage Tank Water Level	M	R
10. Core Exit Thermocouples (DELETED)	M	R

TABLE 3.3-10 (Continued)
ACCIDENT MONITORING INSTRUMENTATION

INSTRUMENT	TOTAL NO. OF CHANNELS	MINIMUM CHANNELS OPERABLE	ACTION
13. Containment Water Level (Narrow Range)	2	1	36
14. Containment Water Level (Wide Range)	3	1	37
15. Core Exit Thermocouples	**2	**1 4 thermocouples/core- quadrant	42
16. Steam Line Radiation Monitor	1/steam line	1/steam line	40
17. Containment - High Range Radiation Monitor	2	1	39
18. Reactor Vessel Water Level (RVWL)	2*	1*	41
19. Neutron Flux (Extended Range)	2	1	36
20. Containment Hydrogen Concentration	2	1	36
21. Containment Pressure (Extended Range)	2	1	36
22. Steam Generator Blowdown Radiation Monitor	1/blowdown line	1/blowdown line	40
23. Neutron Flux - Startup Rate (Extended Range)	2	1	36

*A channel is eight sensors in a probe. A channel is OPERABLE if four or more sensors, one or more in the upper section and three or more in the lower section, are OPERABLE.

**A total of 50 thermocouples are provided with 25 thermocouples on each of two trains. Quadrants B and D have 6 thermocouples per train each. Quadrants A and C each have 6 thermocouples on one train and 7 thermocouples on the other train. No ACTION is required as long as each quadrant has 4 thermocouples per train OPERABLE.

A channel is OPERABLE if at least two core exit thermocouples per core quadrant are OPERABLE, and at least one quadrant has at least four OPERABLE thermocouples.

TABLE 3.3-10 (Continued)

ACTION STATEMENTS (Continued)

- ACTION 39 - a. With the number of OPERABLE channels one less than the Total Number of Channels requirements, restore one inoperable channel to OPERABLE status within 7 days, or be in at least HOT SHUTDOWN within the next 12 hours.
- b. With the number of OPERABLE channels less than the Minimum Channels Operable requirements, restore at least one inoperable channel to OPERABLE status within 72 hours, or be in at least HOT SHUTDOWN within the next 12 hours.
- ACTION 40 - With the number of OPERABLE channels less than the Minimum Channels Operable requirements, restore at least one inoperable channel to OPERABLE status within 72 hours, or be in at least HOT SHUTDOWN within the next 12 hours.
- ACTION 41 - a. With the number of OPERABLE channels one less than the Required Number of Channels, either restore the system to OPERABLE status within 7 days if repairs are feasible without shutting down or prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within 30 days following the event outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.
- b. With the number of OPERABLE Channels one less than the Minimum Channels OPERABLE in Table 3.3-10, either restore the inoperable channel(s) to OPERABLE status within 48 hours if repairs are feasible without shutting down or:
1. Initiate an alternate method of monitoring the reactor vessel inventory;
 2. Prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within 30 days following the event outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status; and
 3. Restore the system to OPERABLE status at the next scheduled refueling.
- ACTION 42 - a. With the number of OPERABLE channels less than 4 thermocouples per quadrant per train, restore these thermocouples to OPERABLE status within 31 days, or be in at least HOT SHUTDOWN within the next 12 hours.
- b. With the number of OPERABLE channels less than 6 thermocouples per quadrant, restore these thermocouples to OPERABLE status within 7 days, or be in at least HOT SHUTDOWN within the next 12 hours.

REPLACE
WITH INSERT

INSERT FOR ACTION 42:

- a. With one required channel inoperable, restore the required channel to OPERABLE status within 30 days; otherwise, a report shall be prepared and submitted in accordance with Specification 6.9.2 within the next 14 days or as otherwise approved by the Region. The report shall outline the preplanned alternate method of monitoring, the cause of the inoperability, and the plans and schedule for restoring the instrumentation channels to OPERABLE status.
- b. With two required channels inoperable, restore one required channel to OPERABLE status within 7 days; otherwise, be in HOT STANDBY within 6 hours, and in HOT SHUTDOWN in the next 6 hours.

REVISED BASES

3/4.3.3.6 ACCIDENT MONITORING INSTRUMENTATION

The OPERABILITY of the accident monitoring instrumentation ensures that 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 Regulatory Guide 1.97, Revision 2, "Instrumentation for Light-Water-Cooled Nuclear Power Plants to Assess Plant Conditions During and Following an Accident," December 1980 and NUREG-0737, "Clarification of TMI Action Plan Requirements," November 1980. The instrumentation listed in Table 3.3-10 corresponds to the Category 1 instrumentation for which selection, design, qualification and display criteria are described in Regulatory Guide 1.97, Revision 2.

Consistent with the requirements of NUREG-0737, an evaluation was made of the minimum number of valid core exit thermocouples necessary for measuring core cooling. The evaluation determined the reduced complement of core exit thermocouples necessary to detect initial core recovery and trend the ensuing core heatup. Based on this evaluation, adequate core cooling is ensured with two valid core exit thermocouple channels per quadrant with two core exit thermocouples per required channel. The core exit thermocouple pair are oriented radially to permit evaluation of core radial decay power distribution. Core exit temperature is used to determine whether to terminate Safety Injection, if still in progress, or to reinitiate Safety Injection if it has been stopped. Core exit temperature is also used for unit stabilization and cooldown control.

Two OPERABLE channels of core exit thermocouples are required in each quadrant to provide indication of radial distribution of the coolant temperature rise across representative regions of the core. Two randomly selected thermocouples are not sufficient to meet the two thermocouples per channel requirement in any quadrant. The two thermocouples in each channel must meet the additional requirement that one is located near the center of the core and the other near the core perimeter, such that the pair of core exit thermocouples indicate the radial temperature gradient across their core quadrant. The unit specific response to Item II.F.2 of NUREG-0737 further discusses the core exit thermocouples. Two sets of two thermocouples ensure a single failure will not disable the ability to determine the radial temperature gradient. The subcooling margin monitor requirements are not affected by allowing 2 thermocouples/channel/quadrant as long as each channel has at least four operable thermocouples in any quadrant (e.g., A Train has four operable thermocouples in one of the quadrants, and C Train has four operable thermocouples in the same quadrant or any other quadrant.). This preserves the ability to withstand a single failure.