

ENCLOSURE 5
SHEARON HARRIS NUCLEAR POWER PLANT
NRC DOCKET NO. 50-400/LICENSE NO. NPF-63
REQUEST FOR LICENSE AMENDMENT
INSTRUMENTATION

TECHNICAL SPECIFICATION PAGES

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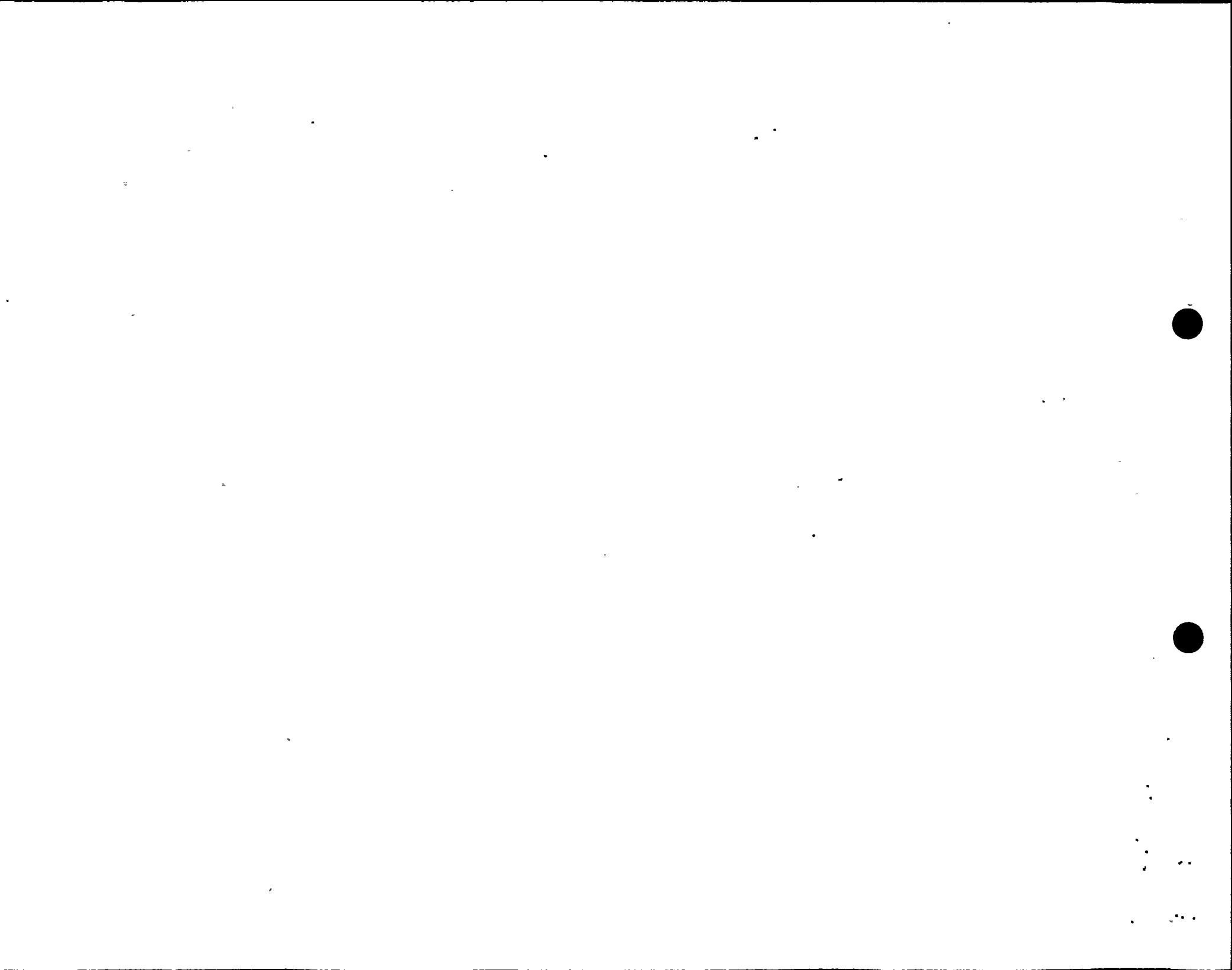
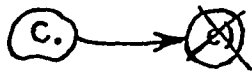


TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

<u>FUNCTIONAL UNIT</u>	<u>TOTAL NO. OF CHANNELS</u>	<u>CHANNELS TO TRIP</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABLE MODES</u>	<u>ACTION</u>
3. Containment Isolation (Continued)					
(1) RCS Leak Detection (normal purge)	1	See Table 3.3-6, Item 1b1, for initiating functions and requirements.			
(2) Preentry Purge Detector	1	See Table 3.3-6, Item 1b2, for initiating functions and requirements.			
 Airborne Particulate Radioactivity					
(1) RCS Leak Detection (normal purge)	1	See Table 3.3-6, Item 1c1, for initiating functions and requirements.			
(2) Preentry Purge Detector	1	See Table 3.3-6, Item 1c2, for initiating functions and requirements.			
5) Manual Phase "A" Isolation		See Item 3.a.1) above for Manual Phase "A" Isolation initiating functions and requirements.			
4. Main Steam Line Isolation					
a. Manual Initiation					
1) Individual MSIV Closure	1/steam line	1/steam line	1/operating steam line	1, 2, 3, 4	23
2) System	2	1	2	1, 2, 3	22

SHEARON HARRIS - UNIT 1

3/4 3-21

TABLE 3.3-6

RADIATION MONITORING INSTRUMENTATION FOR PLANT OPERATIONS

SHEARON HARRIS - UNIT 1

3/4 3-51

<u>INSTRUMENT</u>	<u>CHANNELS TO TRIP</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABLE MODES</u>	<u>ALARM/TRIP SETPOINT</u>	<u>ACTION</u>
1. Containment Radioactivity--					
a. Containment Ventilation Isolation Signal Area Monitors	2	3	1, 2, 3, 4, 6	#	27
b. Airborne Gaseous Radioactivity					
1) RCS Leakage Detection	1	1	1, 2, 3, 4	$\leq 1.0 \times 10^{-3}$ $\mu\text{Ci/ml}$	26, 27
2) Pre-entry Purge	1	1	##	$\leq 2.0 \times 10^{-3}$ $\mu\text{Ci/ml}$	30
c. Airborne Particulate Radioactivity					
1) RCS Leakage Detection	1	1	1, 2, 3, 4	$\leq 4.0 \times 10^{-8}$ $\mu\text{Ci/ml}$	26, 27
2) Pre-entry Purge	1	1	##	$\leq 1.5 \times 10^{-8}$ $\mu\text{Ci/ml}$	30
2. Spent Fuel Pool Area-- Fuel Handling Building Emergency Exhaust Actuation					
a. Fuel Handling Building Operating Floor--South Network	<i>1/RAIN***</i>	<i>1/RAIN 2 TRAINS</i>	**	≤ 100 mR/hr	28
b. Fuel Handling Building Operating Floor--North Network	<i>1/RAIN***</i>	<i>1/RAIN 2 TRAINS</i>	*	≤ 100 mR/hr	28
3. Control Room Outside Air Intakes--					
a. Normal Outside Air Intake Isolation	1	2	All	$\leq 4.9 \times 10^{-6}$ $\mu\text{Ci/ml}$	29

TABLE 3.3-6 (Continued)

TABLE NOTATIONS

- * With irradiated fuel in the Northend Spent Fuel Pool or transfer of irradiated fuel from or to a spent fuel shipping cask.
- ** With irradiated fuel in the Southend Spent Fuel Pool or New Fuel Pool.
- *** Each channel consists of 3 detectors with 1 of 3 logic. A channel is OPERABLE when 1 or more of the detectors are OPERABLE.
- # For MODES 1, 2, 3 and 4, the setpoint shall be less than or equal to three times detector background at RATED THERMAL POWER. During fuel movement the setpoint shall be less than or equal to 150 mR/hr.
- ## Required OPERABLE whenever pre-entry purge system is to be used.

ACTION STATEMENTS

- ACTION 26 - Must satisfy the ACTION requirement for Specification 3.4.6.1.
- ACTION 27 - With less than the Minimum Channels OPERABLE requirement, operation may continue provided the containment purge makeup and exhaust isolation valves are maintained closed.
- ACTION 28 - With less than the Minimum Channels OPERABLE requirement, ~~suspend all operations involving movement of fuel within the storage pool or crane operations over the storage pool.~~
- ACTION 29 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, within 1 hour initiate isolation of the respective air intake. With no outside air intakes available, maintain operation of the Control Room Emergency Filtration System in the Recirculation Mode of Operation.
- ACTION 30 - With less than the ^(M)minimum ^(C)channels OPERABLE requirement, pre-entry purge operations shall be suspended and the containment pre-entry purge makeup and exhaust valves shall be maintained closed.

declare the associated train of fuel handling building emergency exhaust inoperable and apply specification 3.9.12.

INSTRUMENTATION

ACCIDENT MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.6 The accident monitoring instrumentation channels shown in Table 3.3-10 shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTION:

- a. With the number of OPERABLE accident monitoring instrumentation channels less than the Total Required Number of Channels shown in Table 3.3-10, except for the pressurizer safety valve position indicator or the sub-cooling margin monitor, restore the inoperable channel(s) to OPERABLE status within 7 days, or be in at least HOT STANDBY within the next 6 hours and in at least HOT SHUTDOWN within the following 6 hours ~~or~~.
- b. With the number of OPERABLE accident monitoring instrumentation channels, except the radiation monitors, the pressurizer safety valve position indicator, or the sub-cooling margin monitor, less than the Minimum Channels OPERABLE requirements of Table 3.3-10, restore the inoperable channel(s) to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours and in at least HOT SHUTDOWN within the following 6 hours ~~or~~.
- c. With the number of OPERABLE channels for the radiation monitors, the pressurizer safety valve position indicator*, or the sub-cooling margin monitor†, less than ~~required by~~ the Minimum Channels OPERABLE requirements, initiate the preplanned alternate method of monitoring the appropriate parameter(s) ~~or~~ within 72 hours, and either restore the inoperable channel(s) to OPERABLE status within 7 days or prepare and submit a Special Report to the Commission, pursuant to Specification 6.9.2, within the next 14 days, that provides actions taken, cause of the inoperability, and the plans and schedule for restoring the channels to OPERABLE status.
of Table 3.3-10
- d. The provisions of Specification 3.0.4 are not applicable.
(s)

* The alternate method shall be a check of safety valve piping temperatures and evaluation to determine position.

† The alternate method shall be the initiation of the backup method as required by Specification 6.8.4.d.

TABLE 3.3-10

ACCIDENT MONITORING INSTRUMENTATION

<u>INSTRUMENT</u>	<u>TOTAL REQUIRED NO. OF CHANNELS</u>	<u>MINIMUM CHANNELS OPERABLE</u>
1. Containment Pressure		
a. Narrow Range	2	1
b. Wide Range	2	1
2. Reactor Coolant Hot-Leg Temperature--Wide Range	2	1
3. Reactor Coolant Cold-Leg Temperature--Wide Range	2	1
4. Reactor Coolant Pressure--Wide Range	2	1
5. Pressurizer Water Level	2	1
6. Steam Line Pressure	2/steam generator	1/steam generator
7. Steam Generator Water Level--Narrow Range	N.A. 1/steam generator	1/steam generator
8. Steam Generator Water Level--Wide Range	N.A. 1/steam generator	1/steam generator
9. Refueling Water Storage Tank Water Level	2	1
10. Auxiliary Feedwater Flow Rate	N.A. 1/steam generator	1/steam generator
11. Reactor Coolant System Subcooling Margin Monitor	N.A. (2)	1
12. PORV Position Indicator*	N.A. 1/valve	1/valve
13. PORV Block Valve Position Indicator**	N.A. 1/valve	1/valve
14. Safety Valve Position Indicator	N.A. 2/valve	1/valve
15. Containment Water Level (ECCS Sump)--Narrow Range	2	1
16. Containment Water Level--Wide Range	2	1

TABLE 3.3-10 (Continued)
ACCIDENT MONITORING INSTRUMENTATION

<u>INSTRUMENT</u>	<u>TOTAL REQUIRED NO. OF CHANNELS</u>	<u>MINIMUM CHANNELS OPERABLE</u>
17. In Core Thermocouples <i>STACK</i>	4/core quadrant	2/core quadrant
18. Plant Vent <i>High Range Noble Gas Monitor</i>	N.A.	1
19. Main Steam Line Radiation Monitors	N.A.	1/steam line
20. Containment <i>High Range Radiation Monitor</i>	N.A.	1
21. Reactor Vessel Level	2	1
22. Containment Spray NaOH Tank Level <i>High Range Noble Gas</i>	2	1
23. Turbine Building Vent Stack <i>Radiation</i> Monitor	N.A.	1
24. Waste Processing Building <i>Exhaust System Radiation</i> Monitors		
a. Vent 5 <i>STACK</i>	N.A.	1
b. Vent 5A <i>VENT STACK High Range Noble GAS</i>	N.A.	1
25. Condensate Storage Tank Level	2	1

*Not applicable if the associated block valve is in the closed position.

**Not applicable if the block valve is verified in the closed position and power is removed.

TABLE 4.3-7 (Continued)

ACCIDENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>INSTRUMENT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>
17. In Core Thermocouples <i>STACK</i>	M	R
18. Plant Vent--High Range Noble Gas Monitor	M	R
19. Main Steam Line Radiation Monitors	M	R
20. Containment--High Range Radiation Monitor	M	R*
21. Reactor Vessel Level	M	R
22. Containment Spray NaOH Tank Level <i>HIGH RANGE NOBLE GAS</i>	M	R
23. Turbine Building Vent Stack <i>STACK</i> Radiation Monitor	M	R
24. Waste Processing Building Exhaust System Radiation Monitors		
a. Vent 5 <i>STACK</i>	M	R
b. Vent 5A <i>VENT STACK HIGH RANGE NOBLE GAS</i>	M	R
25. Condensate Storage Tank Level	M	R

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

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

<u>FUNCTIONAL UNIT</u>	<u>TOTAL NO. OF CHANNELS</u>	<u>CHANNELS TO TRIP</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABLE MODES</u>	<u>ACTION</u>
3. Containment Isolation (Continued)					
(1) RCS Leak Detection (normal purge)	1	See Table 3.3-6, Item 1b1, for initiating functions and requirements.			
(2) Preentry Purge Detector	1	See Table 3.3-6, Item 1b2, for initiating functions and requirements.			
c.) Airborne Particulate Radioactivity					
(1) RCS Leak Detection (normal purge)	1	See Table 3.3-6, Item 1C1, for initiating functions and requirements.			
(2) Preentry Purge Detector	1	See Table 3.3-6, Item 1C2, for initiating functions and requirements.			
5) Manual Phase "A" Isolation	See Item 3.a.1) above for Manual Phase "A" Isolation initiating functions and requirements.				
4. Main Steam Line Isolation					
a. Manual Initiation					
1) Individual MSIV Closure	1/steam line	1/steam line	1/operating steam line	1, 2, 3, 4	23
2) System	2	1	2	1, 2, 3	22

TABLE 3.3-6

RADIATION MONITORING INSTRUMENTATION FOR PLANT OPERATIONS

<u>INSTRUMENT</u>	<u>CHANNELS TO TRIP</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABLE MODES</u>	<u>ALARM/TRIP SETPOINT</u>	<u>ACTION</u>
1. Containment Radioactivity--					
a. Containment Ventilation Isolation Signal Area Monitors	2	3	1, 2, 3, 4, 6	#	27
b. Airborne Gaseous Radioactivity					
1) RCS Leakage Detection	1	1	1, 2, 3, 4	$\leq 1.0 \times 10^{-3}$ $\mu\text{Ci/ml}$	26, 27
2) Pre-entry Purge	1	1	##	$\leq 2.0 \times 10^{-3}$ $\mu\text{Ci/ml}$	30
c. Airborne Particulate Radioactivity					
1) RCS Leakage Detection	1	1	1, 2, 3, 4	$\leq 4.0 \times 10^{-8}$ $\mu\text{Ci/ml}$	26, 27
2) Pre-entry Purge	1	1	##	$\leq 1.5 \times 10^{-8}$ $\mu\text{Ci/ml}$	30
2. Spent Fuel Pool Area-- Fuel Handling Building Emergency Exhaust Actuation					
a. Fuel Handling Building Operating Floor--South Network	1/train***	1/train 2 trains	**	≤ 100 mR/hr	28
b. Fuel Handling Building Operating Floor--North Network	1/train***	1/train 2 trains	*	≤ 100 mR/hr	28
3. Control Room Outside Air Intakes--					
a. Normal Outside Air Intake Isolation	1	2	All	$\leq 4.9 \times 10^{-6}$ $\mu\text{Ci/ml}$	29

TABLE 3.3-6 (Continued)

TABLE NOTATIONS

- * With irradiated fuel in the Northend Spent Fuel Pool or transfer of irradiated fuel from or to a spent fuel shipping cask.
- ** With irradiated fuel in the Southend Spent Fuel Pool or New Fuel Pool.
- *** Each channel consists of 3 detectors with 1 of 3 logic. A channel is OPERABLE when 1 or more of the detectors are OPERABLE.
- # For MODES 1, 2, 3 and 4, the setpoint shall be less than or equal to three times detector background at RATED THERMAL POWER. During fuel movement the setpoint shall be less than or equal to 150 mR/hr.
- ## Required OPERABLE whenever pre-entry purge system is to be used.

ACTION STATEMENTS

- ACTION 26 - Must satisfy the ACTION requirement for Specification 3.4.6.1.
- ACTION 27 - With less than the Minimum Channels OPERABLE requirement, operation may continue provided the containment purge makeup and exhaust isolation valves are maintained closed.
- ACTION 28 - With less than the Minimum Channels OPERABLE requirement, declare the associated train of Fuel Handling Building Emergency Exhaust inoperable and apply Specification 3.9.12.
- ACTION 29 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, within 1 hour initiate isolation of the respective air intake. With no outside air intakes available, maintain operation of the Control Room Emergency Filtration System in the Recirculation Mode of Operation.
- ACTION 30 - With less than the Minimum Channels OPERABLE requirement, pre-entry purge operations shall be suspended and the containment pre-entry purge makeup and exhaust valves shall be maintained closed.

INSTRUMENTATION

ACCIDENT MONITORING INSTRUMENTATION

LIMITING CONDITIONS FOR OPERATION

3.3.3.6 The accident monitoring instrumentation channels shown in Table 3.3-10 shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTION:

- a. With the number of OPERABLE accident monitoring instrumentation channels less than the Total Required Number of Channels shown in Table 3.3-10 restore the inoperable channel(s) to OPERABLE status within 7 days, or be in at least HOT STANDBY within the next 6 hours and in at least HOT SHUTDOWN within the following 6 hours
- b. With the number of OPERABLE accident monitoring instrumentation channels, except the radiation monitors, the pressurizer safety valve position indicator, or the sub-cooling margin monitor, less than the Minimum Channels OPERABLE requirements of Table 3.3-10, restore the inoperable channel(s) to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours and in at least HOT SHUTDOWN within the following 6 hours
- c. With the number of OPERABLE channels for the radiation monitors, the pressurizer safety valve position indicator*, or the sub-cooling margin monitor†, less than the Minimum Channels OPERABLE requirements of Table 3.3-10, initiate the preplanned alternate method of monitoring the appropriate parameter(s) within 72 hours, and either restore the inoperable channel(s) to OPERABLE status within 7 days or prepare and submit a Special Report to the Commission, pursuant to Specification 6.9.2, within the next 14 days, that provides actions taken, cause of the inoperability, and the plans and schedule for restoring the channel(s) to OPERABLE status.
- d. The provisions of Specification 3.0.4 are not applicable.

* The alternate method shall be a check of safety valve piping temperatures and evaluation to determine position.

† The alternate method shall be the initiation of the backup method as required by Specification 6.8.4.d.

TABLE 3,3-10

ACCIDENT MONITORING INSTRUMENTATION

<u>INSTRUMENT</u>	<u>TOTAL REQUIRED NO. OF CHANNELS</u>	<u>MINIMUM CHANNELS OPERABLE</u>
1. Containment Pressure		
a. Narrow Range	2	1
b. Wide Range	2	1
2. Reactor Coolant Hot-Leg Temperature--Wide Range	2	1
3. Reactor Coolant Cold-Leg Temperature--Wide Range	2	1
4. Reactor Coolant Pressure--Wide Range	2	1
5. Pressurizer Water Level	2	1
6. Steam Line Pressure	2/steam generator	1/steam generator
7. Steam Generator Water Level--Narrow Range	N.A.	1/steam generator
8. Steam Generator Water Level--Wide Range	N.A.	1/steam generator
9. Refueling Water Storage Tank Water Level	2	1
10. Auxiliary Feedwater Flow Rate	N.A.	1/steam generator
11. Reactor Coolant System Subcooling Margin Monitor	N.A.	1
12. PORV Position Indicator*	N.A.	1/valve
13. PORV Block Valve Position Indicator**	N.A.	1/valve
14. Safety Valve Position Indicator	N.A.	1/valve
15. Containment Water Level (ECCS Sump)--Narrow Range	2	1
16. Containment Water Level--Wide Range	2	1

TABLE 3.3-10 (Continued)

ACCIDENT MONITORING INSTRUMENTATION

<u>INSTRUMENT</u>	<u>TOTAL REQUIRED NO. OF CHANNELS</u>	<u>MINIMUM CHANNELS OPERABLE</u>
17. In Core Thermocouples	4/core quadrant	2/core quadrant
18. Plant Vent Stack--High Range Noble Gas Monitor	N.A.	1
19. Main Steam Line Radiation Monitors	N.A.	1/steam line
20. Containment--High Range Radiation Monitor	N.A.	1
21. Reactor Vessel Level	2	1
22. Containment Spray NaOH Tank Level	2	1
23. Turbine Building Vent Stack High Range Noble Gas Monitor	N.A.	1
24. Waste Processing Building Vent Stack High Range Noble Gas Monitors		
a. Vent Stack 5	N.A.	1
b. Vent Stack 5A	N.A.	1
25. Condensate Storage Tank Level	2	1

*Not applicable if the associated block valve is in the closed position.

**Not applicable if the block valve is verified in the closed position and power is removed.

TABLE 4.3-7 (Continued)ACCIDENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>INSTRUMENT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>
17. In Core Thermocouples	M	R
18. Plant Vent Stack--High Range Noble Gas Monitor	M	R
19. Main Steam Line Radiation Monitors	M	R
20. Containment--High Range Radiation Monitor	M	R*
21. Reactor Vessel Level	M	R
22. Containment Spray NaOH Tank Level	M	R
23. Turbine Building Vent Stack High Range Noble Gas Monitor	M	R
24. Waste Processing Building Vent Stack High Range Noble Gas Monitors		
a. Vent Stack 5	M	R
b. Vent Stack 5A	M	R
25. Condensate Storage Tank Level	M	R

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



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