ATTACHMENT (3)

UNIT 1

MARKED-UP TECHNICAL SPECIFICATION

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TABLE 4.3-2

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED
1. SAFETY INJECTION (SIAS)				
a. Manual (Trip buttons)	NA	NA	REFUELING INTERVAL	NA
b. Containment Pressure - High	S	REFUELING INTERVAL	Q	1, 2, 3
c. Pressurizer Pressure - Low	S	REFUELING INTERVAL	Q	1, 2, 3
d. Automatic Actuation Logic	NA	NA	M(1)(2)(3) Q(1)(2)(3)	1, 2, 3
2. CONTAINMENT SPRAY (CSAS)				
a. Manual (Trip buttons)	NA	NA	REFUELING INTERVAL	NA
b. Containment Pressure - High	S	REFUELING INTERVAL	Q	1, 2, 3
c. Automatic Actuation Logic	NA	NA	M(1)(6) Q(1)(6)	1, 2, 3
3. CONTAINMENT ISOLATION (CIS)#				
a. Manual CIS (Trip buttons)	NA	NA	REFUELING INTERVAL	NA
b. Containment Pressure - High	S	REFUELING INTERVAL	Q	1, 2, 3
c. Automatic Actuation Logic	NA	NA	M(1)(4) Q(1)(4)	1, 2, 3

TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED
4. MAIN STEAM LINE ISOLATION (SGIS)				
a. Manual SGIS (MSIV Hand Switches and Feed Head Isolation Hand Switches)	NA	NA	REFUELING INTERVAL	NA
b. Steam Generator Pressure - Low	S	REFUELING INTERVAL	Q	1, 2, 3
c. Automatic Actuation Logic	NA	NA	~~M(1)(5)~~ Q (1)(5)	1, 2, 3
5. CONTAINMENT SUMP RECIRCULATION (RAS)				
a. Manual RAS (Trip Buttons)	NA	NA	REFUELING INTERVAL	NA
b. Refueling Water Tank - Low	NA	REFUELING INTERVAL	Q	1, 2, 3
c. Automatic Actuation Logic	NA	NA	~~M(1)~~ Q (1)	1, 2, 3
6. CONTAINMENT PURGE VALVES ISOLATION				
a. Manual (Purge Valve Control Switches)	NA	NA	REFUELING INTERVAL	NA
b. Containment Radiation - High Area Monitor	S	REFUELING INTERVAL	Q	6**

TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED
7. LOSS OF POWER				
a. 4.16 kv Emergency Bus Undervoltage (Loss of Voltage)	NA	REFUELING INTERVAL	Q	1, 2, 3
b. 4.16 kv Emergency Bus Undervoltage (Degraded Voltage)	NA	REFUELING INTERVAL	Q	1, 2, 3
8. CVCS ISOLATION				
West Penetration Room/Letdown Heat Exchanger Room Pressure - High	NA	REFUELING INTERVAL	Q	1, 2, 3, 4
9. AUXILIARY FEEDWATER				
a. Manual (Trip Buttons)	NA	NA	REFUELING INTERVAL	NA
b. Steam Generator Level - Low	S	REFUELING INTERVAL	Q	1, 2, 3
c. Steam Generator ΔP - High	S	REFUELING INTERVAL	Q	1, 2, 3
d. Automatic Actuation Logic	NA	NA	~~M(1)~~ Q(1)	1, 2, 3

TABLE 4.3-2 (Continued)

TABLE NOTATION

Containment isolation of non-essential penetrations is also initiated by SIAS (functional units 1.a and 1.c).

** Must be **OPERABLE** only in **MODE** 6 when the valves are required **OPERABLE** and they are open.

(1) ~~The~~ logic circuits shall be tested manually at least once per 92 ~~31~~ days.

(2) SIAS logic circuits A-10 and B-10 shall be tested ~~monthly~~ quarterly with the exception of the Safety Injection Tank isolation valves. The SIAS logic circuits for these valves are exempted from testing during operation; however, these logic circuits shall be tested at least once per **REFUELING INTERVAL** during shutdown.

(3) SIAS logic circuits A-5, and B-5 are exempted from testing during operation; however, these logic circuits shall be tested at least once per **REFUELING INTERVAL** during shutdown.

(4) CIS logic circuits A-5 and B-5 are exempted from testing during operation; however, these logic circuits shall be tested at least once per **REFUELING INTERVAL** during shutdown.

(5) SGIS logic circuits A-1 and B-1 are exempted from testing during operation; however, these logic circuits shall be tested at least once per **REFUELING INTERVAL** during shutdown.

(6) CSAS logic circuits A-3 and B-3 are exempted from testing during operation; however, these logic circuits shall be tested at least once per **REFUELING INTERVAL** during shutdown.

3/4.5 EMERGENCY CORE COOLING SYSTEMS (ECCS)

SURVEILLANCE REQUIREMENTS

4.5.2 Each ECCS subsystem shall be demonstrated **OPERABLE***:

a. At least once per 12 hours by verifying that the following valves are in the indicated positions with power to the valve operators removed:

Valve Number	Valve Function	Valve Position
1. MOV-659	Mini-flow Isolation	Open
2. MOV-660	Mini-flow Isolation	Open
3. CV-306	Low Pressure SI Flow Control	Open

b. At least once per 31 days by:

1. Verifying that upon a Recirculation Actuation Test Signal, the containment sump isolation valves open. Move to 4.5.2.c

1.2. Verifying that each valve (manual, power-operated or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position.

c. At least once per 92 days by:

d.2. By a visual inspection which verifies that no loose debris (rags, trash, clothing, etc.) is present in the containment which could be transported to the containment sump and cause restriction of the pump suctions during LOCA conditions. This visual inspection shall be performed:

1. For all accessible areas of the containment prior to establishing **CONTAINMENT INTEGRITY**, and

2. Of the areas affected within containment at the completion of containment entry when **CONTAINMENT INTEGRITY** is established.

e.2. Within 4 hours prior to increasing the RCS pressure above 1750 psia by verifying, via local indication at the valve, that CV-306 is open.

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* Whenever flow testing into the RCS is required at RCS temperatures of 365°F and less, the high pressure safety injection pump shall recirculate RCS water (suction from RWT isolated) or the controls of Technical Specification 3.4.9.3 shall apply. (5)

SURVEILLANCE REQUIREMENTS (Continued)

f. At least once per **REFUELING INTERVAL** by:

1. Verifying the Shutdown Cooling System open-permissive interlock prevents the Shutdown Cooling System suction isolation valves from being opened with a simulated or actual RCS pressure signal of ≥ 309 psia.

2. A visual inspection of the containment sump and verifying that the subsystem suction inlets are not restricted by debris and that the sump components (trash racks, screens, etc.) show no evidence of structural distress or corrosion.

3. Verifying that a minimum total of 289.3 cubic feet of solid granular trisodium phosphate dodecahydrate (TSP) is contained within the TSP storage baskets.

4. Verifying that a sample from the TSP baskets provides adequate pH adjustment of water borated to be representative of the post-LOCA sump condition.

g. At least once per **REFUELING INTERVAL**, during shutdown, by:

1. Verifying that each automatic valve in the flow path actuates to its correct position on a Safety Injection Actuation test signal.

2. Verifying that each of the following pumps start automatically upon receipt of a Safety Injection Actuation Test Signal:

   a. High-Pressure Safety Injection Pump.

   b. Low-Pressure Safety Injection Pump.

SURVEILLANCE REQUIREMENTS (Continued)

h. By performing a flow balance test during shutdown following completion of HPSI System modifications that alter system flow characteristics and verifying the following flow rates for a single HPSI Pump System*:

1. The sum of the three lowest flow legs shall be greater than 470** gpm.

i. By verifying that the HPSI pumps develop a total head of 2900 ft. on recirculation flow to the refueling water tank when tested pursuant to Specification 4.0.5.

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* A HPSI Pump System is a HPSI pump and one of two safety injection headers.

** These limits contain allowances for instrument error, drift or fluctuation.

3/4.6 **CONTAINMENT SYSTEMS**

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

Containment Spray System

LIMITING CONDITION FOR OPERATION

3.6.2.1 Two independent Containment Spray Systems shall be **OPERABLE** with each spray system capable of taking suction from the RWT on a Containment Spray Actuation Signal and Safety Injection Actuation Signal and automatically transferring suction to the containment sump on a Recirculation Actuation Signal. Each spray system flow path from the containment sump shall be via an **OPERABLE** shutdown cooling heat exchanger.

APPLICABILITY: **MODES** 1, 2, and 3*.

ACTION: With one Containment Spray System inoperable, restore the inoperable spray system to **OPERABLE** status within 72 hours or be in at least **HOT STANDBY** within the next 6 hours and in **COLD SHUTDOWN** within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.2.1 Each Containment Spray System shall be demonstrated **OPERABLE**:

a. At least once per 31 days by:

1. Verifying that upon a Recirculation Actuation Test Signal, the containment sump isolation valves open and that a recirculation mode flow path via an **OPERABLE** shutdown cooling heat exchanger is established.

~~1.~~ 2. Verifying that each valve (manual, power-operated, or automatic) in the flow path that is not locked, sealed or otherwise secured in position is positioned to take suction from the RWT on a Containment Pressure-High test signal.

Move to 4.6.2.1.b

b. At least once per 92 days by:

~~b.~~ c. At least once per **REFUELING INTERVAL**, during shutdown, by:

1. Verifying that each automatic valve in the flow path actuates to its correct position on the appropriate ESFAS test signal.

2. Verifying that each spray pump starts automatically on the appropriate ESFAS test signal.

* With pressurizer pressure $\geq$ 1750 psia.

SURVEILLANCE REQUIREMENTS (Continued)

d. e. At least once per 5 years by performing an air or smoke flow test through each spray header and verifying each spray nozzle is unobstructed.

3/4.3 INSTRUMENTATION

BASES

3/4.3.1 and 3/4.3.2 PROTECTIVE AND ENGINEERED SAFETY FEATURES (ESF) INSTRUMENTATION

The **OPERABILITY** of the protective and ESF instrumentation systems and bypasses ensure that 1) the associated ESF action and/or reactor trip will be initiated when the parameter monitored by each channel or combination thereof exceeds its setpoint, 2) the specified coincidence logic is maintained, 3) sufficient redundancy is maintained to permit a channel to be out of service for testing or maintenance, and 4) sufficient system functional capability is available for protective and ESF purposes from diverse parameters.

The **OPERABILITY** of these systems is required to provide the overall reliability, redundance and diversity assumed available in the facility design for the protection and mitigation of accident and transient conditions. The integrated operation of each of these systems is consistent with the assumptions used in the accident analyses.

The surveillance requirements specified for these systems ensure that the overall system functional capability is maintained comparable to the original design standards. The periodic surveillance tests performed at the minimum frequencies are sufficient to demonstrate this capability. The quarterly frequency for the channel functional tests for these systems is based on the analysis presented in the NRC-approved Topical Report CEN-327, "RPS/ESFAS Extended Test Interval Evaluation," as supplemented, and CEN-403 "ESFAS Subgroup Relay Test Interval Extension." The measurement of response time at the specified frequencies provides assurance that the protective and ESF action function associated with each channel is completed within the time limit assumed in the accident analyses. No credit was taken in the analyses for those channels with response times indicated as not applicable.

Response time may be demonstrated by any series of sequential, overlapping or total channel test measurements provided that such tests demonstrate the total channel response time as defined. Sensor response time verification may be demonstrated by either 1) in place, onsite or offsite test measurements or 2) utilizing replacement sensors with certified response times. The response time limits are contained in UFSAR Chapter 7, and updated in accordance with 10 CFR 50.71(e).

3/4.3.3 MONITORING INSTRUMENTATION

3/4.3.3.1 Radiation Monitoring Instrumentation

The **OPERABILITY** of the radiation monitoring channels ensures that 1) the radiation levels are continually measured in the areas served by the individual channels and 2) the alarm or automatic action is initiated when the radiation level trip setpoint is exceeded.

ATTACHMENT (4)

UNIT 2

MARKED-UP TECHNICAL SPECIFICATION

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TABLE 4.3-2

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED
1. SAFETY INJECTION (SIAS)				
a. Manual (Trip buttons)	NA	NA	REFUELING INTERVAL	NA
b. Containment Pressure - High	S	REFUELING INTERVAL	Q	1, 2, 3
c. Pressurizer Pressure - Low	S	REFUELING INTERVAL	Q	1, 2, 3
d. Automatic Actuation Logic	NA	NA	M(1)(2)(3) Q(1)(2)(3)	1, 2, 3
2. CONTAINMENT SPRAY (CSAS)				
a. Manual (Trip buttons)	NA	NA	REFUELING INTERVAL	NA
b. Containment Pressure - High	S	REFUELING INTERVAL	Q	1, 2, 3
c. Automatic Actuation Logic	NA	NA	M(1)(6) Q(1)(6)	1, 2, 3
3. CONTAINMENT ISOLATION (CIS)#				
a. Manual CIS (Trip buttons)	NA	NA	REFUELING INTERVAL	NA
b. Containment Pressure - High	S	REFUELING INTERVAL	Q	1, 2, 3
c. Automatic Actuation Logic	NA	NA	M(1)(4) Q(1)(4)	1, 2, 3

TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED
4. MAIN STEAM LINE ISOLATION (SGIS)				
a. Manual SGIS (MSIV Hand Switches and Feed Head Isolation Hand Switches)	NA	NA	REFUELING INTERVAL	NA
b. Steam Generator Pressure - Low	S	REFUELING INTERVAL	Q	1, 2, 3
c. Automatic Actuation Logic	NA	NA	~~M(1)(5)~~ Q (1)(5)	1, 2, 3
5. CONTAINMENT SUMP RECIRCULATION (RAS)				
a. Manual RAS (Trip Buttons)	NA	NA	REFUELING INTERVAL	NA
b. Refueling Water Tank - Low	NA	REFUELING INTERVAL	Q	1, 2, 3
c. Automatic Actuation Logic	NA	NA	~~M(1)~~ Q (1)	1, 2, 3
6. CONTAINMENT PURGE VALVES ISOLATION				
a. Manual (Purge Valve Control Switches)	NA	NA	REFUELING INTERVAL	NA
b. Containment Radiation - High Area Monitor	S	REFUELING INTERVAL	Q	6**

TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED
7. LOSS OF POWER				
a. 4.16 kv Emergency Bus Undervoltage (Loss of Voltage)	NA	REFUELING INTERVAL	Q	1, 2, 3
b. 4.16 kv Emergency Bus Undervoltage (Degraded Voltage)	NA	REFUELING INTERVAL	Q	1, 2, 3
8. CVCS ISOLATION				
West Penetration Room/Letdown Heat Exchanger Room Pressure - High	NA	REFUELING INTERVAL	Q	1, 2, 3, 4
9. AUXILIARY FEEDWATER				
a. Manual (Trip Buttons)	NA	NA	REFUELING INTERVAL	NA
b. Steam Generator Level - Low	S	REFUELING INTERVAL	Q	1, 2, 3
c. Steam Generator ΔP - High	S	REFUELING INTERVAL	Q	1, 2, 3
d. Automatic Actuation Logic	NA	NA	~~M(1)~~ Q(1)	1, 2, 3

TABLE 4.3-2 (Continued)

TABLE NOTATION

Containment isolation of non-essential penetrations is also initiated by SIAS (functional units 1.a and 1.c).

** Must be **OPERABLE** only in **MODE** 6 when the valves are required **OPERABLE** and they are open.

(1) The logic circuits shall be tested manually at least once per ~~31~~ 92 days.

(2) SIAS logic circuits A-10 and B-10 shall be tested ~~monthly~~ quarterly with the exception of the Safety Injection Tank isolation valves. The SIAS logic circuits for these valves are exempted from testing during operation; however, these logic circuits shall be tested at least once per **REFUELING INTERVAL** during shutdown.

(3) SIAS logic circuits A-5 and B-5 are exempted from testing during operation; however, these logic circuits shall be tested at least once per **REFUELING INTERVAL** during shutdown.

(4) CIS logic circuits A-5 and B-5 are exempted from testing during operation; however, these logic circuits shall be tested at least once per **REFUELING INTERVAL** during shutdown.

(5) SGIS logic circuits A-1 and B-1 are exempted from testing during operation; however, these logic circuits shall be tested at least once per **REFUELING INTERVAL** during shutdown.

(6) CSAS logic circuits A-3 and B-3 are exempted from testing during operation; however, these logic circuits shall be tested at least once per **REFUELING INTERVAL** during shutdown.

SURVEILLANCE REQUIREMENTS

4.5.2 Each ECCS subsystem shall be demonstrated **OPERABLE***:

a. At least once per 12 hours by verifying that the following valves are in the indicated positions with power to the valve operators removed:

Valve Number	Valve Function	Valve Position
1. MOV-659	Mini-flow Isolation	Open
2. MOV-660	Mini-flow Isolation	Open
3. CV-306	Low Pressure SI Flow Control	Open

b. At least once per 31 days by:

1. Verifying that upon a Recirculation Actuation Test Signal, the containment sump isolation valves open.

Move to 4.5.2.c

1.2. Verifying that each valve (manual, power-operated or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position.

c. At least once per 92 days by:

d. 2. By a visual inspection which verifies that no loose debris (rags, trash, clothing, etc.) is present in the containment which could be transported to the containment sump and cause restriction of the pump suctions during LOCA conditions. This visual inspection shall be performed:

1. For all accessible areas of the containment prior to establishing **CONTAINMENT INTEGRITY**, and

2. Of the areas affected within containment at the completion of containment entry when **CONTAINMENT INTEGRITY** is established.

e. d. Within 4 hours prior to increasing the RCS pressure above 1750 psia by verifying, via local indication at the valve, that CV-306 is open.

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* Whenever flow testing into the RCS is required at RCS temperatures of 301°F and less, the high pressure safety injection pump shall recirculate RCS water (suction from RWT isolated) or the controls of Technical Specification 3.4.9.3 shall apply.

SURVEILLANCE REQUIREMENTS (Continued)

f. e. At least once per **REFUELING INTERVAL** by:

1. Verifying the Shutdown Cooling System open-permissive interlock prevents the Shutdown Cooling System suction isolation valves from being opened with a simulated or actual RCS pressure signal of $\geq$ 309 psia.

2. A visual inspection of the containment sump and verifying that the subsystem suction inlets are not restricted by debris and that the sump components (trash racks, screens, etc.) show no evidence of structural distress or corrosion.

3. Verifying that a minimum total of 289.3 cubic feet of solid granular trisodium phosphate dodecahydrate (TSP) is contained within the TSP storage baskets.

4. Verifying that a sample from the TSP baskets provides adequate pH adjustment of water borated to be representative of the post-LOCA sump condition.

g. f. At least once per **REFUELING INTERVAL**, during shutdown, by:

1. Verifying that each automatic valve in the flow path actuates to its correct position on a Safety Injection Actuation test signal.

2. Verifying that each of the following pumps start automatically upon receipt of a Safety Injection Actuation Test Signal:

   a. High-Pressure Safety Injection Pump.

   b. Low-Pressure Safety Injection Pump.

SURVEILLANCE REQUIREMENTS (Continued)

h. ~~g.~~ By performing a flow balance test during shutdown following completion of HPSI System modifications that alter system flow characteristics and verifying the following flow rates for a single HPSI Pump System*:

1. The sum of the three lowest flow legs shall be greater than 470** gpm.

i. ~~h.~~ By verifying that the HPSI pumps develop a total head of 2900 ft on recirculation flow to the refueling water tank when tested pursuant to Specification 4.0.5.

---

* A HPSI Pump System is a HPSI pump and one of two safety injection headers.

** These limits contain allowances for instrument error, drift or fluctuation.

3/4.6 **CONTAINMENT SYSTEMS**

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

Containment Spray System

LIMITING CONDITION FOR OPERATION

3.6.2.1 Two independent Containment Spray Systems shall be **OPERABLE** with each spray system capable of taking suction from the RWT on a Containment Spray Actuation Signal and Safety Injection Actuation Signal and automatically transferring suction to the containment sump on a Recirculation Actuation Signal. Each spray system flow path from the containment sump shall be via an **OPERABLE** shutdown cooling heat exchanger.

APPLICABILITY: **MODES** 1, 2, and 3*.

ACTION: With one Containment Spray System inoperable, restore the inoperable spray system to **OPERABLE** status within 72 hours or be in at least **HOT STANDBY** within the next 6 hours and in **COLD SHUTDOWN** within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.2.1 Each Containment Spray System shall be demonstrated **OPERABLE**:

a. At least once per 31 days by:

1. Verifying that upon a Recirculation Actuation Test Signal, the containment sump isolation valves open and that a recirculation mode flow path via an **OPERABLE** shutdown cooling heat exchanger is established.

1. ~~2.~~ Verifying that each valve (manual, power-operated, or automatic) in the flow path that is not locked, sealed or otherwise secured in position is positioned to take suction from the RWT on a Containment Pressure-High test signal.

move to 4.6.2.1. b

b. At least once per 92 days by:

c. ~~b.~~ At least once per **REFUELING INTERVAL**, during shutdown, by:

1. Verifying that each automatic valve in the flow path actuates to its correct position on the appropriate ESFAS test signal.

2. Verifying that each spray pump starts automatically on the appropriate ESFAS test signal.

* With pressurizer pressure ≥ 1750 psia.

SURVEILLANCE REQUIREMENTS (Continued)

d. e. At least once per 5 years by performing an air or smoke flow test through each spray header and verifying each spray nozzle is unobstructed.

3/4.3 INSTRUMENTATION

BASES

3/4.3.1 and 3/4.3.2 PROTECTIVE AND ENGINEERED SAFETY FEATURES (ESF) INSTRUMENTATION

The **OPERABILITY** of the protective and ESF instrumentation systems and bypasses ensure that 1) the associated ESF action and/or reactor trip will be initiated when the parameter monitored by each channel or combination thereof exceeds its setpoint, 2) the specified coincidence logic is maintained, 3) sufficient redundancy is maintained to permit a channel to be out of service for testing or maintenance, and 4) sufficient system functional capability is available for protective and ESF purposes from diverse parameters.

The **OPERABILITY** of these systems is required to provide the overall reliability, redundance and diversity assumed available in the facility design for the protection and mitigation of accident and transient conditions. The integrated operation of each of these systems is consistent with the assumptions used in the accident analyses.

The surveillance requirements specified for these systems ensure that the overall system functional capability is maintained comparable to the original design standards. The periodic surveillance tests performed at the minimum frequencies are sufficient to demonstrate this capability. The quarterly frequency for the channel functional tests for these systems is based on the analysis presented in the NRC-approved Topical Reports CEN-327, ~~"RPS/ESFAS Extended Test Interval Evaluation,"~~ as supplemented, and CEN-403, "ESFAS Subgroup Relay Test Interval Extension." ~~The measurement of response time at the specified frequencies~~ provides assurance that the protective and ESF action function associated with each channel is completed within the time limit assumed in the accident analyses. No credit was taken in the analyses for those channels with response times indicated as not applicable.

Response time may be demonstrated by any series of sequential, overlapping or total channel test measurements provided that such tests demonstrate the total channel response time as defined. Sensor response time verification may be demonstrated by either 1) in place, onsite or offsite test measurements or 2) utilizing replacement sensors with certified response times. The response time limits are contained in UFSAR Chapter 7, and updated in accordance with 10 CFR 50.71(e).

3/4.3.3 MONITORING INSTRUMENTATION

3/4.3.3.1 Radiation Monitoring Instrumentation

The **OPERABILITY** of the radiation monitoring channels ensures that 1) the radiation levels are continually measured in the areas served by the individual channels and 2) the alarm or automatic action is initiated when the radiation level trip setpoint is exceeded.