INDEX

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

BASES

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
6. CONTAINMENT PURGE VALVES ISOLATION					
a. Manual (Purge Valve Control Switches)	2/Penetration	1/Penetration	2/Penetration	6**	8
b. Containment Radiation - High Area Monitor	4	2	3	6**	8
7. LOSS OF POWER					
a. 4.16 kv Emergency Bus Undervoltage (Loss of Voltage)	4/Bus	2/Bus	3/Bus	1, 2, 3	7*
b. 4.16 kv Emergency Bus Undervoltage (Degraded Voltage)	4/Bus	2/Bus	3/Bus	1, 2, 3	7*

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

TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION TRIP VALUES

FUNCTIONAL UNIT	TRIP VALUE	ALLOWABLE VALUES
5. CONTAINMENT SUMP RECIRCULATION (RAS)		
a. Manual RAS (Trip Buttons)	Not Applicable	Not Applicable
b. Refueling Water Tank - Low	≥ 24 inches above tank bottom	≥ 24 inches above tank bottom
6. CONTAINMENT PURGE VALVES ISOLATION		
a. Manual (Purge Valve Control Switches)	Not Applicable	Not Applicable
b. Containment Radiation - High Area Monitor	≤ 220 mr/hr	≤ 220 mr/hr
7. LOSS OF POWER		
a. 4.16 kv Emergency Bus Undervoltage (Loss of Voltage)	2450 ± 105 volts with a 2 ± 0.2 second time delay	2450 ± 105 volts with a 2 ± 0.2 second time delay
b. 4.16 kv Emergency Bus Undervoltage (Degraded Voltage)	3628 ± 25 volts with a 8 ± 0.4 second time delay	3628 ± 25 volts with a 8 ± 0.4 second time delay

Amendment No. 104/53,
Amendment No. 31/221/36

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
5. CONTAINMENT SUMP RECIRCULATION (RAS)				
a. Manual RAS (Trip Buttons)	NA	NA	R	NA
b. Refueling Water Tank - Low	NA	R	M	1, 2, 3
c. Automatic Actuation Logic	NA	NA	M(1)	1, 2, 3
6. CONTAINMENT PURGE VALVES ISOLATION				
a. Manual (Purge Valve Control Switches)	NA	NA	R	NA
b. Containment Radiation - High Area Monitor	S	R	M	6
7. LOSS OF POWER				
a. 4.16 kv Emergency Bus Undervoltage (Loss of Voltage)	NA	R	M	1, 2, 3
b. 4.16 kv Emergency Bus Undervoltage (Degraded Voltage)	NA	R	M	1, 2, 3
8. CVCS ISOLATION				
West Penetration Room/Letdown Heat Exchanger Room Pressure - High	NA	R	M	1, 2, 3, 4
9. AUXILIARY FEEDWATER				
a. Manual (Trip Buttons)	NA	NA	R	NA
b. Steam Generator Level - Low	S	R	M	1, 2, 3
c. Steam Generator Δ P - High	S	R	M	1, 2, 3
d. Automatic Actuation Logic	NA	NA	M(1)	1, 2, 3

SURVEILLANCE REQUIREMENTS (Continued)

4.6.4.1.2 Each isolation valve specified in Table 3.6-1 shall be demonstrated OPERABLE during the COLD SHUTDOWN or REFUELING MODE at least once per refueling interval by:

a. Verifying that on each containment isolation Channel A or Channel B test signal, each required isolation valve actuates to its isolation position.

b. Verifying that on each Safety Injection Actuation Channel A or Channel B test signal, each required isolation valve actuates to its isolation position.

4.6.4.1.3 The isolation time of each power operated or automatic valve of Table 3.6-1 shall be determined to be within its limit when tested pursuant to Technical Specification 4.0.5.

TABLE 3.6-1 (Continued)

CONTAINMENT ISOLATION VALVES

PENETRATION NUMBER	ISOLATION CHANNELS	ISOLATION VALVE IDENTIFICATION NO.	FUNCTION	ISOLATION TIME (SECONDS)
7A	NA	Blind Flange	ILRT	NA
	NA	ILRT-1		NA
7B	NA	Blind Flange	ILRT	NA
	NA	ILRT-2		NA
8	SIAS A	EAC-5462-MOV	Containment Normal Sump	$\leq$ 13
	SIAS B	EAD-5463-MOV		$\leq$ 13
9	NA	SI-340	Containment Spray	NA
	NA	SI-326		NA
10	NA	SI-330	Containment Spray	NA
	NA	SI-316		NA

TABLE 3.6-1 (Continued)

CONTAINMENT ISOLATION VALVES

PENETRATION NUMBER	ISOLATION CHANNELS	ISOLATION VALVE IDENTIFICATION NO.	FUNCTION	ISOLATION TIME (SECONDS)
15	SIAS A	RE-5291-CV	Purge Air Monitor	≤ 7
	SIAS B	RE-5292-CV		≤ 7
16	CIS A	CC-3832-CV	Component Cooling Water Inlet	≤ 18
18	CIS B	CC-3833-CV	Component Cooling Water Outlet	≤ 18
19A	NA	IA-337	Instrument Air	NA
	CIS A	IA-2080-MOV		≤ 13
19B	NA	PA-1040*	Plant Air	NA
	NA	PA-1044*		NA
20A	NA	N_2-344	Nitrogen Supply	NA
	NA	N_2-612-CV*		NA
	NA	N_2-622-CV*		NA
	NA	N_2-632-CV*		NA
	NA	N_2-642-CV*		NA

TABLE 3.6-1 (Continued)

CONTAINMENT ISOLATION VALVES

PENETRATION NUMBER	ISOLATION CHANNELS	ISOLATION VALVE IDENTIFICATION NO.	FUNCTION	ISOLATION TIME (SECONDS)
44	NA	FP-141-A	Fire Protection	NA
	NA	FP-141-B		NA
	NA	FP-6200-MOV*		NA
47A	NA	PS-6540A-SV*	Hydrogen Sample Outlet	NA
	NA	PS-6507A-SV*		NA
47B	NA	PS-6540E-SV*	Hydrogen Sample Outlet	NA
	NA	PS-6507E-SV*		NA
47C	NA	PS-6540F-SV*	Hydrogen Sample Outlet	NA
	NA	PS-6507F-SV*		NA
47D	NA	PS-6540G-SV*	Hydrogen Sample Return	NA
	NA	PS-6507G-SV*		NA
48A	SIAS-B	HP-6900-MOV(3)	Containment Vent Isolation	≤ 15
	SIAS-A	HP-6301-MOV(3)		≤ 15

TABLE 3.6-1 (Continued)

CONTAINMENT ISOLATION VALVES

PENETRATION NUMBER	ISOLATION CHANNELS	ISOLATION VALVE IDENTIFICATION NO.	FUNCTION	ISOLATION TIME (SECONDS)
61	NA	SFP-176	Refueling Pool Outlet	NA
	NA	SFP-174		NA
	NA	SFP-172		NA
	NA	SFP-189		NA
62	SIAS A	PH-6579-MOV	Containment Heating Outlet	$\leq$ 13
64	NA	PH-376	Containment Heating Inlet	NA

* May be open on an intermittent basis under administrative control.

(1) Manual or remote valve which is closed during plant operation.

(2) May be opened below 300^{O}F to establish shutdown cooling flow.

(3) Containment vent isolation valves shall be opened for containment pressure control, airborne radioactivity control, and surveillance testing purposes only.

REFUELING OPERATIONS

CONTAINMENT PENETRATIONS

LIMITING CONDITION FOR OPERATION

3.9.4 The containment penetrations shall be in the following status:

a. The equipment door closed and held in place by a minimum of four bolts,

b. A minimum of one door in each airlock is closed*, and

c. Each penetration providing direct access from the containment atmosphere to the outside atmosphere shall be either:

1. Closed by an isolation valve, blind flange, or manual valve, or

2. Be capable of being closed by an **OPERABLE** automatic containment purge valve.

APPLICABILITY: During **CORE ALTERATIONS** or movement of irradiated fuel within the containment.

ACTION:

With the requirements of the above specification not satisfied, immediately suspend all operations involving **CORE ALTERATIONS** or movement of irradiated fuel in the containment. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.4.1 Each of the above required containment penetrations shall be determined to be either in its closed/isolated condition or capable of being closed by an **OPERABLE** automatic containment purge valve within 72 hours prior to the start of and at least once per 7 days during **CORE ALTERATIONS** or movement of irradiated fuel in the containment by:

a. Verifying the penetrations are in their closed/isolated condition, or

b. Demonstrating that the containment purge valves are **OPERABLE** by:

1. Verifying that on each Containment Radiation - High Channel A or Channel B test signal, both required containment purge valves actuate to their isolation position, and

2. Verifying that containment purge valve isolation occurs on manual initiation.

4.9.4.2 The isolation time of each containment purge valve shall be determined to be $\leq$ 7 seconds when tested pursuant to Technical Specification 4.0.5

4.9.4.3 The containment purge valves shall be demonstrated **OPERABLE** prior to returning the valves to automatic service after maintenance, repair, or replacement work is performed on the purge valve or its associated actuator, control, or power circuit by performance of a cycling test and verification of isolation time.

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* The emergency escape hatch temporary closure device is an acceptable replacement for that air lock door.

Technical Specification 3.9.9
was deleted
by Amendment No. _____

3/4.9 REFUELING OPERATIONS

BASES

3/4.9.1 BORON CONCENTRATION

The limitations on minimum boron concentration (2300 ppm) ensure that: 1) the reactor will remain subcritical during CORE ALTERATIONS, and 2) a uniform boron concentration is maintained for reactivity control in the water volumes having direct access to the reactor vessel. The limitation on K_{eff} of no greater than 0.95 which includes a conservative allowance for uncertainties, is sufficient to prevent reactor criticality during refueling operations.

3/4.9.2 INSTRUMENTATION

The OPERABILITY of the source range neutron flux monitors ensures that redundant monitoring capability is available to detect changes in the reactivity condition of the core.

3/4.9.3 DECAY TIME

The minimum requirement for reactor subcriticality prior to movement of irradiated fuel assemblies in the reactor pressure vessel ensures that sufficient time has elapsed to allow the radioactive decay of the short lived fission products. This decay time is consistent with the assumptions used in the accident analyses.

3/4.9.4 CONTAINMENT PENETRATIONS

The OPERABILITY of the containment purge valves ensures these valves will be automatically isolated upon detection of high radiation levels within the containment. The requirements on containment penetration closure and OPERABILITY ensure that a release of radioactive material within containment will be restricted from leakage to the environment. The OPERABILITY and closure restrictions are sufficient to restrict radioactive material release from a fuel element rupture based upon the lack of containment pressurization potential while in the REFUELING MODE.

3/4.9.5 COMMUNICATIONS

The requirement for communications capability ensures that refueling station personnel can be promptly informed of significant changes in the facility status or core reactivity condition during CORE ALTERATIONS.

3/4.9.6 REFUELING MACHINE OPERABILITY

The **OPERABILITY** requirements for the refueling machine ensure that: (1) the refueling machine will be used for movement of CEAs and fuel assemblies, (2) the refueling machine has sufficient load capacity to lift a CEA or fuel assembly, and (3) the core internals and pressure vessel are protected from excessive lifting force in the event they are inadvertently engaged during lifting operations.

3/4.9.7 CRANE TRAVEL - SPENT FUEL STORAGE BUILDING

The restriction on movement of loads in excess of the nominal weight of a fuel assembly and CEA over other fuel assemblies in the storage pool ensures that in the event this load is dropped (1) the activity release will be limited to that contained in a single fuel assembly, and (2) any possible distortion of fuel in the storage racks will not result in a critical array. This assumption is consistent with the activity release assumed in the accident analyses.

3/4.9.8 COOLANT CIRCULATION

The requirement that at least one shutdown cooling loop be in operation ensures that (1) sufficient cooling capacity is available to remove decay heat and maintain the water in the reactor pressure vessel below 140°F as required during the **REFUELING MODE**, and (2) sufficient coolant circulation is maintained through the reactor core to minimize the effects of a boron dilution incident and prevent boron stratification.

The requirement to have two shutdown cooling loops **OPERABLE** when there is less than 23 feet of water above the core ensures that a single failure of the operating shutdown cooling loop will not result in a complete loss of decay heat removal capability. With the reactor vessel head removed and 23 feet of water above the core, a large heat sink is available for core cooling, thus in the event of a failure of the operating shutdown cooling loop, adequate time is provided to initiate emergency procedures to cool the core.

3/4.9.9

Technical Specification 3/4.9.9 was deleted by Amendment No. _____.

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LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

BASES

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

FUNCTIGNAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
6. CONTAINMENT PURGE VALVES ISOLATION					
a. Manual (Purge Valve Control Switches)	2/Penetration	1/Penetration	2/Penetration	6**	8
b. Containment Radiation - High Area Monitor	4	2	3	6**	8
7. LOSS OF POWER					
a. 4.16 kv Emergency Bus Undervoltage (Loss of Voltage)	4/Bus	2/Bus	3/Bus	1, 2, 3	7*
b. 4.16 kv Emergency Bus Undervoltage (Degraded Voltage)	4/Bus	2/Bus	3/Bus	1, 2, 3	7*

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

TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION TRIP VALUES

FUNCTIONAL UNIT	TRIP VALUE	ALLOWABLE VALUES
5. CONTAINMENT SUMP RECIRCULATION (RAS)		
a. Manual RAS (Trip Buttons)	Not Applicable	Not Applicable
b. Refueling Water Tank - Low	$\geq$ 24 inches above tank bottom	$\geq$ 24 inches above tank bottom
6. CONTAINMENT PURGE VALVES ISOLATION		
a. Manual (Purge Valve Control Switches)	Not Applicable	Not Applicable
b. Containment Radiation - High Area Monitor	$\leq$ 220 mr/hr	$\leq$ 220 mr/hr
7. LOSS OF POWER		
a. 4.16 kv Emergency Bus Undervoltage (Loss of Voltage)	2450 $\pm$ 105 volts with a 2 $\pm$ 0.2 second time delay	2450 $\pm$ 105 volts with a 2 $\pm$ 0.2 second time delay
b. 4.16 kv Emergency Bus Undervoltage (Degraded Voltage)	3628 $\pm$ 25 volts with a 8 $\pm$ 0.4 second time delay	3628 $\pm$ 25 volts with a 8 $\pm$ 0.4 second time delay

Amendment No. 40/53,
Amendment No. 34/224/36

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
5. CONTAINMENT SUMP RECIRCULATION (RAS)				
a. Manual RAS (Trip Buttons)	NA	NA	R	NA
b. Refueling Water Tank - Low	NA	R	M	1, 2, 3
c. Automatic Actuation Logic	NA	NA	M(1)	1, 2, 3
6. CONTAINMENT PURGE VALVES ISOLATION				
a. Manual (Purge Valve Control Switches)	NA	NA	R	NA
b. Containment Radiation - High Area Monitor	S	R	M	6
7. LOSS OF POWER				
a. 4.16 kv Emergency Bus Undervoltage (Loss of Voltage)	NA	R	M	1, 2, 3
b. 4.16 kv Emergency Bus Undervoltage (Degraded Voltage)	NA	R	M	1, 2, 3
8. CVCS ISOLATION				
West Penetration Room/Letdown Heat Exchanger Room Pressure - High	NA	R	M	1, 2, 3, 4
9. AUXILIARY FEEDWATER				
a. Manual (Trip Buttons)	NA	NA	R	NA
b. Steam Generator Level - Low	S	R	M	1, 2, 3
c. Steam Generator ΔP - High	S	R	M	1, 2, 3
d. Automatic Actuation Logic	NA	NA	M(1)	1, 2, 3

SURVEILLANCE REQUIREMENTS (Continued)

4.6.4.1.2 Each isolation valve specified in Table 3.6-1 shall be demonstrated OPERABLE during the COLD SHUTDOWN or REFUELING MODE at least once per refueling interval by:

a. Verifying that on each containment isolation Channel A or Channel B test signal, each required isolation valve actuates to its isolation position.

b. Verifying that on each Safety Injection Actuation Channel A or Channel B test signal, each required isolation valve actuates to its isolation position.

4.6.4.1.3 The isolation time of each power operated or automatic valve of Table 3.6-1 shall be determined to be within its limit when tested pursuant to Technical Specification 4.0.5.

TABLE 3.6-1 (Continued)

CONTAINMENT ISOLATION VALVES

PENETRATION NUMBER	ISOLATION CHANNELS	ISOLATION VALVE IDENTIFICATION NO.	FUNCTION	ISOLATION TIME (SECONDS)
7A	NA	Blind Flange	ILRT	NA
	NA	ILRT-1		NA
7B	NA	Blind Flange	ILRT	NA
	NA	ILRT-2		NA
8	SIAS A	EAD-5462-MOV	Containment Normal Sump	≤ 13
	SIAS B	EAD-5463-MOV		≤ 13
9	NA	SI-340	Containment Spray	NA
	NA	SI-326		NA
10	NA	SI-330	Containment Spray	NA
	NA	SI-316		NA

TABLE 3.6-1 (Continued)

CONTAINMENT ISOLATION VALVES

PENETRATION NUMBER	ISOLATION CHANNELS	ISOLATION VALVE IDENTIFICATION NO.	FUNCTION	ISOLATION TIME (SECONDS)
15	SIAS A	RE-5291-CV	Purge Air Monitor	≤ 7
	SIAS B	RE-5292-CV		≤ 7
16	CIS A	CC-3832-CV	Component Cooling Water Inlet	≤ 18
18	CIS B	CC-3833-CV	Component Cooling Water Outlet	≤ 18
19A	NA	IA-175	Instrument Air	NA
	CIS A	IA-2080-MOV		≤ 13
19B	NA	PA-137*	Plant Air	NA
	NA	PA-1044*		NA
20A	NA	N_2-347	Nitrogen Supply	NA
	NA	N_2-612-CV*		NA
	NA	N_2-622-CV*		NA
	NA	N_2-632-CV*		NA
	NA	N_2-642-CV*		NA

TABLE 3.6-1 (Continued)

CONTAINMENT ISOLATION VALVES

PENETRATION NUMBER	ISOLATION CHANNELS	ISOLATION VALVE IDENTIFICATION NO.	FUNCTION	ISOLATION TIME (SECONDS)
44	NA	FP-141-A	Fire Protection	NA
	NA	FP-141-B		NA
	NA	FP-6200-MOV*		NA
47A	NA	PS-6540A-SV*	Hydrogen Sample Outlet	NA
	NA	PS-6507A-SV*		NA
47B	NA	PS-6540E-SV*	Hydrogen Sample Outlet	NA
	NA	PS-6507E-SV*		NA
47C	NA	PS-6540F-SV*	Hydrogen Sample Outlet	NA
	NA	PS-6507F-SV*		NA
47D	NA	PS-6540G-SV*	Hydrogen Sample Return	NA
	NA	PS-6507G-SV*		NA
48A	SIAS-B	HP-6900-MOV(3)	Containment Vent Isolation	$\leq$ 15
	SIAS-A	HP-6901-MOV(3)		$\leq$ 15

TABLE 3.6-1 (Continued)

CONTAINMENT ISOLATION VALVES

PENETRATION NUMBER	ISOLATION CHANNELS	ISOLATION VALVE IDENTIFICATION NO.	FUNCTION	ISOLATION TIME (SECONDS)
61	NA	SFP-184	Refueling Pool Outlet	NA
	NA	SFP-182		NA
	NA	SFP-180		NA
	NA	SFP-186		NA
62	SIAS A	PH-6579-MOV	Containment Heating Outlet	$\leq$ 13
64	NA	PH-387	Containment Heating Inlet	NA

* May be open on an intermittent basis under administrative control.

(1) Manual or remote valve which is closed during plant operation.

(2) May be opened below 300^{o}F to establish shutdown cooling flow.

(3) Containment vent isolation valves shall be opened for containment pressure control, airborne radioactivity control, and surveillance testing purposes only.

REFUELING OPERATIONS

CONTAINMENT PENETRATIONS

LIMITING CONDITION FOR OPERATION

3.9.4 The containment penetrations shall be in the following status:

a. The equipment door closed and held in place by a minimum of four bolts,

b. A minimum of one door in each airlock is closed*, and

c. Each penetration providing direct access from the containment atmosphere to the outside atmosphere shall be either:

1. Closed by an isolation valve, blind flange, or manual valve, or

2. Be capable of being closed by an **OPERABLE** automatic containment purge valve.

APPLICABILITY: During **CORE ALTERATIONS** or movement of irradiated fuel within the containment.

ACTION:

With the requirements of the above specification not satisfied, immediately suspend all operations involving **CORE ALTERATIONS** or movement of irradiated fuel in the containment. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.4.1 Each of the above required containment penetrations shall be determined to be either in its closed/isolated condition or capable of being closed by an **OPERABLE** automatic containment purge valve within 72 hours prior to the start of and at least once per 7 days during **CORE ALTERATIONS** or movement of irradiated fuel in the containment by:

a. Verifying the penetrations are in their closed/isolated condition, or

b. Demonstrating that the containment purge valves are **OPERABLE** by:

1. Verifying that on each Containment Radiation - High Channel A or Channel B test signal, both required containment purge valves actuate to their isolation position, and

2. Verifying that containment purge valve isolation occurs on manual initiation.

4.9.4.2 The isolation time of each containment purge valve shall be determined to be $\leq$ 7 seconds when tested pursuant to Technical Specification 4.0.5

4.9.4.3 The containment purge valves shall be demonstrated **OPERABLE** prior to returning the valves to automatic service after maintenance, repair, or replacement work is performed on the purge valve or its associated actuator, control, or power circuit by performance of a cycling test and verification of isolation time.

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* The emergency escape hatch temporary closure device is an acceptable replacement for that airlock door.

Technical Specification 3.9.9
was deleted
by Amendment No. _____

3/4.9 REFUELING OPERATIONS

BASES

3/4.9.1 BORON CONCENTRATION

The limitations on minimum boron concentration (2300 ppm) ensure that: 1) the reactor will remain subcritical during CORE ALTERATIONS, and 2) a uniform boron concentration is maintained for reactivity control in the water volumes having direct access to the reactor vessel. The limitation on K_{eff} of no greater than 0.95 which includes a conservative allowance for uncertainties, is sufficient to prevent reactor criticality during refueling operations.

3/4.9.2 INSTRUMENTATION

The OPERABILITY of the source range neutron flux monitors ensures that redundant monitoring capability is available to detect changes in the reactivity condition of the core.

3/4.9.3 DECAY TIME

The minimum requirement for reactor subcriticality prior to movement of irradiated fuel assemblies in the reactor pressure vessel ensures that sufficient time has elapsed to allow the radioactive decay of the short lived fission products. This decay time is consistent with the assumptions used in the accident analyses.

3/4.9.4 CONTAINMENT PENETRATIONS

The OPERABILITY of the containment purge valves ensures these valves will be automatically isolated upon detection of high radiation levels within the containment. The requirements on containment penetration closure and OPERABILITY ensure that a release of radioactive material within containment will be restricted from leakage to the environment. The OPERABILITY and closure restrictions are sufficient to restrict radioactive material release from a fuel element rupture based upon the lack of containment pressurization potential while in the REFUELING MODE.

3/4.9.5 COMMUNICATIONS

The requirement for communications capability ensures that refueling station personnel can be promptly informed of significant changes in the facility status or core reactivity condition during CORE ALTERATIONS.

3/4.9.6 REFUELING MACHINE OPERABILITY

The OPERABILITY requirements for the refueling machine ensure that: (1) the refueling machine will be used for movement of CEAs and fuel assemblies, (2) the refueling machine has sufficient load capacity to lift a CEA or fuel assembly, and (3) the core internals and pressure vessel are protected from excessive lifting force in the event they are inadvertently engaged during lifting operations.

3/4.9.7 CRANE TRAVEL - SPENT FUEL STORAGE BUILDING

The restriction on movement of loads in excess of the nominal weight of a fuel assembly and CEA over other fuel assemblies in the storage pool ensures that in the event this load is dropped (1) the activity release will be limited to that contained in a single fuel assembly, and (2) any possible distortion of fuel in the storage racks will not result in a critical array. This assumption is consistent with the activity release assumed in the accident analyses.

3/4.9.8 COOLANT CIRCULATION

The requirement that at least one shutdown cooling loop be in operation ensures that (1) sufficient cooling capacity is available to remove decay heat and maintain the water in the reactor pressure vessel below 140°F as required during the REFUELING MODE, and (2) sufficient coolant circulation is maintained through the reactor core to minimize the effects of a boron dilution incident and prevent boron stratification.

The requirement to have two shutdown cooling loops OPERABLE when there is less than 23 feet of water above the core ensures that a single failure of the operating shutdown cooling loop will not result in a complete loss of decay heat removal capability. With the reactor vessel head removed and 23 feet of water above the core, a large heat sink is available for core cooling, thus in the event of a failure of the operating shutdown cooling loop, adequate time is provided to initiate emergency procedures to cool the core.

3/4.9.9

Technical Specification 3/4.9.9 was deleted by Amendment No. _____.