3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS)

3.5.1 Accumulators

LCO 3.5.1 Two ECCS accumulators shall be OPERABLE.

APPLICABILITY: MODES 1 and 2,
MODE 3 with pressurizer pressure > 1600 psig.

ACTIONS

CONDITION		REQUIRED ACTION		COMPLETION TIME
A.	One accumulator inoperable due to boron concentration not within limits.	A.1	Restore boron concentration to within limits.	72 hours
B.	One accumulator inoperable for reasons other than Condition A.	B.1	Restore accumulator to OPERABLE status.	1 hour
C.	Required Action and associated Completion Time of Condition A or B not met.	C.1 AND C.2	Be in MODE 3. Reduce pressurizer pressure to ≤ 1600 psig.	6 hours 12 hours
D.	Two accumulators inoperable.	D.1	Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.5.1.1	Verify each accumulator motor operated isolation valve is fully open.	12 hours
SR 3.5.1.2	Verify borated water volume in each accumulator is ≥ 1111 cubic feet (50%) and ≤ 1139 cubic feet (82%).	12 hours

SURVEILLANCE		FREQUENCY
SR 3.5.1.3	Verify nitrogen cover pressure in each accumulator is ≥ 700 psig and ≤ 790 psig.	12 hours
SR 3.5.1.4	Verify boron concentration in each accumulator is ≥ 2100 ppm and ≤ 2600 ppm.	31 days on a STAGGERED TEST BASIS
SR 3.5.1.5	Verify power is removed from each accumulator motor operated isolation valve operator when pressurizer pressure is > 1600 psig.	31 days

3:5 EMERGENCY CORE COOLING SYSTEMS (ECCS)

3.5.2 ECCS - MODES 1, 2, and 3

LCO 3.5.2 Two ECCS trains shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

- NOTE -

1. In MODE 3, both safety injection (SI) pump flow paths may be isolated by closing the isolation valves for up to 2 hours to perform pressure isolation valve testing per SR 3.4.14.1. Power may be restored to motor operated isolation valves 878B and 878D for up to 12 hours for the purpose of testing per SR 3.4.14.1 provided that power is restored to only one valve at a time.

2. Operation in MODE 3 with ECCS pumps declared inoperable pursuant to LCO 3.4.12, "Low Temperature Overpressure Protection (LTOP) System," is allowed for up to 4 hours or until the temperature of both RCS cold legs exceeds 375°F, whichever comes first.

ACTIONS

CONDITION		REQUIRED ACTION		COMPLETION TIME
A.	One train inoperable. AND At least 100% of the ECCS flow equivalent to a single OPERABLE ECCS train available.	A.1	Restore train to OPERABLE status.	72 hours
B.	Required Action and associated Completion Time not met.	B.1 AND B.2	Be in MODE 3. Be in MODE 4.	6 hours 12 hours
C.	Two trains inoperable.	C.1	Enter LCO 3.0.3	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE				FREQUENCY
SR 3.5.2.1	Verify the following valves are in the listed position.			12 hours
	Number	Position	Function	
	825A	Open	RWST Suction to SI Pumps	
	825B	Open	RWST Suction to SI Pumps	
	826A	Closed	BAST Suction to SI Pumps	
	826B	Closed	BAST Suction to SI Pumps	
	826C	Closed	BAST Suction to SI Pumps	
	826D	Closed	BAST Suction to SI Pumps	
	851A	Open	Sump B to RHR Pumps	
	851B	Open	Sump B to RHR Pumps	
	856	Open	RWST Suction to RHR Pumps	
	878A	Closed	SI Injection to RCS Hot Leg	
	878B	Open	SI Injection to RCS Cold Leg	
	878C	Closed	SI Injection to RCS Hot Leg	
	878D	Open	SI Injection to RCS Cold Leg	
	896A	Open	RWST Suction to SI and Containment Spray	
	896B	Open	RWST Suction to SI and Containment Spray	
SR 3.5.2.2	Verify each ECCS manual, power operated, and automatic valve in the flow path, that is not locked, sealed, or otherwise secured in position, is in the correct position.			31 days
SR 3.5.2.3	Verify each breaker or key switch, as applicable, for each valve listed in SR 3.5.2.1, is in the correct position.			31 days

SURVEILLANCE		FREQUENCY
SR 3.5.2.4	Verify each ECCS pump's developed head at the test flow point is greater than or equal to the required developed head.	In accordance with the Inservice Testing Program
SR 3.5.2.5	Verify each ECCS automatic valve in the flow path that is not locked, sealed, or otherwise secured in position actuates to the correct position on an actual or simulated actuation signal.	24 months
SR 3.5.2.6	Verify each ECCS pump starts automatically on an actual or simulated actuation signal.	24 months
SR 3.5.2.7	Verify, by visual inspection, each RHR containment sump suction inlet is not restricted by debris and the containment sump screen shows no evidence of structural distress or abnormal corrosion.	24 months

3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS)

3.5.3 ECCS - MODE 4

LCO 3.5.3 One ECCS train shall be OPERABLE.

APPLICABILITY: MODE 4.

ACTIONS

CONDITION		REQUIRED ACTION		COMPLETION TIME
A.	Required ECCS residual heat removal (RHR) subsystem inoperable.	A.1	Initiate action to restore required ECCS RHR subsystem to OPERABLE status.	Immediately
B.	Required ECCS Safety Injection (SI) subsystem inoperable.	B.1	Restore required ECCS SI subsystem to OPERABLE status.	1 hour
C.	Required Action and associated Completion Time of Condition B not met.	C.1	Be in MODE 5.	24 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.5.3.1	- NOTE - An RHR train may be considered OPERABLE during alignment and operation for decay heat removal, if capable of being manually realigned to the ECCS mode of operation.	
	SR 3.5.2.4 is applicable for all equipment required to be OPERABLE.	In accordance with applicable SR

3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS)

3.5.4 Refueling Water Storage Tank (RWST)

LCO 3.5.4 The RWST shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. RWST boron concentration not within limits.	A.1 Restore RWST to OPERABLE status.	8 hours
B. RWST water volume not within limits.	B.1 Restore RWST to OPERABLE status.	1 hour
C. Required Action and associated Completion Time not met.	C.1 Be in MODE 3. AND C.2 Be in MODE 5.	6 hours 36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.5.4.1	Verify RWST borated water volume is ≥ 300,000 gallons (88%).	7 days
SR 3.5.4.2	Verify RWST boron concentration is ≥ 2300 ppm and ≤ 2600 ppm.	7 days

3.6 CONTAINMENT SYSTEMS

3.6.1 Containment

LCO 3.6.1 Containment shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION		REQUIRED ACTION		COMPLETION TIME
A.	Containment inoperable.	A.1	Restore containment to OPERABLE status.	1 hour
B.	Required Action and associated Completion Time not met.	B.1	Be in MODE 3.	6 hours
		AND		
		B.2	Be in MODE 5.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.1.1	- NOTE - SR 3.0.2 is not applicable. Perform required visual examinations and leakage rate testing except for containment air lock and containment mini-purge valve testing, in accordance with the Containment Leakage Rate Testing Program.	In accordance with the Containment Leakage Rate Testing Program
SR 3.6.1.2	Verify containment structural integrity in accordance with the Containment Tendon Surveillance Program.	In accordance with the Containment Tendon Surveillance Program

3.6 CONTAINMENT SYSTEMS

3.6.2 Containment Air Locks

LCO 3.6.2 Two containment air locks shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

- NOTE -

1. Entry and exit is permissible to perform repairs on the affected air lock components.
2. Separate Condition entry is allowed for each air lock.
3. Enter applicable Conditions and Required Actions of LCO 3.6.1, "Containment," when air lock leakage results in exceeding the overall containment leakage rate acceptance criteria.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more containment air locks with one containment air lock door inoperable.	- NOTE - 1. Required Actions A.1, A.2, and A.3 are not applicable if both doors in the same air lock are inoperable and Condition C is entered. 2. Entry and exit is permissible for 7 days under administrative controls if both air locks are inoperable. A.1 Verify the OPERABLE door is closed in the affected air lock. AND	1 hour

CONDITION	REQUIRED ACTION	COMPLETION TIME
	A.2 Lock the OPERABLE door closed in the affected air lock. AND A.3 - NOTE - Air lock doors in high radiation areas may be verified locked closed by administrative means. Verify the OPERABLE door is locked closed in the affected air lock.	24 hours Once per 31 days
B. One or more containment air locks with containment air lock interlock mechanism inoperable.	- NOTE - 1. Required Actions B.1, B.2, and B.3 are not applicable if both doors in the same air lock are inoperable and Condition C is entered. 2. Entry and exit of containment is permissible under the control of a dedicated individual. B.1 Verify an OPERABLE door is closed in the affected air lock. AND B.2 Lock an OPERABLE door closed in the affected air lock. AND	 1 hour 24 hours

CONDITION	REQUIRED ACTION	COMPLETION TIME
	B.3 - NOTE - Air lock doors in high radiation areas may be verified locked closed by administrative means. Verify an OPERABLE door is locked closed in the affected air lock.	Once per 31 days
C. One or more containment air locks inoperable for reasons other than Condition A or B.	C.1 Initiate action to evaluate overall containment leakage rate per LCO 3.6.1.	Immediately
	AND	
	C.2 Verify a door is closed in the affected air lock.	1 hour
	AND	
	C.3 Restore air lock to OPERABLE status.	24 hours
D. Required Action and associated Completion Time not met.	D.1 Be in MODE 3.	6 hours
	AND	
	D.2 Be in MODE 5.	36 hours

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.6.2.1	- NOTE - 1. An inoperable air lock door does not invalidate the previous successful performance of the overall air lock leakage test. 2. Results shall be evaluated against acceptance criteria applicable to SR 3.6.1.1. Perform required air lock leakage rate testing in accordance with the Containment Leakage Rate Testing Program.	In accordance with the Containment Leakage Rate Testing Program
SR 3.6.2.2	Verify only one door in each air lock can be opened at a time.	24 months

3.6 CONTAINMENT SYSTEMS

3.6.3 Containment Isolation Boundaries

LCO 3.6.3 Each containment isolation boundary shall be OPERABLE.

- NOTE -

1. Not applicable to the main steam safety valves in MODES 1, 2, and 3.

2. Not applicable to the main steam isolation valves (MSIVs) in MODE 1, and in MODES 2 and 3 with the MSIVs open or not deactivated.

3. Not applicable to the atmospheric relief valves in MODES 1 and 2, and in MODE 3 with the Reactor Coolant System average temperature (T_{avg}) ≥ 500°F.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

- NOTE -

1. Penetration flow path(s), except for Shutdown Purge System valve flow paths, may be unisolated intermittently under administrative controls.

2. Separate Condition entry is allowed for each penetration flow path.

3. Enter applicable Conditions and Required Actions for systems made inoperable by containment isolation boundaries.

4. Enter applicable Conditions and Required Actions of LCO 3.6.1, "Containment," when isolation boundary leakage results in exceeding the overall containment leakage rate acceptance criteria.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. - NOTE - Only applicable to penetration flow paths which do not use a closed system as a containment isolation boundary. One or more penetration flow paths with one containment isolation boundary inoperable except for mini-purge valve leakage not within limit.	A.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, blind flange, or check valve with flow through the valve secured. AND A.2 - NOTE - Isolation boundaries in high radiation areas may be verified by use of administrative means. Verify the affected penetration flow path is isolated.	4 hours Once per 31 days for isolation boundaries outside containment AND Prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days for isolation boundaries inside containment

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. - NOTE - Only applicable to penetration flow paths which do not use a closed system as a containment isolation boundary. One or more penetration flow paths with two containment isolation boundaries inoperable except for mini-purge valve leakage not within limit.	B.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange.	1 hour
C. - NOTE - Only applicable to penetration flow paths which use a closed system as a containment isolation boundary. One or more penetration flow paths with one containment isolation boundary inoperable.	C.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange. AND	72 hours

CONDITION	REQUIRED ACTION	COMPLETION TIME
	C.2 - NOTE - Isolation boundaries in high radiation areas may be verified by use of administrative means. Verify the affected penetration flow path is isolated.	Once per 31 days for isolation boundaries outside containment AND Prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days for isolation boundaries inside containment
D. One or more mini-purge penetration flow paths with one valve not within leakage limits.	D.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange. AND	24 hours

CONDITION	REQUIRED ACTION	COMPLETION TIME
	D.2 - NOTE - Isolation boundaries in high radiation areas may be verified by use of administrative means. Verify the affected penetration flow path is isolated.	Once per 31 days for isolation boundaries outside containment AND Prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days for isolation boundaries inside containment
E. One or more mini-purge penetration flow paths with two valves not within leakage limits.	E.1 Initiate action to evaluate overall containment leakage rate per LCO 3.6.1. AND E.2 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange.	Immediately 1 hour
F. Required Action and associated Completion Time not met.	F.1 Be in MODE 3. AND F.2 Be in MODE 5.	6 hours 36 hours

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.6.3.1	Verify each mini-purge valve is closed, except when the penetration flowpath(s) are permitted to be open under administrative control.	31 days
SR 3.6.3.2	- NOTE - 1. Isolation boundaries in high radiation areas may be verified by use of administrative controls. 2. Not applicable to containment isolation boundaries which receive an automatic containment isolation signal. Verify each containment isolation boundary that is located outside containment and not locked, sealed, or otherwise secured in the required position is performing its containment isolation accident function except for containment isolation boundaries that are open under administrative controls.	92 days
SR 3.6.3.3	- NOTE - 1. Isolation boundaries in high radiation areas may be verified by use of administrative means. 2. Not applicable to containment isolation boundaries which receive an automatic containment isolation signal. Verify each containment isolation boundary that is located inside containment and not locked, sealed, or otherwise secured in the required position is performing its containment isolation accident function, except for containment isolation boundaries that are open under administrative controls.	Prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days
SR 3.6.3.4	Verify the isolation time of each automatic containment isolation valve is within limits.	In accordance with the Inservice Testing Program
SR 3.6.3.5	Perform required leakage rate testing of containment mini-purge valves with resilient seals in accordance with the Containment Leakage Rate Testing Program.	In accordance with the Containment Leakage Rate Program.

	SURVEILLANCE	FREQUENCY
SR 3.6.3.6	Verify each automatic containment isolation valve that is not locked, sealed, or otherwise secured in the required position actuates to the isolation position on an actual or simulated actuation signal.	24 months

3.6 CONTAINMENT SYSTEMS

3.6.4 Containment Pressure

LCO 3.6.4 Containment pressure shall be ≥ -2.0 psig and ≤ 1.0 psig.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION		REQUIRED ACTION		COMPLETION TIME
A.	Containment pressure not within limits.	A.1	Restore containment pressure to within limits.	8 hours
B.	Required Action and associated Completion Time not met.	B.1 AND	Be in MODE 3.	6 hours
		B.2	Be in MODE 5.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.4.1	Verify containment pressure is within limits.	12 hours

3.6 CONTAINMENT SYSTEMS

3.6.5 Containment Air Temperature

LCO 3.6.5 Containment average air temperature shall be ≤ 120°F.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION		REQUIRED ACTION		COMPLETION TIME
A.	Containment average air temperature not within limit.	A.1	Restore containment average air temperature to within limit.	24 hours
B.	Required Action and associated Completion Time not met.	B.1	Be in MODE 3.	6 hours
		AND		
		B.2	Be in MODE 5.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.5.1	Verify containment average air temperature is within limit.	12 hours

3.6 CONTAINMENT SYSTEMS

3.6.6 Containment Spray (CS), Containment Recirculation Fan Cooler (CRFC), NaOH, and Containment Post-Accident Charcoal Systems

LCO 3.6.6 Two CS trains, four CRFC units, two post-accident charcoal filter trains, and the NaOH system shall be OPERABLE.

- NOTE -

In MODE 4, both CS pumps may be in pull-stop for up to 2 hours for the performance of interlock and valve testing of motor operated valves (MOVs) 857A, 857B, and 857C. Power may also be restored to MOVs 896A and 896B, and the valves placed in the closed position, for up to 2 hours for the purpose of each test.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION		REQUIRED ACTION		COMPLETION TIME
A.	One CS train inoperable.	A.1	Restore CS train to OPERABLE status.	72 hours
B.	One post-accident charcoal filter train inoperable.	B.1	Restore post-accident charcoal filter to OPERABLE status.	7 days
C.	Two post-accident charcoal filter trains inoperable.	C.1	Restore one post-accident charcoal filter train to OPERABLE status.	72 hours
D.	NaOH system inoperable.	D.1	Restore NaOH System to OPERABLE status.	72 hours
E.	Required Action and associated Completion Time of Condition A, B, C, or D not met.	E.1 AND E.2	Be in MODE 3. Be in MODE 5.	6 hours 84 hours

CONDITION		REQUIRED ACTION		COMPLETION TIME
F.	One or two CRFC units inoperable.	F.1	- NOTE - Required Action F.1 only required if CRFC unit A or C is inoperable.	
			Declare associated post-accident charcoal filter train inoperable.	Immediately
		AND		
		F.2	Restore CRFC unit(s) to OPERABLE status.	7 days
G.	Required Action and associated Completion Time of Condition F not met.	G.1	Be in MODE 3.	6 hours
		AND		
		G.2	Be in MODE 5.	36 hours
H.	Two CS trains inoperable. OR NaOH System and one or both post-accident charcoal filter trains inoperable. OR Three or more CRFC units inoperable. OR One CS and two post-accident charcoal filter trains inoperable.	H.1	Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.6.1	Perform SR 3.5.2.1 and SR 3.5.2.3 for valves 896A and 896B.	In accordance with applicable SRs.
SR 3.6.6.2	Verify each CS manual, power operated, and automatic valve in the flow path that is not locked, sealed, or otherwise secured in position is in the correct position.	31 days
SR 3.6.6.3	Verify each NaOH System manual, power operated, and automatic valve in the flow path that is not locked, sealed, or otherwise secured in position is in the correct position.	31 days
SR 3.6.6.4	Operate each CRFC unit for ≥ 15 minutes.	31 days
SR 3.6.6.5	Verify cooling water flow through each CRFC unit.	31 days
SR 3.6.6.6	Operate each post-accident charcoal filter train for ≥ 15 minutes.	31 days
SR 3.6.6.7	Verify each CS pump's developed head at the flow test point is greater than or equal to the required developed head.	In accordance with the Inservice Testing Program
SR 3.6.6.8	Verify NaOH System solution volume is ≥ 4500 gal.	184 days
SR 3.6.6.9	Verify NaOH System tank NaOH solution concentration is ≥ 30% by weight.	184 days
SR 3.6.6.10	Perform required post-accident charcoal filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP
SR 3.6.6.11	Perform required CRFC unit testing in accordance with the VFTP.	In accordance with the VFTP
SR 3.6.6.12	Verify each automatic CS valve in the flow path that is not locked, sealed, or otherwise secured in position actuates to the correct position on an actual or simulated actuation signal.	24 months
SR 3.6.6.13	Verify each CS pump starts automatically on an actual or simulated actuation signal.	24 months

SURVEILLANCE		FREQUENCY
SR 3.6.6.14	Verify each CRFC unit starts automatically on an actual or simulated actuation signal.	24 months
SR 3.6.6.15	Verify each post-accident charcoal filter train damper actuates on an actual or simulated actuation signal.	24 months
SR 3.6.6.16	Verify each automatic NaOH System valve in the flow path that is not locked, sealed, or otherwise secured in position actuates to the correct position on an actual or simulated actuation signal.	24 months
SR 3.6.6.17	Verify spray additive flow through each eductor path.	5 years
SR 3.6.6.18	Verify each spray nozzle is unobstructed.	10 years

3.6 CONTAINMENT SYSTEMS

3.6.7 Hydrogen Recombiners

LCO 3.6.7 Two hydrogen recombiners shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One hydrogen recombiner inoperable.	A.1 - - - - - - - - - - - - - - - - - - - NOTE - LCO 3.0.4 is not applicable. - - - - - - - - - - - - - - - - - - Restore hydrogen recombiner to OPERABLE status.	30 days
B. Two hydrogen recombiners inoperable.	B.1 Verify by administrative means that the hydrogen control function is maintained. AND B.2 Restore one hydrogen recombiner to OPERABLE status.	1 hour AND Once per 12 hours thereafter 7 days
C. Required Action and associated Completion Time not met.	C.1 Be in MODE 3.	6 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.7.1	Perform a system functional check for each hydrogen recombiner.	24 months
SR 3.6.7.2	Perform CHANNEL CALIBRATION for each hydrogen recombiner actuation and control channel.	24 months

3.7 PLANT SYSTEMS

3.7.1 Main Steam Safety Valves (MSSVs)

LCO 3.7.1 Eight MSSVs shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

- NOTE -

Separate Condition entry is allowed for each MSSV.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more MSSVs inoperable.	A.1 Restore inoperable MSSV(s) to OPERABLE status.	4 hours
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. AND B.2 Be in MODE 4.	6 hours 12 hours

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.7.1.1	- NOTE - Only required to be performed in MODES 1 and 2. Verify each MSSV lift setpoint specified below in accordance with the Inservice Testing Program. Following testing, lift settings shall be within ± 1%.	In accordance with the Inservice Testing Program

VALVE NUMBER		LIFT SETTING
SG A	SG B	(psig +1%, -3%)
3509	3508	1140
3511	3510	1140
3515	3512	1140
3513	3514	1085

3.7 PLANT SYSTEMS

3.7.2 Main Steam Isolation Valves (MSIVs) and Non-Return Check Valves

LCO 3.7.2 Two MSIVs and two non-return check valves shall be OPERABLE.

APPLICABILITY: MODE 1,
MODE 2 and 3 except when all MSIVs are closed and de-activated.

ACTIONS

CONDITION		REQUIRED ACTION		COMPLETION TIME
A.	One or more valves inoperable in flowpath from a steam generator (SG) in MODE 1.	A.1	Restore valve(s) to OPERABLE status.	8 hours
B.	Required Action and associated Completion Time of Condition A not met.	B.1	Be in MODE 2.	6 hours
C.	One or more valves inoperable in flowpath from a SG in MODE 2 or 3.	C.1 AND C.2	Close MSIV. Verify MSIV is closed.	8 hours Once per 7 days
D.	Required Action and Associated Completion Time of Condition C not met.	D.1 AND D.2	Be in MODE 3. Be in MODE 4.	6 hours 12 hours
E.	One or more valves inoperable in flowpath from each SG.	E.1	Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.7.2.1	Verify closure time of each MSIV is ≤ 5 seconds under no flow and no load conditions.	In accordance with the Inservice Testing Program
SR 3.7.2.2	Verify each main steam non-return check valve can close.	In accordance with the Inservice Testing Program
SR 3.7.2.3	Verify each MSIV can close on an actual or simulated actuation signal.	24 months

3.7 PLANT SYSTEMS

3.7.3 Main Feedwater Regulating Valves (MFRVs), Associated Bypass Valves, and Main Feedwater Pump Discharge Valves (MFPDVs)

LCO 3.7.3 Two MFRVs, associated bypass valves, and two MFPDVs shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3 except when both steam generators are isolated from both main feedwater pumps.

ACTIONS

- NOTE -
Separate Condition entry is allowed for each valve.

CONDITION		REQUIRED ACTION		COMPLETION TIME
A.	One or more MFPDV(s) inoperable.	A.1	Close MFPDV(s).	24 hours
		AND		
		A.2	Verify MFPDV(s) is closed.	Once per 7 days
B.	One or more MFRV(s) inoperable.	B.1	Close or isolate MFRV(s).	24 hours
		AND		
		B.2	Verify MFRV(s) is closed or isolated.	Once per 7 days
C.	One or more MFRV bypass valve(s) inoperable.	C.1	Close or isolate MFRV bypass valve(s).	24 hours
		AND		
		C.2	Verify MFRV bypass valve(s) is closed or isolated.	Once per 7 days

CONDITION		REQUIRED ACTION		COMPLETION TIME
D.	Required Action and associated Completion Time for Condition A, B, or C not met.	D.1	Be in MODE 3.	6 hours
		AND		
		D.2	Be in MODE 4.	12 hours
E.	One or more MFPDV(s) and one or more MFRV(s) inoperable. OR One or more MFPDV(s) and one or more MFRV bypass valve(s) inoperable.	E.1	Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.3.1	Verify the closure time of each MFPDV is ≤ 80 seconds on an actual or simulated actuation signal.	In accordance with the Inservice Testing Program
SR 3.7.3.2	Verify the closure time of each MFRV and associated bypass valve is ≤ 10 seconds on an actual or simulated actuation signal.	In accordance with the Inservice Testing Program

3.7 PLANT SYSTEMS

3.7.4 Atmospheric Relief Valves (ARVs)

LCO 3.7.4 Two ARV lines shall be OPERABLE.

APPLICABILITY: MODES 1 and 2,
MODE 3 with Reactor Coolant System average temperature (T_{avg}) ≥ 500°F.

ACTIONS

CONDITION		REQUIRED ACTION		COMPLETION TIME
A.	One ARV line inoperable.	A.1	- NOTE - LCO 3.0.4 is not applicable. Restore ARV line to OPERABLE status.	7 days
B.	Required Action and associated Completion Time of Condition A not met.	B.1	Be in MODE 3 with T_{avg} < 500°F.	8 hours
C.	Two ARV lines inoperable.	C.1	Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.4.1	Perform a complete cycle of each ARV.	24 months
SR 3.7.4.2	Verify one complete cycle of each ARV block valve.	24 months

3.7 PLANT SYSTEMS

3.7.5 Auxiliary Feedwater (AFW) System

LCO 3.7.5 Two motor driven AFW (MDAFW) trains, one turbine driven AFW (TDAFW) train, and two standby AFW (SAFW) trains shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION		REQUIRED ACTION		COMPLETION TIME
A.	One TDAFW train flowpath inoperable.	A.1	Restore TDAFW train flowpath to OPERABLE status.	7 days
B.	One MDAFW train inoperable.	B.1	Restore MDAFW train to OPERABLE status.	7 days
C.	TDAFW train inoperable. OR Two MDAFW trains inoperable. OR One TDAFW train flowpath and one MDAFW train inoperable to opposite steam generators (SGs).	C.1	Restore one MDAFW train or TDAFW train flowpath to OPERABLE status.	72 hours
D.	All AFW trains to one or more SGs inoperable.	D.1	Restore one AFW train or TDAFW flowpath to each affected SG to OPERABLE status.	4 hours
E.	One SAFW train inoperable.	E.1	Restore SAFW train to OPERABLE status.	14 days

CONDITION		REQUIRED ACTION		COMPLETION TIME
F.	Both SAFW trains inoperable.	F.1	Restore one SAFW train to OPERABLE status.	7 days
G.	Required Action and associated Completion Time for Condition A, B, C, D, E, or F not met.	G.1 AND G.2	Be in MODE 3. Be in MODE 4.	6 hours 12 hours
H.	Three AFW trains and both SAFW trains inoperable.	H.1	---------- - NOTE - LCO 3.0.3 and all other LCO Required Actions requiring MODE changes are suspended until one MDAFW, TDAFW, or SAFW train is restored to OPERABLE status. ---------- Initiate action to restore one MDAFW, TDAFW, or SAFW train to OPERABLE status.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.5.1	Verify each AFW and SAFW manual, power operated, and automatic valve in each water flow path, and in both steam supply flow paths to the turbine driven pump, that is not locked, sealed, or otherwise secured in position, is in the correct position.	31 days
SR 3.7.5.2	---------- - NOTE - Required to be met prior to entering MODE 1 for the TDAFW pump. ---------- Verify the developed head of each AFW pump at the flow test point is greater than or equal to the required developed head.	In accordance with the Inservice Testing Program

	SURVEILLANCE	FREQUENCY
SR 3.7.5.3	Verify the developed head of each SAFW pump at the flow test point is greater than or equal to the required developed head.	In accordance with the Inservice Testing Program
SR 3.7.5.4	Perform a complete cycle of each AFW and SAFW motor operated suction valve from the Service Water System, each AFW and SAFW discharge motor operated isolation valve, and each SAFW cross-tie motor operated valve.	In accordance with the Inservice Testing Program
SR 3.7.5.5	Verify each AFW automatic valve that is not locked, sealed, or otherwise secured in position, actuates to the correct position on an actual or simulated actuation signal.	24 months
SR 3.7.5.6	- NOTE - Required to be met prior to entering MODE 1 for the TDAFW pump. Verify each AFW pump starts automatically on an actual or simulated actuation signal.	24 months
SR 3.7.5.7	Verify each SAFW train can be actuated and controlled from the control room.	24 months

3.7 PLANT SYSTEMS

3.7.6 Condensate Storage Tanks (CSTs)

LCO 3.7.6 The CSTs shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. CST water volume not within limit.	A.1 Verify by administrative means OPERABILITY of backup water supply. AND A.2 Restore CST water volume to within limit.	4 hours 7 days
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. AND B.2 Be in MODE 4.	6 hours 12 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.6.1	Verify the CST water volume is ≥ 22,500 gal.	12 hours

3.7 PLANT SYSTEMS

3.7.7 Component Cooling Water (CCW) System

LCO 3.7.7 Two CCW trains, two CCW heat exchangers, and the CCW loop header shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION		REQUIRED ACTION		COMPLETION TIME
A.	One CCW train inoperable.	A.1	Restore CCW train to OPERABLE status.	72 hours
B.	One CCW heat exchanger inoperable.	B.1	Restore CCW heat exchanger to OPERABLE status.	31 days
C.	Required Action and associated Completion Time of Condition A or B not met.	C.1 AND C.2	Be in MODE 3. Be in MODE 5.	6 hours 36 hours
D.	Two CCW trains, two CCW heat exchangers, or loop header inoperable.	- - - - - - - - - - - - - - - - - - - NOTE - LCO 3.0.3 and all other LCO Required Actions requiring MODE changes are suspended until one CCW train, one CCW heat exchanger, and the loop header are restored to OPERABLE status. - - - - - - - - - - - - - - - - - - D.1 AND	Initiate Action to restore one CCW train, one heat exchanger, and loop header to OPERABLE status.	Immediately

CONDITION	REQUIRED ACTION	COMPLETION TIME
	D.2 Be in MODE 3.	6 hours
	AND	
	D.3 Be in MODE 4.	12 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.7.1	- NOTE - Isolation of CCW flow to individual components does not render the CCW loop header inoperable. Verify each CCW manual and power operated valve in the CCW train and heat exchanger flow path and loop header that is not locked, sealed, or otherwise secured in position, is in the correct position.	31 days
SR 3.7.7.2	Perform a complete cycle of each motor operated isolation valve to the residual heat removal heat exchangers.	In accordance with the Inservice Testing Program

3.7 PLANT SYSTEMS

3.7.8 Service Water (SW) System

LCO 3.7.8 Two SW trains and the SW loop header shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION		REQUIRED ACTION		COMPLETION TIME
A.	One SW train inoperable.	A.1	Restore SW train to OPERABLE status.	72 hours
B.	Required Action and associated Completion Time of Condition A not met.	B.1 AND B.2	Be in MODE 3. Be in MODE 5.	6 hours 36 hours
C.	Two SW trains or loop header inoperable.	C.1	- - - - - - - - - - - - - - - - - - - NOTE - Enter applicable conditions and Required Actions of LCO 3.7.7, "CCW System," for the component cooling water heat exchanger(s) made inoperable by SW. - - - - - - - - - - - - - - - - - - Enter LCO 3.0.3.	 Immediately

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.7.8.1	Verify screenhouse bay water level and temperature are within limits.	24 hours
SR 3.7.8.2	- NOTE - Isolation of SW flow to individual components does not render the SW loop header inoperable. Verify each SW manual, power operated, and automatic valve in the SW train flow path and loop header that is not locked, sealed, or otherwise secured in position, is in the correct position.	31 days
SR 3.7.8.3	Verify all SW loop header cross-tie valves are locked in the correct position.	31 days
SR 3.7.8.4	Verify each SW automatic valve in the flow path that is not locked, sealed, or otherwise secured in position, actuates to the correct position on an actual or simulated actuation signal.	24 months
SR 3.7.8.5	Verify each SW pump starts automatically on an actual or simulated actuation signal.	24 months

3.7 PLANT SYSTEMS

3.7.9 Control Room Emergency Air Treatment System (CREATS)

LCO 3.7.9 The CREATS shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4,
During movement of irradiated fuel assemblies,
During CORE ALTERATIONS.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. CREATS filtration train inoperable.	A.1 Restore CREATS filtration train to OPERABLE status. OR A.2 - - - - - - - - - - - - - - - - - - - NOTE - The control room may be unisolated for ≤ 1 hour every 24 hours while in this condition. - - - - - - - - - - - - - - - - - - Place isolation dampers in CREATS Mode F.	48 hours 48 hours
B. - - - - - - - - - - - - - - - - - - - NOTE - Separate Condition entry allowed for each damper. - - - - - - - - - - - - - - - - - - One CREATS isolation damper in one or more outside air flowpaths inoperable.	B.1 Restore isolation damper to OPERABLE status.	7 days

CONDITION		REQUIRED ACTION		COMPLETION TIME
C.	Required Action and associated Completion Time of Condition A or B not met in MODE 1, 2, 3, or 4.	C.1	Be in MODE 3.	6 hours
		AND		
		C.2	Be in MODE 5.	36 hours
D.	Required Action and associated Completion Time of Condition A or B not met during movement of irradiated fuel or during CORE ALTERATIONS.	D.1	Place OPERABLE isolation damper(s) in CREATS Mode F.	Immediately
		OR		
		D.2.1	Suspend CORE ALTERATIONS.	Immediately
			AND	
		D.2.2	Suspend movement of irradiated fuel assemblies.	Immediately
E.	Two CREATS isolation dampers for one or more outside air flow paths inoperable in MODE 1, 2, 3, or 4.	E.1	Enter LCO 3.0.3.	Immediately
F.	Two CREATS isolation dampers for one or more outside air flow paths inoperable during movement of irradiated fuel assemblies or during CORE ALTERATIONS.	F.1	Suspend CORE ALTERATIONS.	Immediately
		AND		
		F.2	Suspend movement of irradiated fuel assemblies.	Immediately

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.7.9.1	Operate the CREATS filtration train ≥ 15 minutes.	31 days
SR 3.7.9.2	Perform required CREATS filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with VFTP
SR 3.7.9.3	Verify the CREATS actuates on an actual or simulated actuation signal.	24 months

3.7 PLANT SYSTEMS

3.7.10 Auxiliary Building Ventilation System (ABVS)

LCO 3.7.10 The ABVS shall be OPERABLE and in operation.

APPLICABILITY: During movement of irradiated fuel assemblies in the Auxiliary Building when one or more fuel assemblies in the Auxiliary Building has decayed < 60 days since being irradiated.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. ABVS inoperable.	A.1 - - - - - - - - - - - - - - - - - - - NOTE - LCO 3.0.3 is not applicable. - - - - - - - - - - - - - - - - - - Suspend movement of irradiated fuel assemblies in the Auxiliary Building.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.10.1	Verify ABVS is in operation.	24 hours
SR 3.7.10.2	Verify ABVS maintains a negative pressure with respect to the outside environment at the Auxiliary Building operating floor level.	24 hours
SR 3.7.10.3	Perform required Spent Fuel Pool Charcoal Adsorber System filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP

3.7 PLANT SYSTEMS

3.7.11 Spent Fuel Pool (SFP) Water Level

LCO 3.7.11 The SFP water level shall be ≥ 23 ft over the top of irradiated fuel assemblies seated in the storage racks.

APPLICABILITY: During movement of irradiated fuel assemblies in the SFP.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. SFP water level not within limit.	A.1 - - - - - - - - - - - - - - - - - - - NOTE - LCO 3.0.3 is not applicable. - - - - - - - - - - - - - - - - - - Suspend movement of irradiated fuel assemblies in the SFP.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.11.1	Verify the SFP water level is ≥ 23 ft above the top of the irradiated fuel assemblies seated in the storage racks.	7 days

3.7 PLANT SYSTEMS

3.7.12 Spent Fuel Pool (SFP) Boron Concentration

LCO 3.7.12 The SFP boron concentration shall be ≥ 2300 ppm.

APPLICABILITY: Whenever any fuel assembly is stored in the SFP.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. SFP boron concentration not within limit.	- NOTE - LCO 3.0.3 is not applicable.	
	A.1 Suspend movement of fuel assemblies in the SFP.	Immediately
	AND	
	A.2 Initiate action to restore SFP boron concentration to within limit.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.12.1	Verify the SFP pool boron concentration is within limit.	7 days

3.7 PLANT SYSTEMS

3.7.13 Spent Fuel Pool (SFP) Storage

LCO 3.7.13 The combination of initial enrichment and burnup values, with appropriate decay times, of each fuel assembly stored in the spent fuel pool shall be within the acceptable burnup domain of the applicable Figures 3.7.13-1 through 3.7.13-11, based on region and cell type.

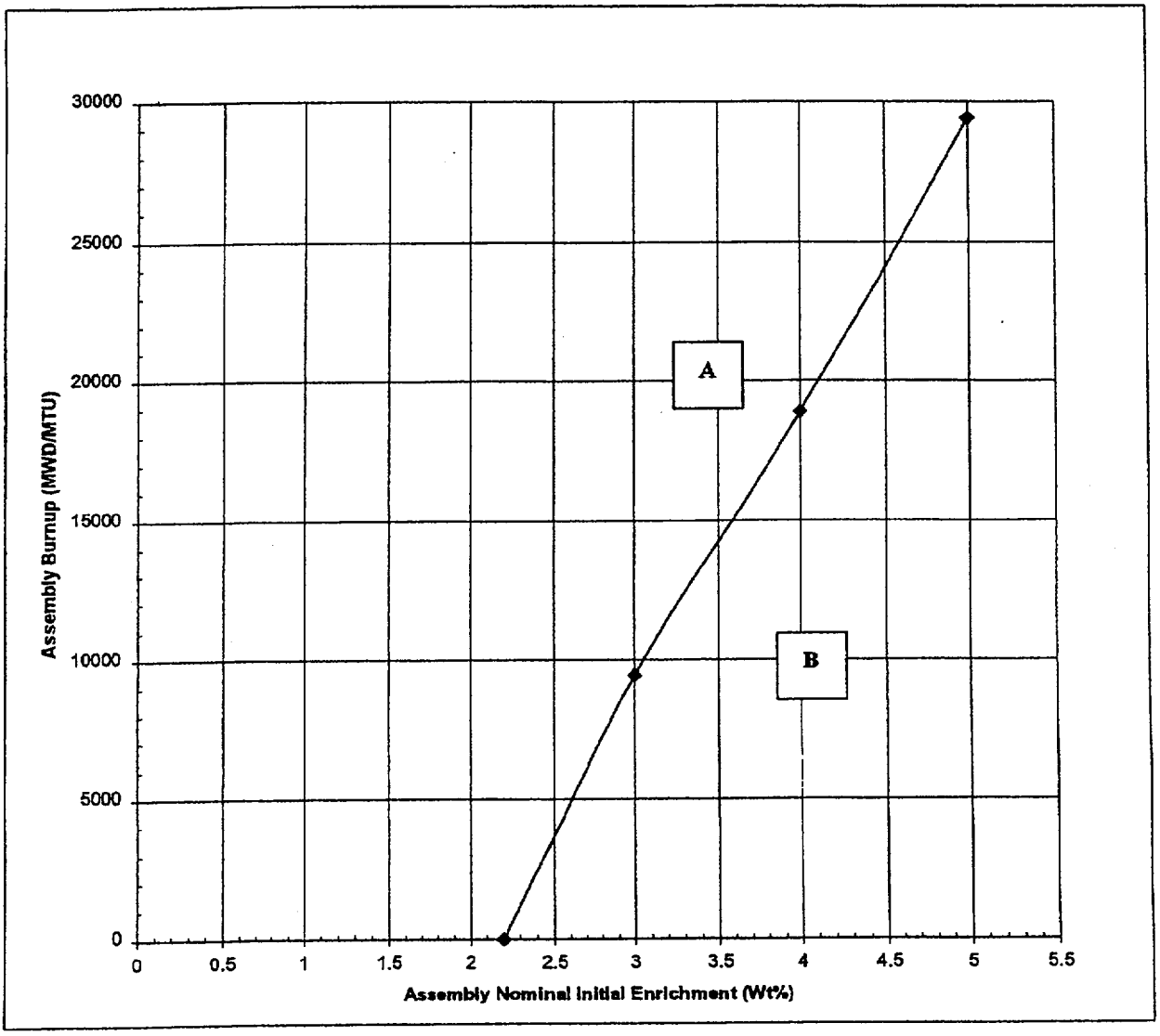
APPLICABILITY: Whenever any fuel assembly is stored in the spent fuel pool.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Requirements of the LCO not met.	A.1 - - - - - - - - - - - - - - - - - - - NOTE - LCO 3.0.3 is not applicable. - - - - - - - - - - - - - - - - - - Initiate action to move the noncomplying fuel assembly to an acceptable storage location.	Immediately

SURVEILLANCE REQUIREMENTS

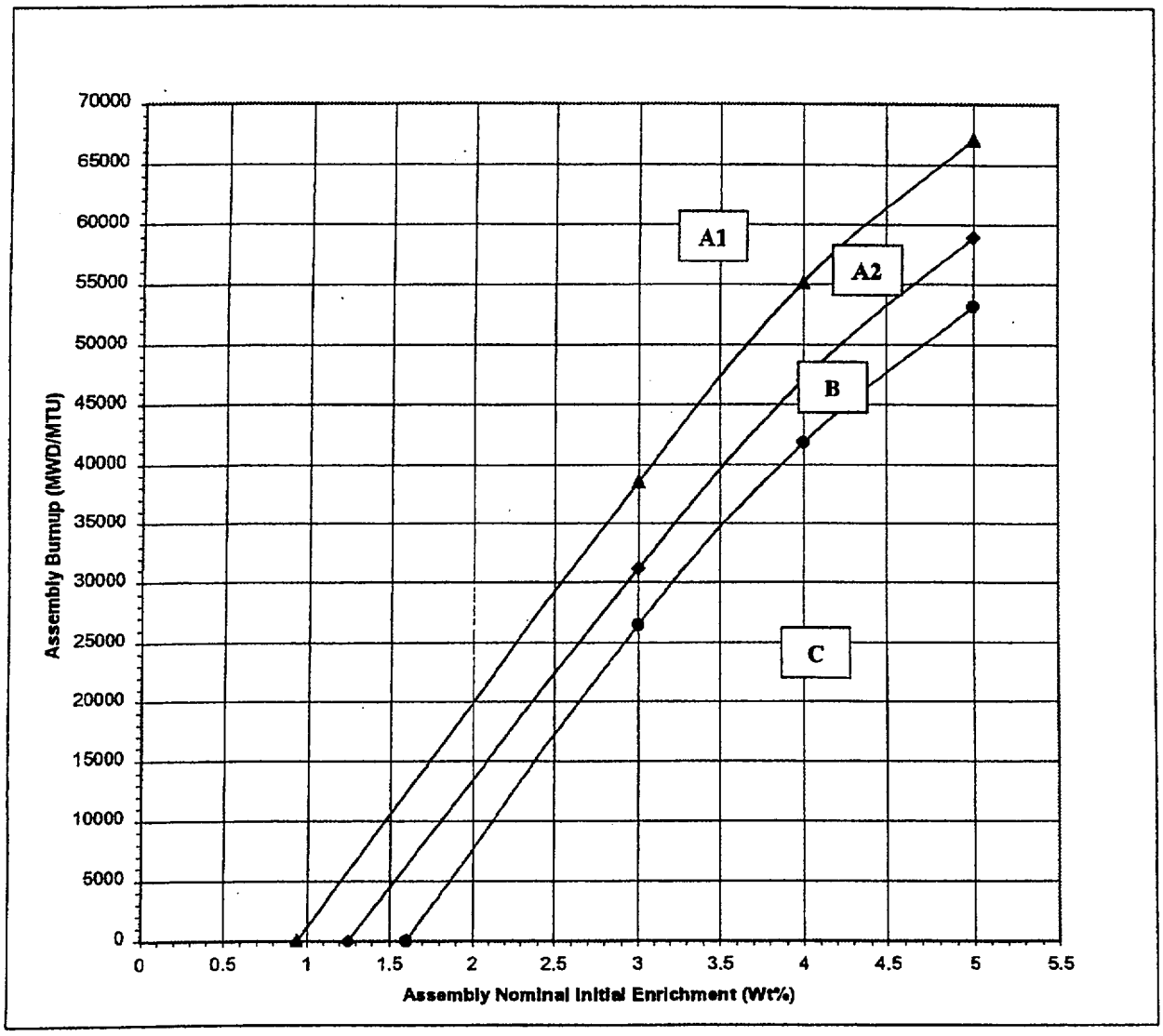
SURVEILLANCE		FREQUENCY
SR 3.7.13.1	Verify by administrative means the initial enrichment, burnup, and decay time of the fuel assembly is in accordance with the applicable Figures 3.7.13-1 through 3.7.13-11.	Prior to storing, or moving, the fuel assembly in the spent fuel pool



A Acceptable burnup domain for storage in any location within Region 1

B Acceptable burnup domain for storage in cells with lead-in funnels only

Figure 3.7.13-1
Burnup Vs Enrichment Curve for Region 1 Type 3 Cells (Not Pu-241 Decay Dependent)



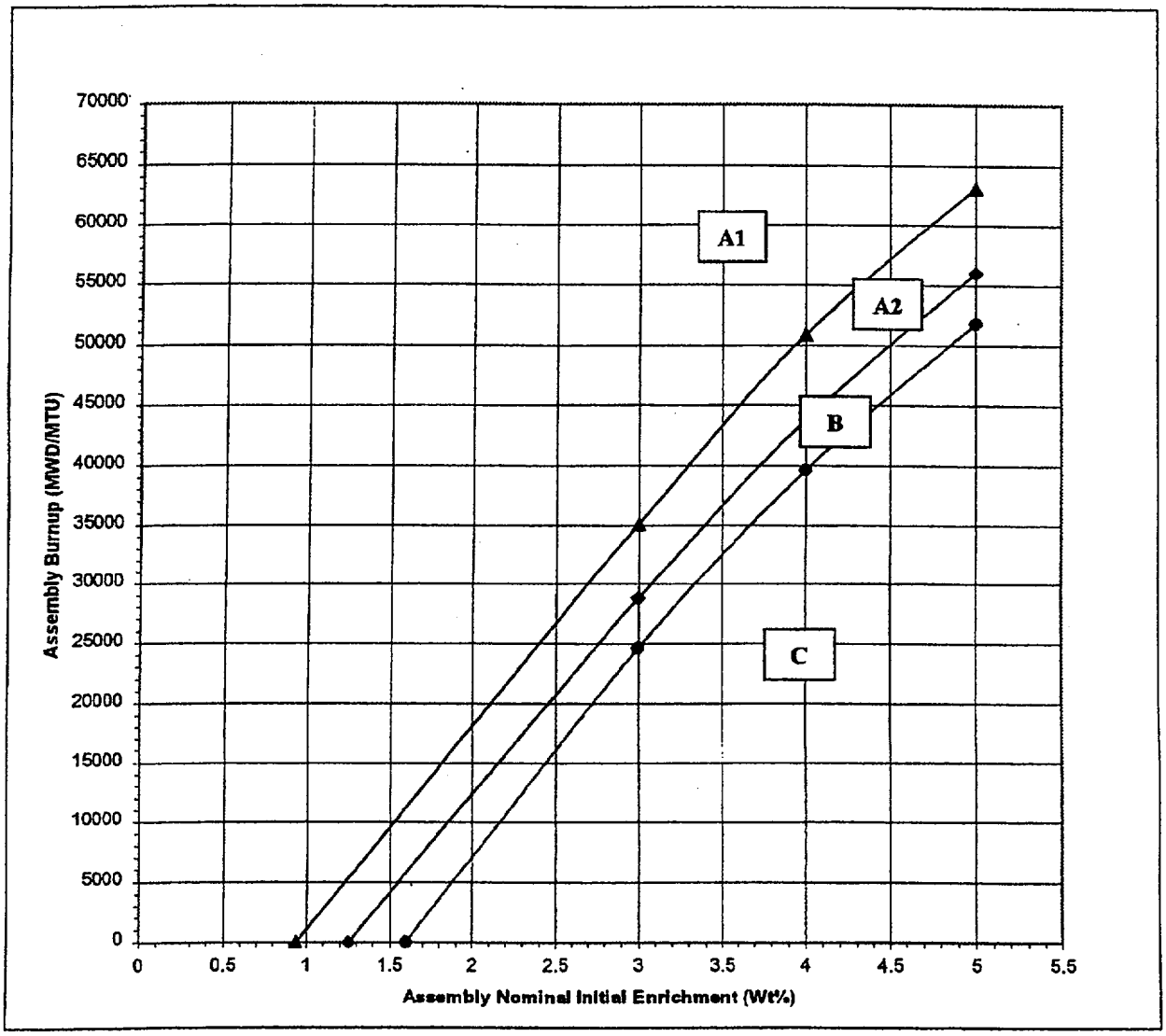
A1 Acceptable burnup domain for storage in any location within Region 2 Type 1 Cells

A2 Acceptable burnup domain for storage face-adjacent to a Type A1 or A2 assembly, or a water cell within Region 2 Type 1 Cells

B Acceptable burnup domain for storage face-adjacent to a Type A1 assembly, or a water cell within Region 2 Type 1 Cells

C Acceptable burnup domain for storage face-adjacent to a water cell only, within Region 2 Type 1 Cells

Figure 3.7.13-2
Burnup Vs Enrichment Curves for Region 2 Type 1 Cells (No Pu-241 Decay)



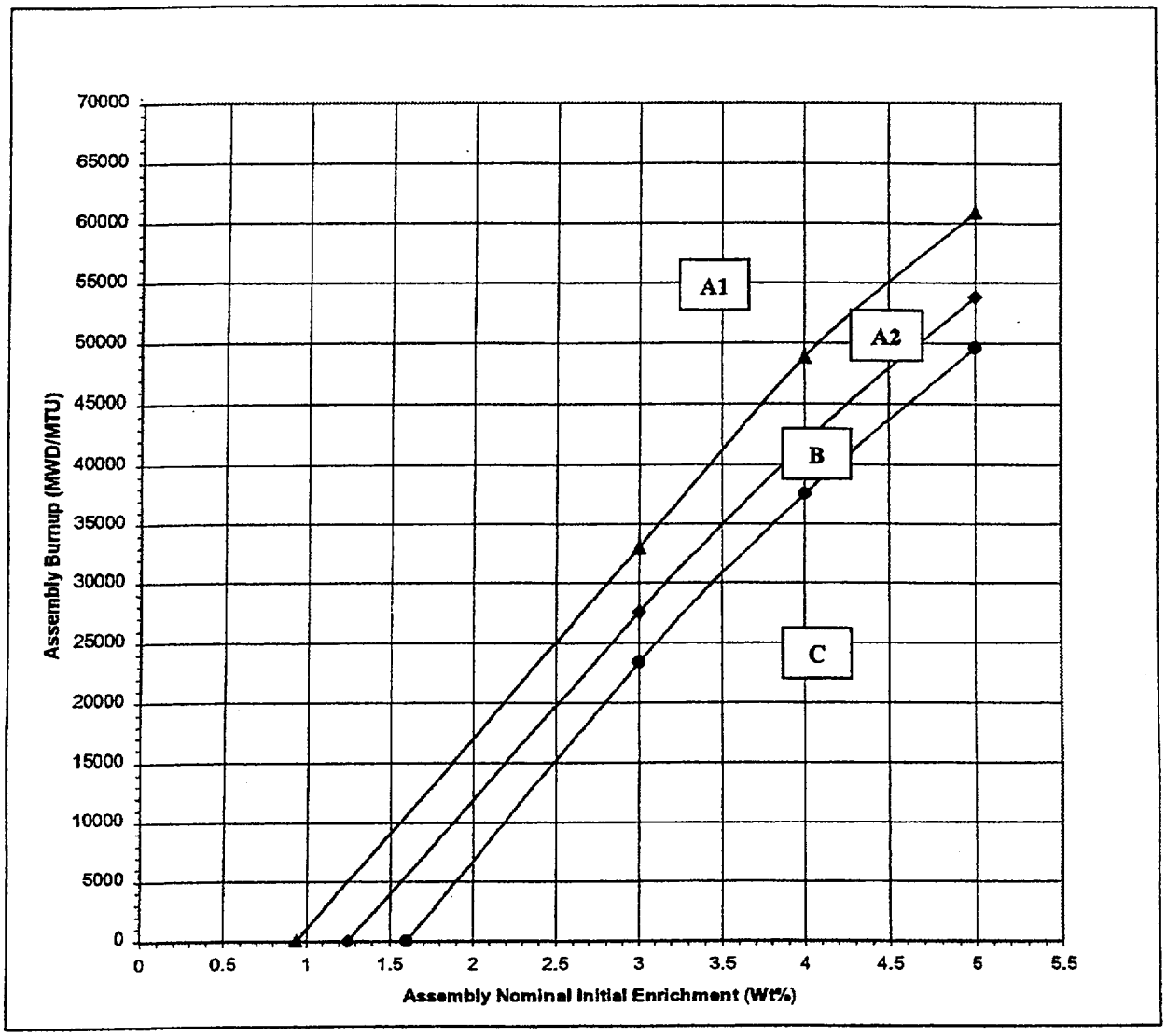
A1 Acceptable burnup domain for storage in any location within Region 2 Type 1 Cells

A2 Acceptable burnup domain for storage face-adjacent to a Type A1 or A2 assembly, or a water cell within Region 2 Type 1 Cells

B Acceptable burnup domain for storage face-adjacent to a Type A1 assembly, or a water cell within Region 2 Type 1 Cells

C Acceptable burnup domain for storage face-adjacent to a water cell only, within Region 2 Type 1 Cells

Figure 3.7.13-3
Burnup Vs Enrichment Curves for Region 2 Type 1 Cells (5-Year Pu-241 Decay)



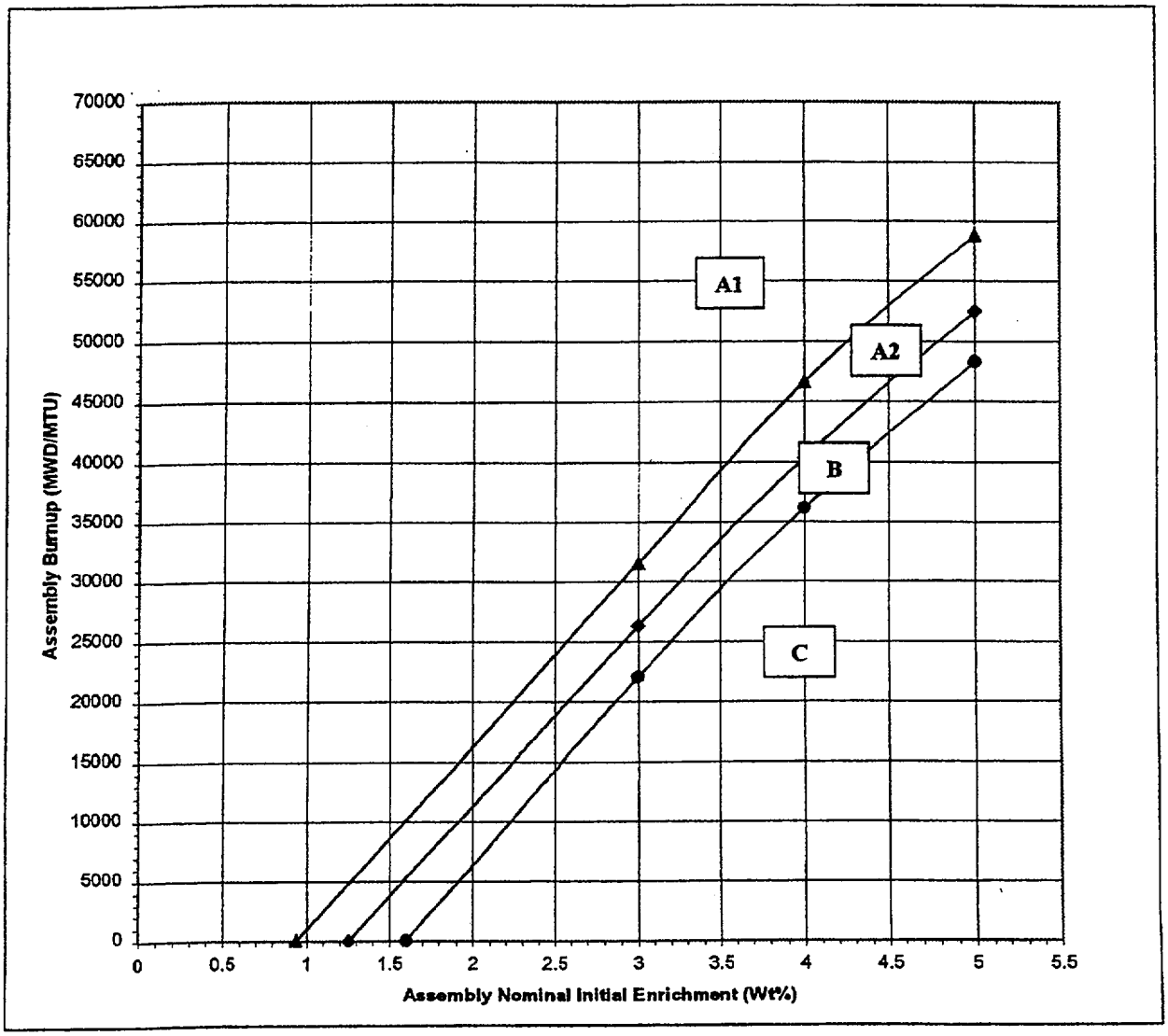
A1 Acceptable burnup domain for storage in any location within Region 2 Type 1 Cells

A2 Acceptable burnup domain for storage face-adjacent to a Type A1 or A2 assembly, or a water cell within Region 2 Type 1 Cells

B Acceptable burnup domain for storage face-adjacent to a Type A1 assembly, or a water cell within Region 2 Type 1 Cells

C Acceptable burnup domain for storage face-adjacent to a water cell only, within Region 2 Type 1 Cells

Figure 3.7.13-4
Burnup Vs Enrichment Curves for Region 2 Type 1 Cells (10-Year Pu-241 Decay)



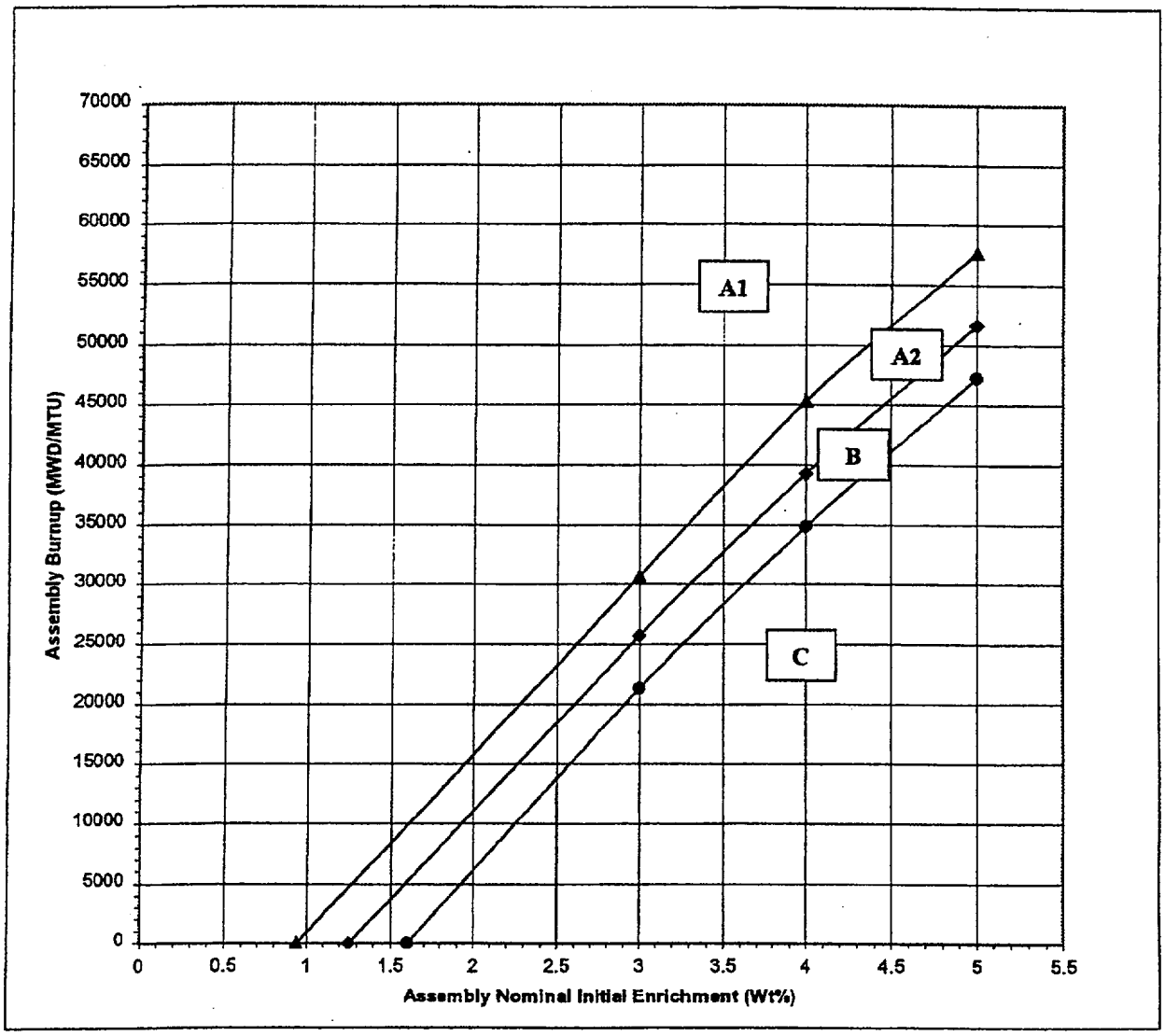
A1 Acceptable burnup domain for storage in any location within Region 2 Type 1 Cells

A2 Acceptable burnup domain for storage face-adjacent to a Type A1 or A2 assembly, or a water cell within Region 2 Type 1 Cells

B Acceptable burnup domain for storage face-adjacent to a Type A1 assembly, or a water cell within Region 2 Type 1 Cells

C Acceptable burnup domain for storage face-adjacent to a water cell only, within Region 2 Type 1 Cells

Figure 3.7.13-5
Burnup Vs Enrichment Curves for Region 2 Type 1 Cells (15-Year Pu-241 Decay)



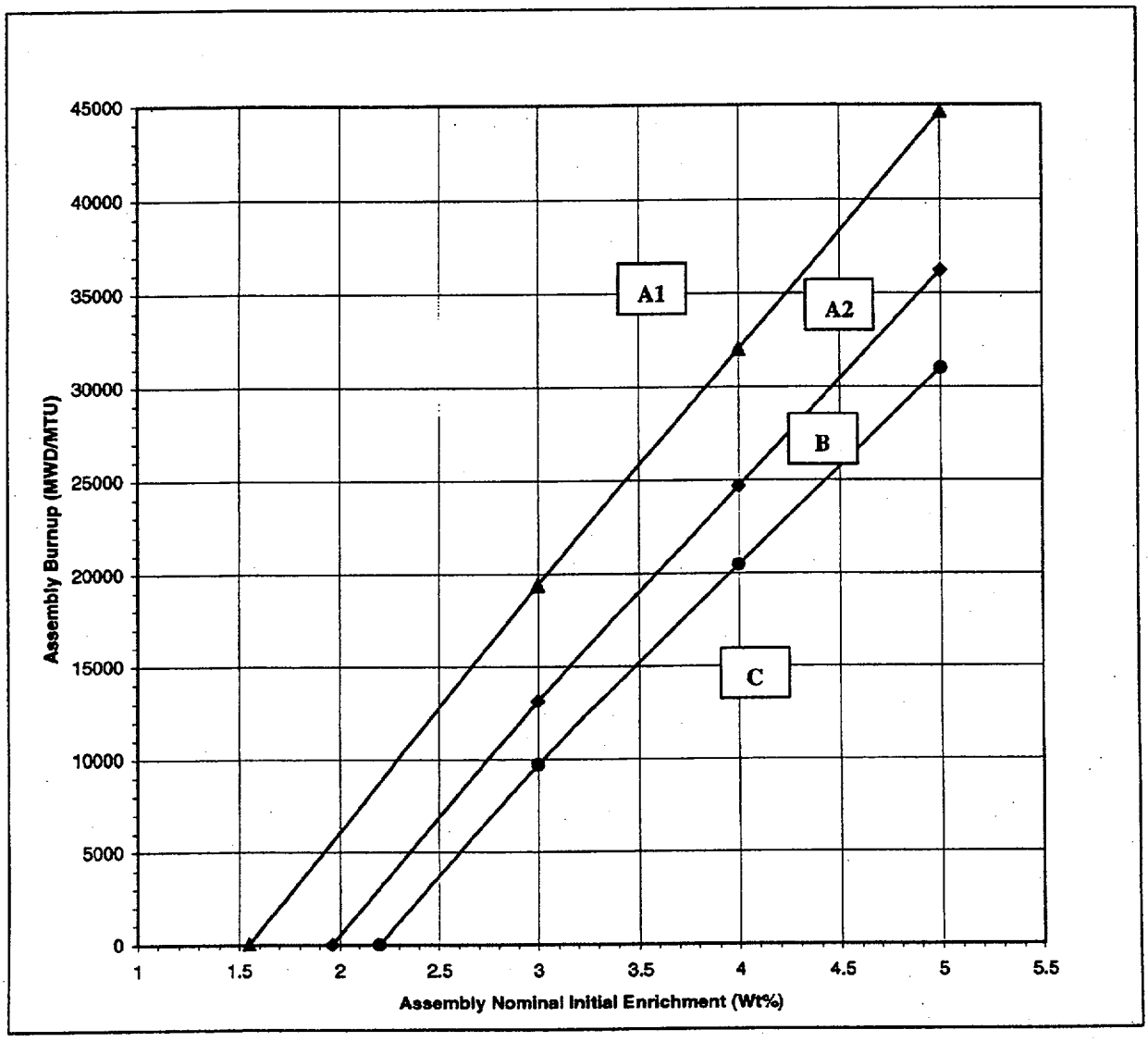
A1 Acceptable burnup domain for storage in any location within Region 2 Type 1 Cells

A2 Acceptable burnup domain for storage face-adjacent to a Type A1 or A2 assembly, or a water cell within Region 2 Type 1 Cells

B Acceptable burnup domain for storage face-adjacent to a Type A1 assembly, or a water cell within Region 2 Type 1 Cells

C Acceptable burnup domain for storage face-adjacent to a water cell only, within Region 2 Type 1 Cells

Figure 3.7.13-6
Burnup Vs Enrichment Curves for Region 2 Type 1 Cells (20-Year Pu-241 Decay)



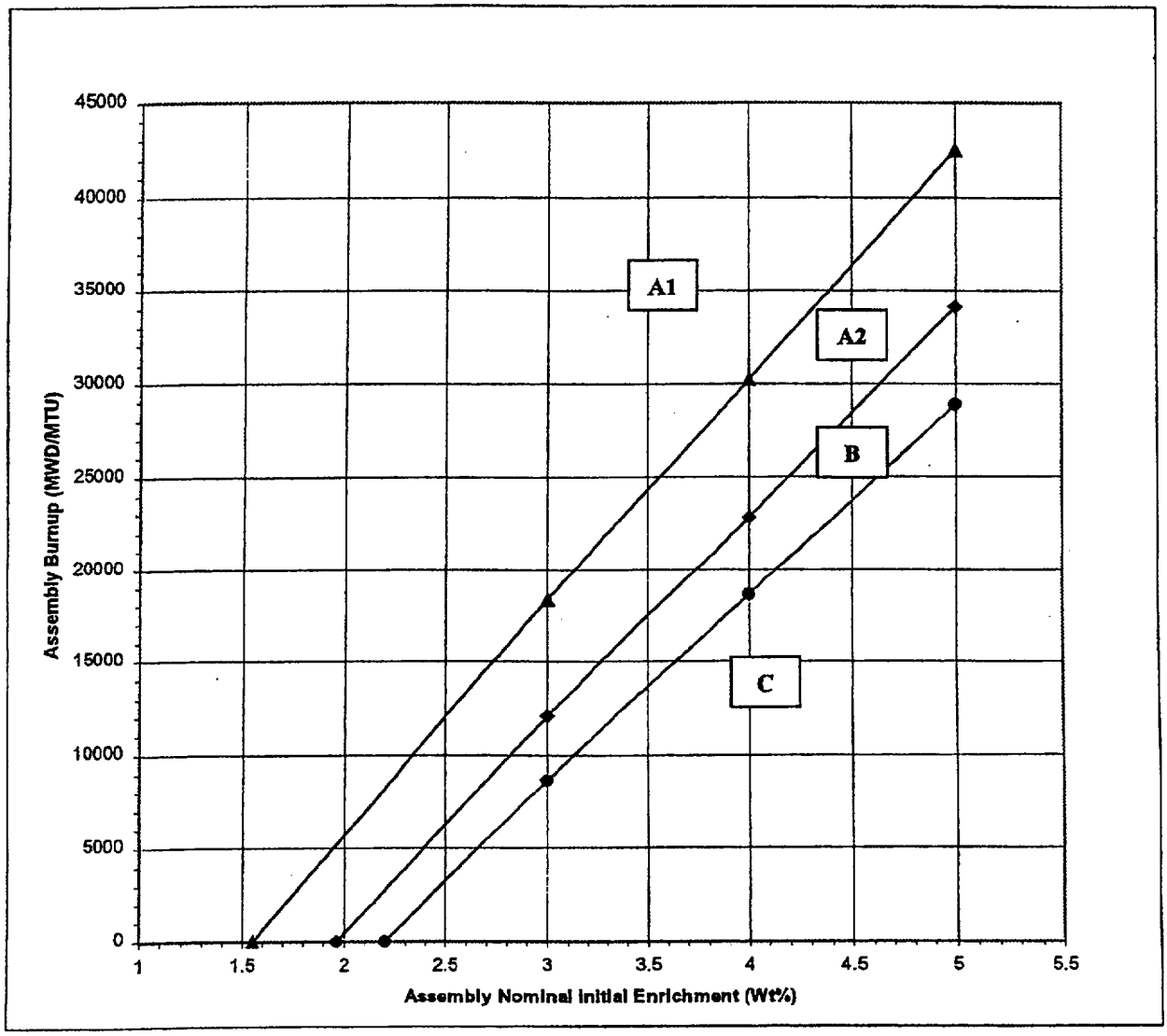
A1 Acceptable burnup domain for storage in any location within Region 2 Type 2 and Type 4 Cells

A2 Acceptable burnup domain for storage face-adjacent to a Type A1 or A2 assembly, or a water cell within Region 2 Type 2 and Type 4 Cells

B Acceptable burnup domain for storage face-adjacent to a Type A1 assembly, or a water cell within Region 2 Type 2 and Type 4 Cells

C Acceptable burnup domain for storage face-adjacent to a water cell only, within Region 2 Type 2 and Type 4 Cells

Figure 3.7.13-7
Burnup Vs Enrichment Curves for Region 2 Type 2 and Type 4 Cells (No Pu-241 Decay)



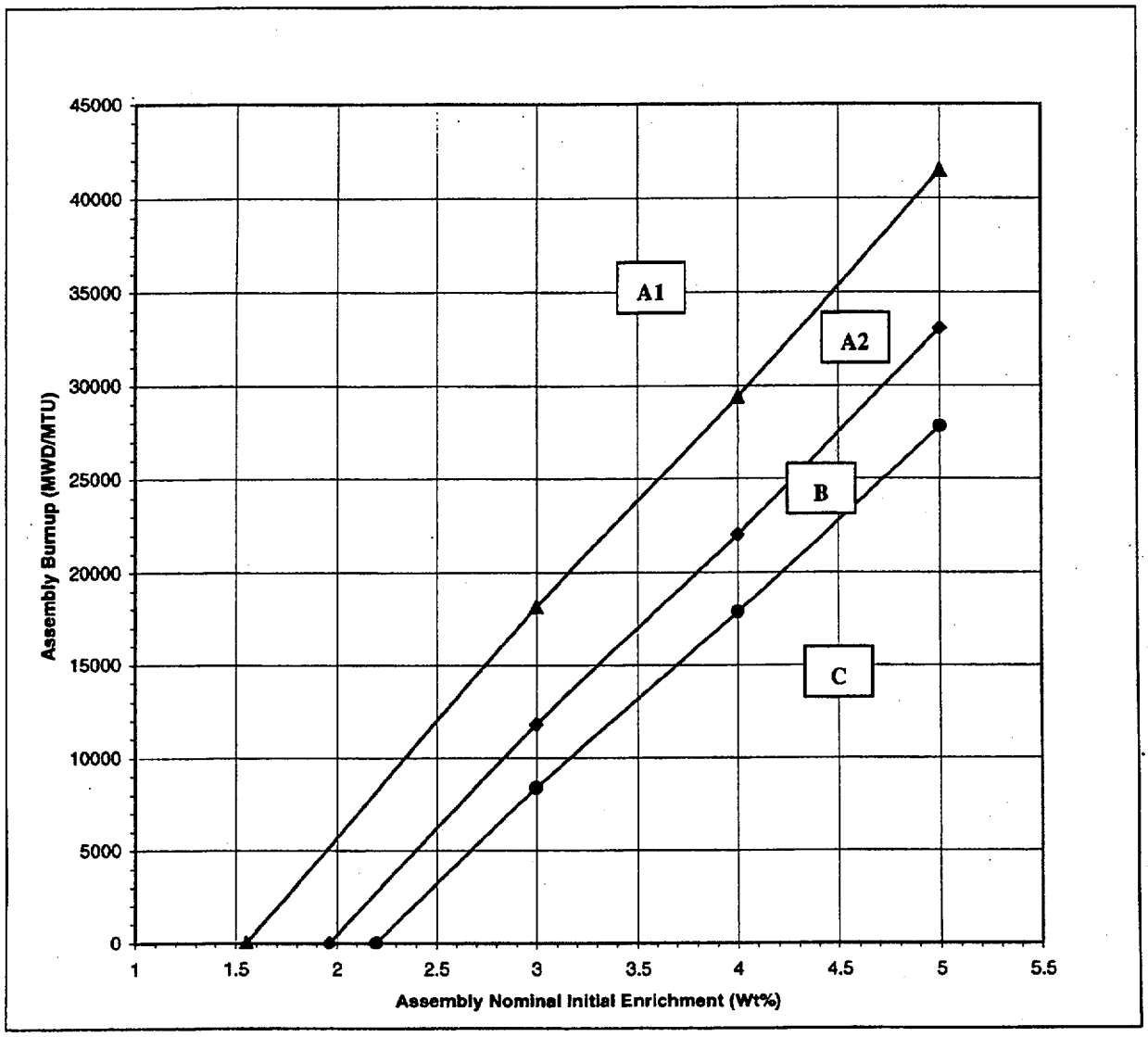
A1 Acceptable burnup domain for storage in any location within Region 2 Type 2 and Type 4 Cells

A2 Acceptable burnup domain for storage face-adjacent to a Type A1 or A2 assembly, or a water cell within Region 2 Type 2 and Type 4 Cells

B Acceptable burnup domain for storage face-adjacent to a Type A1 assembly, or a water cell within Region 2 Type 2 and Type 4 Cells

C Acceptable burnup domain for storage face-adjacent to a water cell only, within Region 2 Type 2 and Type 4 Cells

Figure 3.7.13-8
Burnup Vs Enrichment Curves for Region 2 Type 2 and Type 4 Cells (5-Year Pu-241 Decay)



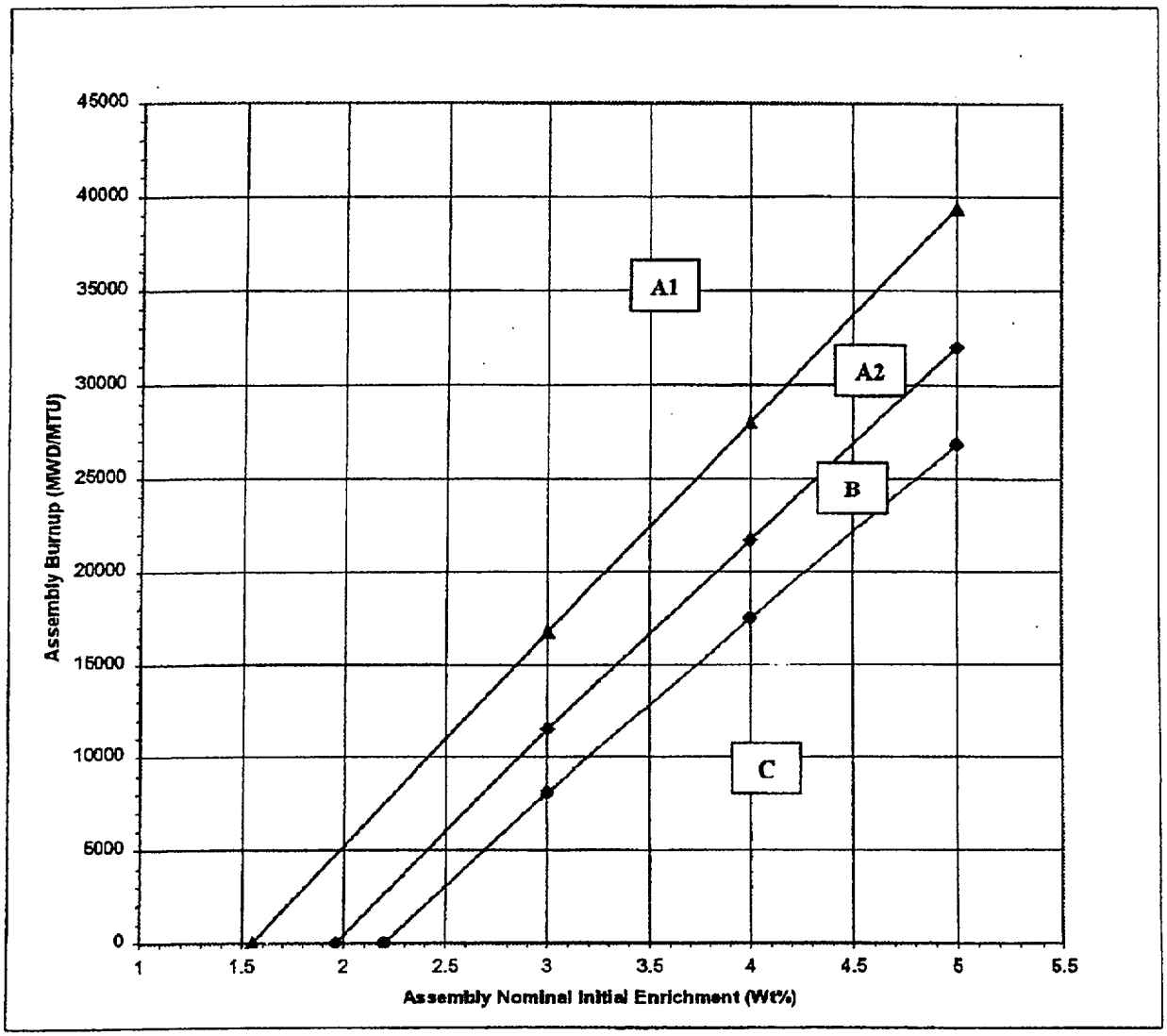
A1 Acceptable burnup domain for storage in any location within Region 2 Type 2 and Type 4 Cells

A2 Acceptable burnup domain for storage face-adjacent to a Type A1 or A2 assembly, or a water cell within Region 2 Type 2 and Type 4 Cells

B Acceptable burnup domain for storage face-adjacent to a Type A1 assembly, or a water cell within Region 2 Type 2 and Type 4 Cells

C Acceptable burnup domain for storage face-adjacent to a water cell only, within Region 2 Type 2 and Type 4 Cells

Figure 3.7.13-9
Burnup Vs Enrichment Curves for Region 2 Type 2 and Type 4 Cells (10-Year Pu-241 Decay)



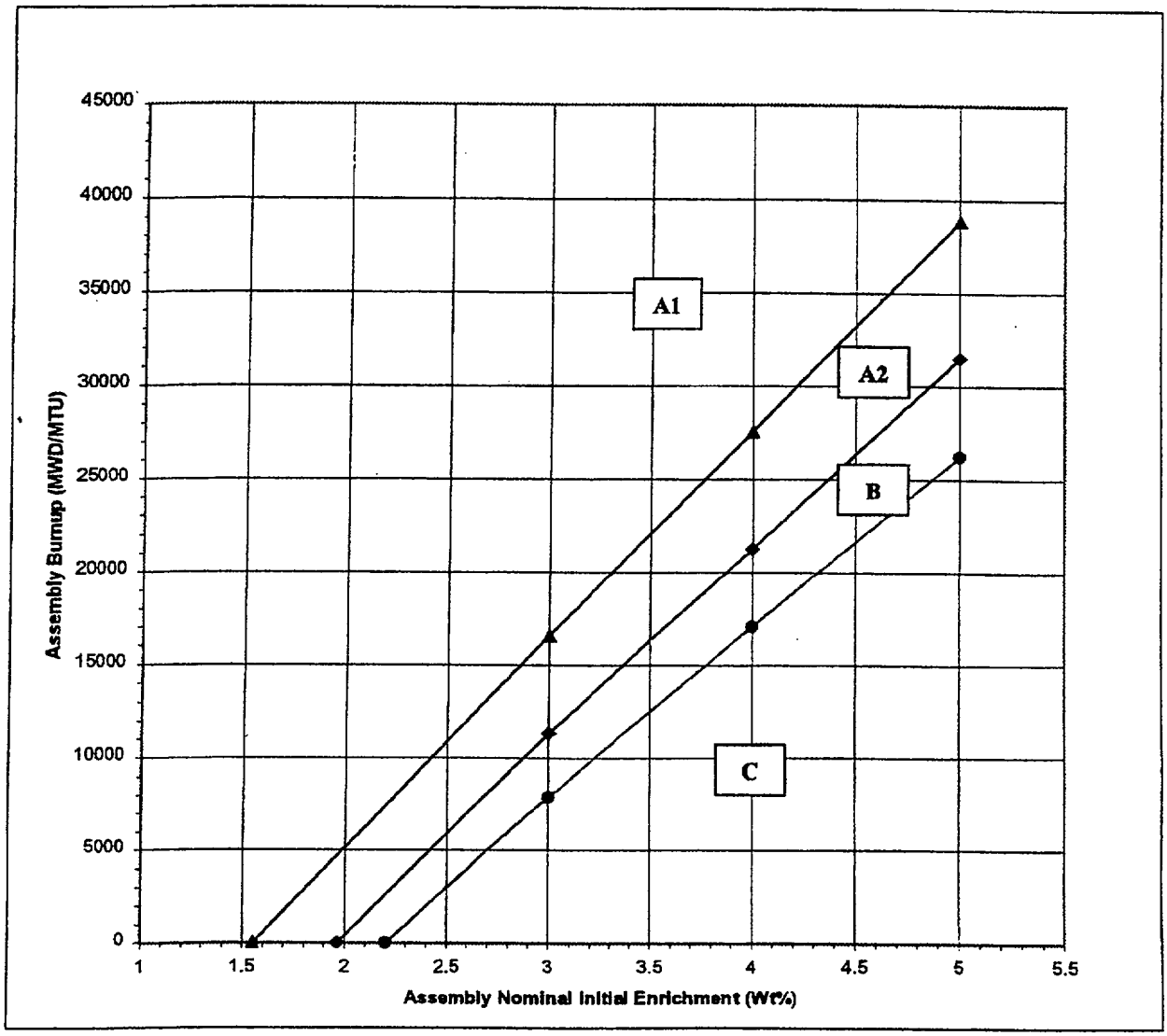
A1 Acceptable burnup domain for storage in any location within Region 2 Type 2 and Type 4 Cells

A2 Acceptable burnup domain for storage face-adjacent to a Type A1 or A2 assembly, or a water cell within Region 2 Type 2 and Type 4 Cells

B Acceptable burnup domain for storage face-adjacent to a Type A1 assembly, or a water cell within Region 2 Type 2 and Type 4 Cells

C Acceptable burnup domain for storage face-adjacent to a water cell only, within Region 2 Type 2 and Type 4 Cells

Figure 3.7.13-10
Burnup Vs Enrichment Curves for Region 2 Type 2 and Type 4 Cells (15-Year Pu-241 Decay)



A1 Acceptable burnup domain for storage in any location within Region 2 Type 2 and Type 4 Cells

A2 Acceptable burnup domain for storage face-adjacent to a Type A1 or A2 assembly, or a water cell within Region 2 Type 2 and Type 4 Cells

B Acceptable burnup domain for storage face-adjacent to a Type A1 assembly, or a water cell within Region 2 Type 2 and Type 4 Cells

C Acceptable burnup domain for storage face-adjacent to a water cell only, within Region 2 Type 2 and Type 4 Cells

Figure 3.7.13-11
Burnup Vs Enrichment Curves for Region 2 Type 2 and Type 4 Cells (20-Year Pu-241 Decay)

3.7 PLANT SYSTEMS

3.7.14 Secondary Specific Activity

LCO 3.7.14 The specific activity of the secondary coolant shall be ≤ 0.10 μCi/gm DOSE EQUIVALENT I-131.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Specific activity not within limit.	A.1 Be in MODE 3. AND A.2 Be in MODE 5.	6 hours 36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.14.1	Verify the specific activity of the secondary coolant is ≤ 0.10 μCi/gm DOSE EQUIVALENT I-131.	31 days

3.8 ELECTRICAL POWER SYSTEMS

3.8.1 AC Sources - MODES 1, 2, 3, and 4

LCO 3.8.1 The following AC electrical sources shall be OPERABLE:

a. One qualified independent offsite power circuit connected between the offsite transmission network and each of the onsite 480 V safeguards buses required by LCO 3.8.9, "Distribution Subsystems - MODES 1, 2, 3, and 4"; and

b. Two emergency diesel generators (DGs) capable of supplying their respective onsite 480 V safeguards buses required by LCO 3.8.9.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION		REQUIRED ACTION		COMPLETION TIME
A.	Offsite power to one or more 480 V safeguards bus(es) inoperable.	A.1	Declare required feature(s) inoperable when its redundant required feature(s) is inoperable.	12 hours from discovery of Condition A concurrent with inoperability of redundant required feature(s)
		AND		
		A.2	Restore offsite circuit to OPERABLE status.	72 hours
B.	One DG inoperable.	B.1	Perform SR 3.8.1.1 for the offsite circuit.	1 hour AND Once per 8 hours thereafter
		AND		

CONDITION	REQUIRED ACTION	COMPLETION TIME
	B.2 Declare required feature(s) supported by the inoperable DG inoperable when its required redundant feature(s) is inoperable. AND	4 hours from discovery of Condition B concurrent with inoperability of redundant required feature(s)
	B.3.1 Determine OPERABLE DG is not inoperable due to common cause failure. OR	24 hours
	B.3.2 Perform SR 3.8.1.2 for OPERABLE DG. AND	24 hours
	B.4 Restore DG to OPERABLE status.	7 days
C. Offsite power to one or more 480 V safeguards bus(es) inoperable. AND One DG inoperable.	- - - - - - - - - - - - - - - - - - - NOTE - Enter applicable Conditions and Required Actions of LCO 3.8.9, "Distribution Systems - MODES 1, 2, 3, and 4," when Condition C is entered with no AC power source to one distribution train. - - - - - - - - - - - - - - - - - - C.1 Restore required offsite circuit to OPERABLE status. OR	12 hours
	C.2 Restore DG to OPERABLE status.	12 hours

CONDITION		REQUIRED ACTION		COMPLETION TIME
D.	Required Action and associated Completion Time of Condition A, B, or C not met.	D.1	Be in MODE 3.	6 hours
		AND		
		D.2	Be in MODE 5.	36 hours
E.	Two DGs inoperable.	E.1	Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.1.1	Verify correct breaker alignment and indicated power availability for the offsite circuit to each of the 480 V safeguards buses.	7 days
SR 3.8.1.2	- NOTE - 1. Performance of SR 3.8.1.9 satisfies this SR. 2. All DG starts may be preceded by an engine prelube period and followed by a warmup period prior to loading.	
	Verify each DG starts from standby conditions and achieves rated voltage and frequency.	31 days

	SURVEILLANCE	FREQUENCY
SR 3.8.1.3	- NOTE - 1. DG loadings may include gradual loading as recommended by the manufacturer. 2. Momentary transients outside the load range do not invalidate this test. 3. This Surveillance shall be conducted on only one DG at a time. 4. This SR shall be preceded by and immediately follow without shutdown a successful performance of SR 3.8.1.2 or SR 3.8.1.9. Verify each DG is synchronized and loaded and operates for ≥ 60 minutes and < 120 minutes at a load ≥ 1950 kW and < 2250 kW.	31 days
SR 3.8.1.4	Verify the fuel oil level in each day tank.	31 days
SR 3.8.1.5	Verify the DG fuel oil transfer system operates to transfer fuel oil from each storage tank to the associated day tank.	31 days
SR 3.8.1.6	Verify transfer of AC power sources from the 50/50 mode to the 100/0 mode and 0/100 mode.	24 months
SR 3.8.1.7	- NOTE - 1. This Surveillance shall not be performed in MODE 1, 2, 3, or 4. 2. Credit may be taken for unplanned events that satisfy this SR. Verify each DG does not trip during and following a load rejection of ≥ 295 kW.	24 months

	SURVEILLANCE	FREQUENCY
SR 3.8.1.8	- NOTE - 1. This Surveillance shall not be performed in MODE 1, 2, 3, or 4. 2. Credit may be taken for unplanned events that satisfy this SR. Verify each DG automatic trips are bypassed on an actual or simulated safety injection (SI) signal except: a. Engine overspeed; b. Low lube oil pressure; and c. Start failure (overcrank) relay.	24 months
SR 3.8.1.9	- NOTE - 1. All DG starts may be preceded by an engine prelube period. 2. This Surveillance shall not be performed in MODE 1, 2, 3, or 4. 3. Credit may be taken for unplanned events that satisfy this SR. Verify on an actual or simulated loss of offsite power signal in conjunction with an actual or simulated SI actuation signal: a. De-energization of 480 V safeguards buses; b. Load shedding from 480 V safeguards buses; and c. DG auto-starts from standby condition and: 1. energizes permanently connected loads, 2. energizes auto-connected emergency loads through the load sequencer, and 3. supplies permanently and auto-connected emergency loads for ≥ 5 minutes.	24 months

3.8 ELECTRICAL POWER SYSTEMS

3.8.2 AC Sources - MODES 5 and 6

LCO 3.8.2 The following AC electrical power sources shall be OPERABLE:

a. One qualified independent offsite power circuit connected between the offsite transmission network and each of the onsite 480 V safeguard buses required by LCO 3.8.10, "Distribution Systems - MODES 5 and 6"; and

b. One emergency diesel generator (DG) capable of supplying one train of the onsite 480 V safeguard bus(es) required by LCO 3.8.10.

APPLICABILITY: MODES 5 and 6.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Offsite power to one or more required 480 V safeguards bus(es) inoperable.	- NOTE - Enter applicable Conditions and Required Actions of LCO 3.8.10, with one required train de-energized as a result of Condition A.	
	A.1 Declare affected required feature(s) inoperable.	Immediately
	OR	

CONDITION	REQUIRED ACTION	COMPLETION TIME
	A.2.1 Suspend CORE ALTERATIONS. AND	Immediately
	A.2.2 Suspend movement of irradiated fuel assemblies. AND	Immediately
	A.2.3 Initiate action to suspend operations involving positive reactivity additions. AND	Immediately
	A.2.4 Initiate action to restore required offsite power circuit to OPERABLE status.	Immediately
B. DG to the required 480 V safeguards bus(es) inoperable.	B.1 Suspend CORE ALTERATIONS. AND	Immediately
	B.2 Suspend movement of irradiated fuel assemblies. AND	Immediately
	B.3 Initiate action to suspend operations involving positive reactivity additions. AND	Immediately
	B.4 Initiate action to restore required DG to OPERABLE status.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE			FREQUENCY
SR 3.8.2.1	For AC sources required to be OPERABLE, the following SRs are applicable:		In accordance with applicable SRs
	SR 3.8.1.1	SR 3.8.1.4	
	SR 3.8.1.2	SR 3.8.1.5	

3.8 ELECTRICAL POWER SYSTEMS

3.8.3 Diesel Fuel Oil

LCO 3.8.3 The stored diesel fuel oil shall be within limits for each required emergency diesel generator (DG).

APPLICABILITY: MODES 1, 2, 3, and 4,
When associated DG is required to be OPERABLE by LCO 3.8.2, "AC Sources - MODES 5 and 6."

ACTIONS

- NOTE -
Separate Condition entry is allowed for each DG.

CONDITION		REQUIRED ACTION		COMPLETION TIME
A.	One or more required DGs with onsite fuel oil supply not within limit.	A.1	Restore fuel oil level to within limit.	12 hours
B.	One or more required DGs with stored fuel oil total particulates not within limit.	B.1	Restore fuel oil total particulates within limit.	7 days
C.	One or more DGs with new fuel oil properties not within limits.	C.1	Restore stored fuel oil properties within limits.	30 days
D.	Required Action and associated Completion Time not met. <u>OR</u> One or more required DGs diesel fuel oil not within limits for reasons other than Condition A, B, or C.	D.1	Declare associated DG inoperable.	Immediately

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.8.3.1	Verify each fuel oil storage tank contains ≥ 5000 gal of diesel fuel oil for each required DG.	31 days
SR 3.8.3.2	Verify fuel oil properties of new and stored fuel oil are tested in accordance with, and maintained within the limits of, the Diesel Fuel Oil Testing Program.	In accordance with the Diesel Fuel Oil Testing Program

3.8 ELECTRICAL POWER SYSTEMS

3.8.4 DC Sources - MODES 1, 2, 3, and 4

LCO 3.8.4 The Train A and Train B DC electrical power sources shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION		REQUIRED ACTION		COMPLETION TIME
A.	One DC electrical power source inoperable.	A.1	Restore DC electrical power source to OPERABLE status.	2 hours
B.	Required Action and Associated Completion Time of Condition A not met.	B.1	Be in MODE 3.	6 hours
		AND		
		B.2	Be in MODE 5.	36 hours
C.	Both DC electrical power sources inoperable.	C.1	Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.8.4.1	Verify battery terminal voltage is ≥ 129 V on float charge.	7 days
SR 3.8.4.2	- NOTE - 1. SR 3.8.4.3 may be performed in lieu of SR 3.8.4.2. 2. This Surveillance shall not be performed in MODE 1, 2, 3, or 4. Verify battery capacity is adequate to supply, and maintain in OPERABLE status, the required emergency loads for the design duty cycle when subjected to a battery service test.	24 months
SR 3.8.4.3	- NOTE - This Surveillance shall not be performed in MODE 1, 2, 3, or 4. Verify battery capacity is ≥ 80% of the manufacturer's rating when subjected to a performance discharge test.	60 months AND 12 months when battery shows degradation, or has reached 85% of expected life with capacity < 100% of manufacturer's rating AND 24 months when battery has reached 85% of the expected life with capacity ≥ 100% of manufacturer's rating

3.8 ELECTRICAL POWER SYSTEMS

3.8.5 DC Sources - MODES 5 and 6

LCO 3.8.5 DC electrical power sources shall be OPERABLE to support the DC electrical power distribution subsystem required by LCO 3.8.10, "Distribution Systems - MODES 5 and 6."

APPLICABILITY: MODES 5 and 6.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required DC electrical power source(s) inoperable.	A.1 Declare affected required feature(s) inoperable.	Immediately
	OR	
	A.2.1 Suspend CORE ALTERATIONS.	Immediately
	AND	
	A.2.2 Suspend movement of irradiated fuel assemblies.	Immediately
	AND	
	A.2.3 Initiate action to suspend operations involving positive reactivity additions.	Immediately
	AND	
	A.2.4 Initiate action to restore required DC electrical power source(s) to OPERABLE status.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.5.1	For DC sources required to be OPERABLE, SR 3.8.4.1 is applicable.	In accordance with applicable SR

3.8 ELECTRICAL POWER SYSTEMS

3.8.6 Battery Cell Parameters

LCO 3.8.6 Battery cell parameters for Train A and Train B batteries shall be within limits.

APPLICABILITY: MODES 1, 2, 3, and 4,
When associated DC electrical power sources are required to be OPERABLE by LCO 3.8.5, "DC Sources - MODES 5 and 6."

ACTIONS

- NOTE -

Separate Condition entry is allowed for each battery.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more batteries with one or more battery cell parameters not within limits.	A.1 Declare associated battery inoperable.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.6.1	Verify electrolyte level of each connected battery cell is above the top of the plates and not overflowing.	31 days
SR 3.8.6.2	Verify the float voltage of each connected battery cell is > 2.07 V.	31 days
SR 3.8.6.3	Verify specific gravity of the designated pilot cell in each battery is ≥ 1.195.	31 days
SR 3.8.6.4	Verify average electrolyte temperature of the designated pilot cell in each battery is ≥ 55°F.	31 days
SR 3.8.6.5	Verify average electrolyte temperature of every fifth cell of each battery is ≥ 55°F.	92 days

	SURVEILLANCE	FREQUENCY
SR 3.8.6.6	Verify specific gravity of each connected battery cell is: a. Not more than 0.020 below average of all connected cells, and b. Average of all connected cells is ≥ 1.195.	92 days

3.8 ELECTRICAL POWER SYSTEMS

3.8.7 AC Instrument Bus Sources - MODES 1, 2, 3, and 4

LCO 3.8.7 The following AC instrument bus power sources shall be OPERABLE:

a. Inverters for Instrument Buses A and C; and

b. Class 1E constant voltage transformer (CVT) for Instrument Bus B.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION		REQUIRED ACTION		COMPLETION TIME
A.	One inverter inoperable.	A.1	Power AC instrument bus from its Class 1E or non-Class 1E CVT.	2 hours
		AND		
		A.2	Power AC instrument bus from its Class 1E CVT.	24 hours
		AND		
		A.3	Restore inverter to OPERABLE status.	72 hours
B.	Class 1E CVT for AC Instrument Bus B inoperable.	B.1	Power AC Instrument Bus B from its non-Class 1E CVT.	2 hours
		AND		
		B.2	Restore Class 1E CVT for AC Instrument Bus B to OPERABLE status.	7 days
C.	Required Action and associated Completion Time of Condition A or B not met.	C.1	Be in MODE 3.	6 hours
		AND		
		C.2	Be in MODE 5.	36 hours

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Two or more required instrument bus sources inoperable.	D.1 Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.7.1	Verify correct static switch alignment to Instrument Bus A and C.	7 days
SR 3.8.7.2	Verify correct Class 1E CVT alignment to Instrument Bus B.	7 days

3.8 ELECTRICAL POWER SYSTEMS

3.8.8 AC Instrument Bus Sources - MODES 5 and 6

LCO 3.8.8 AC instrument bus power sources shall be OPERABLE to support the onsite Class 1E AC instrument bus electrical power distribution subsystem required by LCO 3.8.10, "Distribution Systems - MODES 5 and 6."

APPLICABILITY: MODES 5 and 6.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required AC instrument bus power source(s) inoperable.	A.1 Declare affected required feature(s) inoperable.	Immediately
	OR	
	A.2.1 Suspend CORE ALTERATIONS.	Immediately
	AND	
	A.2.2 Suspend movement of irradiated fuel assemblies.	Immediately
	AND	
	A.2.3 Initiate action to suspend operations involving positive reactivity additions.	Immediately
	AND	
	A.2.4 Initiate action to restore required AC instrument bus power source(s) to OPERABLE status.	Immediately

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.8.8.1	Verify correct static switch alignment to required AC instrument bus(es).	7 days
SR 3.8.8.2	Verify correct Class 1E CVT alignment to the required AC instrument bus.	7 days

3.8 ELECTRICAL POWER SYSTEMS

3.8.9 Distribution Systems - MODES 1, 2, 3, and 4

LCO 3.8.9 Train A and Train B of the following electrical power distribution subsystems shall be OPERABLE:

a. AC power;

b. AC instrument bus power; and

c. DC power.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION		REQUIRED ACTION		COMPLETION TIME
A.	One AC electrical power distribution train inoperable.	A.1	Restore AC electrical power distribution train to OPERABLE status.	8 hours
B.	One AC instrument bus electrical power distribution train inoperable.	B.1	Restore AC instrument bus electrical power distribution train to OPERABLE status.	2 hours
C.	One DC electrical power distribution train inoperable.	C.1	Restore DC electrical power distribution train to OPERABLE status.	2 hours
D.	Required Action and associated Completion Time of Conditions A, B, or C not met.	D.1 AND D.2	Be in MODE 3. Be in MODE 5.	6 hours 36 hours
E.	Two trains with inoperable electrical power distribution subsystems that result in a loss of safety function.	E.1	Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.9.1	Verify correct breaker alignments and voltage to required electrical power trains.	7 days

3.8 ELECTRICAL POWER SYSTEMS

3.8.10 Distribution Systems - MODES 5 and 6

LCO 3.8.10 The necessary trains(s) of the following electrical power distribution subsystems shall be OPERABLE to support equipment required to be OPERABLE:

a. AC power;

b. AC instrument bus power; and

c. DC power.

APPLICABILITY: MODES 5 and 6.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required electrical power distribution train(s) inoperable.	A.1 Declare associated supported required feature(s) inoperable. OR	Immediately

CONDITION	REQUIRED ACTION	COMPLETION TIME
	A.2.1 Suspend CORE ALTERATIONS. AND A.2.2 Suspend movement of irradiated fuel assemblies. AND A.2.3 Initiate action to suspend operations involving positive reactivity additions. AND A.2.4 Initiate actions to restore required electrical power distribution train(s) to OPERABLE status. AND A.2.5 Declare associated required residual heat removal loop(s) inoperable and not in operation.	Immediately Immediately Immediately Immediately Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.10.1	Verify correct breaker alignments and voltage to required electrical power distribution trains.	7 days

3.9 REFUELING OPERATIONS

3.9.1 Boron Concentration

LCO 3.9.1 Boron concentrations of the Reactor Coolant System, the refueling canal, and the refueling cavity shall be maintained within the limit specified in the COLR.

APPLICABILITY: MODE 6.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Boron concentration not within limit.	A.1 Suspend CORE ALTERATIONS.	Immediately
	AND	
	A.2 Suspend positive reactivity additions.	Immediately
	AND	
	A.3 Initiate action to restore boron concentration to within limit.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.9.1.1	Verify boron concentration is within the limit specified in the COLR.	72 hours

3.9 REFUELING OPERATIONS

3.9.2 Nuclear Instrumentation

LCO 3.9.2 Two source range neutron flux monitors shall be OPERABLE.

APPLICABILITY: MODE 6.

ACTIONS

CONDITION		REQUIRED ACTION		COMPLETION TIME
A.	One source range neutron flux monitor inoperable.	A.1	Suspend CORE ALTERATIONS.	Immediately
		AND		
		A.2	Suspend positive reactivity additions.	Immediately
B.	Two source range neutron flux monitors inoperable.	B.1	Initiate action to restore one source range neutron flux monitor to OPERABLE status.	Immediately
		AND		
		B.2	Perform SR 3.9.1.1.	4 hours AND Once per 12 hours thereafter
C.	No audible count rate.	C.1	Suspend CORE ALTERATIONS.	Immediately
		AND		
		C.2	Suspend positive reactivity additions.	Immediately
		AND		

CONDITION	REQUIRED ACTION	COMPLETION TIME
	C.3 Perform SR 3.9.1.1	4 hours AND Once per 12 hours thereafter

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.9.2.1	Perform CHANNEL CHECK.	12 hours
SR 3.9.2.2	- NOTE - Neutron detectors are excluded from CHANNEL CALIBRATION. Perform CHANNEL CALIBRATION.	24 months

3.9 REFUELING OPERATIONS

3.9.3 Containment Penetrations

LCO 3.9.3 The containment penetrations shall be in the following status:

a. The equipment hatch shall be either:

1. bolted in place with at least one access door closed,

2. isolated by a closure plate that restricts air flow from containment, or

3. isolated by a roll up door and enclosure building;

b. One door in the personnel air lock shall be closed; and

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

1. closed by a manual or automatic isolation valve, blind flange, or equivalent, or

2. capable of being closed by an OPERABLE Containment Ventilation Isolation System.

APPLICABILITY: During CORE ALTERATIONS,
During movement of irradiated fuel assemblies within containment.

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One or more containment penetrations not in required status.	A.1	Suspend CORE ALTERATIONS.	Immediately
	AND		
	A.2	Suspend movement of irradiated fuel assemblies within containment.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.9.3.1	Verify each required containment penetration is in the required status.	7 days
SR 3.9.3.2	Verify each required containment purge and exhaust valve actuates to the isolation position on an actual or simulated actuation signal.	24 months

3.9 REFUELING OPERATIONS

3.9.4 Residual Heat Removal (RHR) and Coolant Circulation - Water Level ≥ 23 Ft

LCO 3.9.4 One RHR loop shall be OPERABLE and in operation.

- NOTE -

The required RHR loop may be removed from operation for ≤ 1 hour per 8 hour period, provided no operations are permitted that would cause reduction of the Reactor Coolant System (RCS) boron concentration.

APPLICABILITY: MODE 6 with the water level ≥ 23 ft above the top of reactor vessel flange.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. RHR loop requirements not met.	A.1 Suspend operations involving a reduction in RCS boron concentration.	Immediately
	AND	
	A.2 Suspend loading irradiated fuel assemblies in the core.	Immediately
	AND	
	A.3 Initiate action to satisfy RHR loop requirements.	Immediately
	AND	
	A.4 Close all containment penetrations providing direct access from containment atmosphere to outside atmosphere.	4 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.9.4.1	Verify one RHR loop is in operation and circulating reactor coolant.	12 hours

3.9 REFUELING OPERATIONS

3.9.5 Residual Heat Removal (RHR) and Coolant Circulation - Water Level < 23 Ft

LCO 3.9.5 Two RHR loops shall be OPERABLE, and one RHR loop shall be in operation.

APPLICABILITY: MODE 6 with the water level < 23 ft above the top of reactor vessel flange.

ACTIONS

CONDITION		REQUIRED ACTION		COMPLETION TIME
A.	Less than the required number of RHR loops OPERABLE.	A.1	Initiate action to restore RHR loop(s) to OPERABLE status.	Immediately
		OR		
		A.2	Initiate action to establish ≥ 23 ft of water above the top of reactor vessel flange.	Immediately
B.	No RHR loop in operation.	B.1	Suspend operations involving a reduction in Reactor Coolant System boron concentration.	Immediately
		AND		
		B.2	Initiate action to restore one RHR loop to operation.	Immediately
		AND		
		B.3	Close all containment penetrations providing direct access from containment to outside atmosphere.	4 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.9.5.1	Verify one RHR loop is in operation and circulating reactor coolant.	12 hours
SR 3.9.5.2	Verify correct breaker alignment and indicated power available to the required RHR pump that is not in operation.	7 days

3.9 REFUELING OPERATIONS

3.9.6 Refueling Cavity Water Level

LCO 3.9.6 Refueling cavity water level shall be maintained ≥ 23 ft above the top of reactor vessel flange.

APPLICABILITY: During movement of irradiated fuel assemblies within containment,
During CORE ALTERATIONS, except during latching and unlatching of control rod drive shafts.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Refueling cavity water level not within limit.	A.1 Suspend CORE ALTERATIONS.	Immediately
	AND	
	A.2 Suspend movement of irradiated fuel assemblies within containment.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.9.6.1	Verify refueling cavity water level is ≥ 23 ft above the top of reactor vessel flange.	24 hours

4.0 DESIGN FEATURES

4.1 Site Location

The site for the R.E. Ginna Nuclear Power Plant is located on the south shore of Lake Ontario, approximately 16 miles east of Rochester, New York.

The exclusion area boundary distances from the plant shall be as follows:

Direction	Distance (m)
N (including offshore)	8000
NNE	8000
NE	8000
ENE	8000
E	747
ESE	640
SE	503
SSE	450
S	450
SSW	450
SW	503
WSW	915
W	945
WNW	701
NW	8000
NNW	8000

4.0 DESIGN FEATURES

4.2 Reactor Core

4.2.1 Fuel Assemblies

The reactor shall contain 121 fuel assemblies. Each assembly shall consist of a matrix of zircaloy or ZIRLO clad fuel rods with an initial composition of natural or slightly enriched uranium dioxide (UO_2) as fuel material. Limited substitutions of zircaloy, ZIRLO, or stainless steel filler rods for fuel rods, in accordance with NRC approved applications of fuel rod configurations, may be used. Fuel assemblies shall be limited to those fuel designs that have been analyzed with applicable NRC staff approved codes and methods and shown by tests or cycle specific analyses to comply with all fuel safety design bases. A limited number of lead test assemblies that have not completed representative testing may be placed in nonlimiting core regions.

4.2.2 Control Rod Assemblies

The reactor core shall contain 29 control rod assemblies. The control material shall be silver indium cadmium.

4.0 DESIGN FEATURES

4.3 Fuel Storage

4.3.1 Criticality

4.3.1.1 The spent fuel storage racks are designed and shall be maintained with:

a. Fuel assemblies having a maximum nominal U-235 enrichment of 5.0 weight percent;

b. $k_{eff} < 1.0$ if fully flooded with unborated water, which includes an allowance for uncertainties as described in Section 9.1 of the UFSAR;

c. $k_{eff} \leq 0.95$ if fully flooded with water borated to ≥ 975 ppm, which includes an allowance for uncertainties as described in Section 9.1 of the UFSAR; and

d. Consolidated rod storage canisters may be stored in the spent fuel storage racks provided that the fuel assemblies from which the rods were removed meet all the requirements of LCO 3.7.13 for the region in which the canister is to be stored. The average decay heat of the fuel assembly from which the rods were removed for all consolidated fuel assemblies must also be ≤ 2150 BTU/hr.

4.3.1.2 The new fuel storage dry racks are designed and shall be maintained with:

a. Fuel assemblies having a maximum nominal U-235 enrichment of 5.0 weight percent;

b. $k_{eff} \leq 0.95$ if fully flooded with unborated water, which includes an allowance for uncertainties as described in Section 9.1 of the UFSAR; and

c. $k_{eff} \leq 0.98$ if moderated by aqueous foam, which includes an allowance for uncertainties as described in Section 9.1 of the UFSAR.

4.3.2 Drainage

The spent fuel pool is designed and shall be maintained to prevent inadvertent draining of the pool below elevation 257'0" (mean sea level).

4.3.3 Capacity

The spent fuel pool is designed and shall be maintained with a storage capacity limited to no more than 1879 fuel assemblies and 1369 storage locations.

5.0 ADMINISTRATIVE CONTROLS

5.1 Responsibility

5.1.1 The plant manager shall be responsible for overall plant operation and shall delegate in writing the succession to this responsibility during his absence.

The plant manager, or his designee, shall approve prior to implementation, each proposed test, experiment or modification to structures, systems or components that affect nuclear safety.

5.1.2 The Shift Supervisor (SS) shall be responsible for the control room command function. During any absence of the SS from the control room while the plant is in MODE 1, 2, 3, or 4, an individual with an active Senior Reactor Operator (SRO) license shall be designated to assume the control room command function. During any absence of the SS from the control room while the plant is in MODE 5 or 6, an individual with an active SRO license or Reactor Operator license shall be designated to assume the control room command function.

5.0 ADMINISTRATIVE CONTROLS

5.2 Organization

5.2.1 Onsite and Offsite Organizations

Onsite and offsite organizations shall be established for plant operation and corporate management, respectively. The onsite and offsite organizations shall include the positions for activities affecting the safety of the nuclear power plant.

a. Lines of authority, responsibility, and communication shall be defined and established throughout highest management levels, intermediate levels, and all operating organization positions. These relationships shall be documented and updated, as appropriate, in organization charts, functional descriptions of departmental responsibilities and relationships, and job descriptions for key personnel positions, or in equivalent forms of documentation. These requirements, including the plant specific titles of those personnel fulfilling the responsibilities of the positions delineated in these Technical Specifications, shall be documented in the UFSAR;

b. The plant manager shall report to the corporate vice president specified in 5.2.1.c, shall be responsible for overall safe operation of the plant, and shall have control over those onsite activities necessary for safe operation and maintenance of the plant; and

c. A corporate vice president shall have corporate responsibility for overall plant nuclear safety and shall take any measures needed to ensure acceptable performance of the staff in operating, maintaining, and providing technical support to the plant to ensure nuclear safety.

d. The individuals who train the operating staff, carry out health physics, or perform quality assurance functions may report to the appropriate onsite manager; however, these individuals shall have sufficient organizational freedom to ensure their independence from operating pressures.

5.2.2 Plant Staff

The plant staff organization shall include the following:

a. An auxiliary operator shall be assigned to the shift crew with fuel in the reactor. An additional auxiliary operator shall be assigned to the shift crew while the plant is in MODE 1, 2, 3 or 4.

b. Shift crew composition may be one less than the minimum requirement of 10 CFR 50.54(m)(2)(i) and Specifications 5.2.2.a and 5.2.2.f for a period of time not to exceed 2 hours in order to accommodate unexpected absence of on-duty shift crew members provided immediate action is taken to restore the shift crew composition to within the minimum requirements.

c. An individual qualified in radiation protection procedures shall be on site when fuel is in the reactor. The position may be vacant for not more than 2 hours, in order to provide for unexpected absence, provided immediate action is taken to fill the required position.

d. The amount of overtime worked by plant staff members performing safety related functions shall be limited and controlled in accordance with a NRC approved program specified in plant procedures changes to the guidelines in these procedures shall be submitted to the NRC for review.

e. The operations manager or operations middle manager shall hold a SRO license.

f. The Shift Technical Advisor (STA) shall provide advisory technical support to the Shift Supervisor (SS) in the areas of thermal hydraulics, reactor engineering, and plant analysis with regard to the safe operation of the plant. The STA shall be assigned to the shift crew while the plant is in MODE 1, 2, 3 or 4 and shall meet the qualifications contained in the STA training program specified in UFSAR Section 13.2.

5.0 ADMINISTRATIVE CONTROLS

5.3 Plant Staff Qualifications

5.3.1 Each member of the plant staff shall meet or exceed the minimum qualifications of ANSI Standard N18.1-1971, as supplemented by Regulatory Guide 1.8, Revision 1, September 1975, for comparable positions.

5.0 ADMINISTRATIVE CONTROLS

5.4 Procedures

5.4.1 Written procedures shall be established, implemented, and maintained covering the following activities:

a. The applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978;

b. The emergency operating procedures required to implement the requirements of NUREG-0737 and NUREG-0737, Supplement 1, as stated in Generic Letter 82-33;

c. Effluent and environmental monitoring;

d. Fire Protection Program implementation; and

e. All programs specified in Specification 5.5.

5.0 ADMINISTRATIVE CONTROLS

5.5 Programs and Manuals

The following programs and manuals shall be established, implemented, and maintained.

5.5.1 Offsite Dose Calculation Manual (ODCM)

The ODCM shall contain:

a. The methodology and parameters used in the calculation of offsite doses resulting from radioactive gaseous and liquid effluents, in the calculation of gaseous and liquid effluent monitoring alarm and trip setpoints, and in the conduct of the radiological environmental monitoring program; and

b. The radioactive effluent controls and radiological environmental monitoring activities and descriptions of the information that should be included in the Annual Radiological Environmental Operating and Radioactive Effluent Release Reports.

Licensee initiated changes to the ODCM:

a. Shall be documented and records of reviews performed shall be retained. This documentation shall contain:

   1. sufficient information to support the change(s) together with the appropriate analyses or evaluations justifying the change(s),

   2. a determination that the change(s) maintain the levels of radioactive effluent control required by 10 CFR 20.1302, 40 CFR 190, 10 CFR 50.36a, and 10 CFR 50, Appendix I, and does not adversely impact the accuracy or reliability of effluent, dose, or setpoint calculations;

b. Shall become effective after review and acceptance by the onsite review function and the approval of the plant manager; and

c. Shall be submitted to the NRC in the form of a complete, legible copy of the entire ODCM as a part of or concurrent with the Radioactive Effluent Release Report for the period of the report in which any change in the ODCM was made. Each change shall be identified by markings in the margin of the affected pages, clearly indicating the area of the page that was changed, and shall indicate the date (i.e., month and year) the change was implemented.

5.5.2 Primary Coolant Sources Outside Containment Program

This program provides controls to minimize leakage from those portions of systems outside containment that could contain highly radioactive fluids during a serious transient or accident. The systems include Containment Spray, Safety Injection, and Residual Heat Removal in the recirculation configuration. The program shall include the following:

a. Preventive maintenance and periodic visual inspection requirements; and

b. Integrated leak test requirements for each system at refueling cycle intervals or less.

5.5.3 Post Accident Sampling Program

This program provides controls that ensure the capability to obtain and analyze reactor coolant, radioactive gases, and particulates in plant gaseous effluents and containment atmosphere samples under accident conditions. The program shall include the following:

a. Training of personnel;

b. Procedures for sampling and analysis; and

c. Provisions for maintenance of sampling and analysis equipment.

5.5.4 Radioactive Effluent Controls Program

This program conforms to 10 CFR 50.36a for the control of radioactive effluents and for maintaining the doses to members of the public from radioactive effluents as low as reasonably achievable. The program shall be contained in the ODCM, shall be implemented by procedures, and shall include remedial actions to be taken whenever the program limits are exceeded. The program shall include the following elements:

a. Limitations on the functional capability of radioactive liquid and gaseous monitoring instrumentation including surveillance tests and setpoint determination in accordance with the methodology in the ODCM;

b. Limitations on the concentrations of radioactive material released in liquid effluents to unrestricted areas, conforming to ten times the concentration values in 10 CFR 20, Appendix B, Table 2, Column 2;

c. Monitoring, sampling, and analysis of radioactive liquid and gaseous effluents in accordance with 10 CFR 20.1302 and with the methodology and parameters in the ODCM;

d. Limitations on the annual and quarterly doses or dose commitment to a member of the public from radioactive materials in liquid effluents released from the plant to unrestricted areas, conforming to 10 CFR 50, Appendix I and 40 CFR 141;

e. Determination of cumulative and projected dose contributions from radioactive effluents for the current calendar quarter and current calendar year in accordance with the methodology and parameters in the ODCM at least every 31 days;

f. Limitations on the functional capability and use of the liquid and gaseous effluent treatment systems to ensure that appropriate portions of these systems are used to reduce releases of radioactivity when the projected doses in a period of 31 days would exceed 2% of the guidelines for the annual dose or dose commitment, conforming to 10 CFR 50, Appendix I;

g. Limitations on the dose rate resulting from radioactive material released in gaseous effluents to areas beyond the site boundary conforming to the dose associated with 10 CFR 20, Appendix B, Table 2, Column 1;

h. Limitations on the annual and quarterly air doses resulting from noble gases released in gaseous effluents from the plant to areas beyond the site boundary, conforming to 10 CFR 50, Appendix I;

i. Limitations on the annual and quarterly doses to a member of the public from iodine-131, iodine-133, tritium, and all radionuclides in particulate form with half lives > 8 days in gaseous effluents released from the plant to areas beyond the site boundary, conforming to 10 CFR 50, Appendix I; and

j. Limitations on the annual dose or dose commitment to any member of the public due to releases of radioactivity and to radiation from uranium fuel cycle sources, conforming to 40 CFR 190.

5.5.5 Component Cyclic or Transient Limit Program

This program provides controls to track the reactor coolant system cyclic and transient occurrences specified in UFSAR Table 5.1-4 to ensure that components are maintained within the design limits.

5.5.6 Pre-Stressed Concrete Containment Tendon Surveillance Program

This program provides controls for monitoring any tendon degradation in pre-stressed concrete containments, including effectiveness of its corrosion protection medium, to ensure containment structural integrity. The Tendon Surveillance Program, inspection frequencies, and acceptance criteria shall be in accordance with Regulatory Guide 1.35, Revision 2.

The provisions of SR 3.0.2 and SR 3.0.3 are applicable to the Tendon Surveillance Program inspection frequencies.

5.5.7 Inservice Testing Program

This program provides controls for inservice testing of ASME Code Class 1, 2, and 3 components including applicable supports. The program shall include the following:

a. Testing frequencies specified in Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as follows:

ASME Boiler and Pressure Vessel Code and applicable Addenda terminology for inservice testing activities	Required Frequencies for performing inservice testing activities
Weekly	At least once per 7 days
Monthly	At least once per 31 days
Quarterly or every 3 months	At least once per 92 days
Semiannually or every 6 months	At least once per 184 days
Every 9 months	At least once per 276 days
Yearly or annually	At least once per 366 days
Biennially or every 2 years	At least once per 731 days

b. The provisions of SR 3.0.2 are applicable to the above required Frequencies for performing inservice testing activities;

c. The provisions of SR 3.0.3 are applicable to inservice testing activities; and

d. Nothing in the ASME Boiler and Pressure Vessel Code shall be construed to supersede the requirements of any Technical Specification.

5.5.8 Steam Generator (SG) Tube Surveillance Program

Each SG shall be demonstrated OPERABLE by performance of an inservice inspection program in accordance with the Nuclear Policy Manual. This inspection program shall define the specific requirements of the edition and Addenda of the ASME Boiler and Pressure Code, Section XI, as required by 10 CFR 50.55a(g). The program shall include the following:

a. The inspection intervals for SG tubes shall be specified in the Inservice Inspection Program.

b. SG tubes that have imperfections > 40% through wall, as indicated by eddy current, shall be repaired by plugging or sleeving.

c. SG sleeves that have imperfections > 30% through wall, as indicated by eddy current, shall be repaired by plugging.

5.5.9 Secondary Water Chemistry Program

This program provides controls for monitoring secondary water chemistry to inhibit SG tube degradation. This program shall include:

a. Identification of a sampling schedule for the critical variables and control points for these variables;

b. Identification of the procedures used to measure the values of the critical variables;

c. Identification of process sampling points;

d. Procedures for the recording and management of data;

e. Procedures defining corrective actions for all off control point chemistry conditions; and

f. A procedure identifying the authority responsible for the interpretation of the data and the sequence and timing of administrative events, which is required to initiate corrective action.

5.5.10 Ventilation Filter Testing Program (VFTP)

A program shall be established to implement the following required testing of Engineered Safety Feature filter ventilation systems and the Spent Fuel Pool (SFP) Charcoal Adsorber System. The test frequencies will be in accordance with Regulatory Guide 1.52, Revision 2, except that in lieu of 18 month test intervals, a 24 month interval will be implemented. The test methods will be in accordance with Regulatory Guide 1.52, Revision 2, except as modified below.

a. Containment Post-Accident Charcoal System

1. Demonstrate the pressure drop across the charcoal adsorber bank is < 3 inches of water at a design flow rate (± 10%).

2. Demonstrate that an in-place Freon test of the charcoal adsorber bank shows a penetration and system bypass < 1.0%, when tested under ambient conditions.

3. Demonstrate that a laboratory test of a sample of the charcoal adsorber, when obtained as described in Regulatory Guide 1.52, Revision 2, shows a methyl iodide penetration of less than 14.5% when tested in accordance with ASTM D3803-1989 at a test temperature of 30°C (86°F) and a relative humidity of 95%.

b. Containment Recirculation Fan Cooler System

1. Demonstrate the pressure drop across the high efficiency particulate air (HEPA) filter bank is < 3 inches of water at a design flow rate (± 10%).

2. Demonstrate that an in-place dioctylphthalate (DOP) test of the HEPA filter bank shows a penetration and system bypass < 1.0%.

c. Control Room Emergency Air Treatment System (CREATS)

1. Demonstrate the pressure drop across the HEPA filter bank is < 3 inches of water at a design flow rate (± 10%).

2. Demonstrate that an in-place DOP test of the HEPA filter bank shows a penetration and system bypass < 1.0%.

3. Demonstrate the pressure drop across the charcoal adsorber bank is < 3 inches of water at a design flow rate (± 10%).

4. Demonstrate that an in-place Freon test of the charcoal adsorber bank shows a penetration and system bypass < 1.0%, when tested under ambient conditions.

5. Demonstrate that a laboratory test of a sample of the charcoal adsorber, when obtained as described in Regulatory Guide 1.52, Revision 2, shows a methyl iodide penetration of less than 14.5% when tested in accordance with ASTM D3803-1989 at a test temperature of 30°C (86°F) and a relative humidity of 95%.

d. SFP Charcoal Adsorber System

1. Demonstrate that the total air flow rate from the charcoal adsorbers shows at least 75% of that measured with a complete set of new adsorbers.

2. Demonstrate that an in-place Freon test of the charcoal adsorbers bank shows a penetration and system bypass < 1.0%, when tested under ambient conditions.

3. Demonstrate that a laboratory test of a sample of the charcoal adsorber, when obtained as described in Regulatory Guide 1.52, Revision 2, shows a methyl iodide penetration of less than 14.5% when tested in accordance with ASTM D3803-1989 at a test temperature of 30°C (86°F) and a relative humidity of 95%.

The provisions of SR 3.0.2 and SR 3.0.3 are applicable to the VFTP frequencies.

5.5.11 Explosive Gas and Storage Tank Radioactivity Monitoring Program

This program provides controls for potentially explosive gas mixtures contained in the waste gas decay tanks and the quantity of radioactivity contained in waste gas decay tanks. The gaseous radioactivity quantities shall be determined following the methodology in NUREG-0133.

The program shall include:

a. The limits for concentrations of hydrogen and oxygen in the waste gas decay tanks and a surveillance program to ensure the limits are maintained. Such limits shall be appropriate to the system's design criteria (i.e., whether or not the system is designed to withstand a hydrogen explosion); and

b. A surveillance program to ensure that the quantity of radioactivity contained in each waste gas decay tank is less than the amount that would result in a whole body exposure of ≥ 0.5 rem to any individual in an unrestricted area, in the event of an uncontrolled release of the tanks' contents.

The provisions of SR 3.0.2 and SR 3.0.3 are applicable to the Explosive Gas and Storage Tank Radioactivity Monitoring Program surveillance frequencies.

5.5.12 Diesel Fuel Oil Testing Program

A diesel fuel oil testing program to implement required testing of both new fuel oil and stored fuel oil shall be established. The program shall include sampling and testing requirements, and acceptance criteria, all in accordance with applicable ASTM Standards. The purpose of the program is to establish the following:

a. Acceptability of new fuel oil for use prior to addition to storage tanks by determining that the fuel oil has:

   1. an API gravity or an absolute specific gravity within limits,

   2. a flash point and kinematic viscosity within limits for ASTM 2D fuel oil, and

   3. a clear and bright appearance with proper color; and

b. Within 31 days following addition of the new fuel to the storage tanks, verify that the properties of the new fuel oil, other than those addressed in a. above, are within limits for ASTM 2D fuel oil.

5.5.13 Technical Specifications (TS) Bases Control Program

This program provides a means for processing changes to the Bases of these Technical Specifications.

a. Changes to the Bases of the TS shall be made under appropriate administrative controls and reviews.

b. Licensees may make changes to Bases without prior NRC approval provided the changes do not require either of the following:

   1. A change in the TS incorporated in the license; or

   2. A change to the UFSAR or Bases that requires NRC approval pursuant to 10 CFR 50.59.

c. The Bases Control Program shall contain provisions to ensure that the Bases are maintained consistent with the UFSAR.

d. Proposed changes that meet the criteria of Specification 5.5.13.b.1 or Specification 5.5.13.b.2 shall be reviewed and approved by the NRC prior to implementation. Changes to the Bases implemented without prior NRC approval shall be provided to the NRC on a frequency consistent with 10 CFR 50.71e.

5.5.14 Safety Function Determination Program (SFDP)

This program ensures loss of safety function is detected and appropriate actions taken. Upon entry into LCO 3.0.6, an evaluation shall be made to determine if loss of safety function exists. Additionally, other appropriate actions may be taken as a result of the support system inoperability and corresponding exception to entering supported system Condition and Required Actions. This program implements the requirements of LCO 3.0.6. The SFDP shall contain the following:

a. Provisions for cross train checks to ensure a loss of the capability to perform the safety function assumed in the accident analysis does not go undetected;

b. Provisions for ensuring the plant is maintained in a safe condition if a loss of function condition exists;

c. Provisions to ensure that an inoperable supported system's Completion Time is not inappropriately extended as a result of multiple support system inoperabilities; and

d. Other appropriate limitations and remedial or compensatory actions.

A loss of safety function exists when, assuming no concurrent single failure, a safety function assumed in the accident analysis cannot be performed. For the purpose of this program, a loss of safety function may exist when a support system is inoperable, and:

a. A required system redundant to the supported system(s) is also inoperable; or

b. A required system redundant to the system(s) in turn supported by the inoperable supported system is also inoperable; or

c. A required system redundant to the inoperable support system(s) for the supported systems (a) and (b) above is also inoperable.

The SFDP identifies where a loss of safety function exists. If a loss of safety function is determined to exist by this program, the appropriate Conditions and Required Actions of the LCO in which the loss of safety function exists are required to be entered.

5.5.15 Containment Leakage Rate Testing Program

A program shall be established to implement the leakage rate testing of the containment as required by 10 CFR 50.54(o) and 10 CFR 50, Appendix J, Option B, as modified by approved exemptions. This program shall be in accordance with the guidelines contained in Regulatory Guide 1.163, "Performance-Based Containment Leak-Test Program," dated September 1995.

The peak calculated containment internal pressure for the design basis loss of coolant accident, P_a, is 60 psig.

The maximum allowable primary containment leakage rate, L_a, at P_a, shall be 0.2% of containment air weight per day.

Leakage Rate acceptance criteria are:

a. Containment leakage rate acceptance criterion is $\leq 1.0\ L_a$. During the first plant startup following testing in accordance with this program, the leakage rate acceptance criteria are $\leq 0.60\ L_a$ for the Type B and Type C tests and $\leq 0.75\ L_a$ for Type A tests;

b. Air lock testing acceptance criteria are:

   1. For each air lock, overall leakage rate is $\leq 0.05\ L_a$ when tested at $\geq P_a$, and

   2. For each door, leakage rate is $\leq 0.01\ L_a$ when tested at $\geq P_a$.

c. Mini-purge valve acceptance criteria is $\leq 0.05\ L_a$ when tested at $\geq P_a$.

The provisions of SR 3.0.2 do not apply to the test frequencies specified in the Containment Leakage Rate Testing Program.

The provisions of SR 3.0.3 do not apply to the test frequencies specified in the Containment Leakage Rate Testing Program.

5.0 ADMINISTRATIVE CONTROLS

5.6 Reporting Requirements

The following reports shall be submitted in accordance with 10 CFR 50.4.

5.6.1 Occupational Radiation Exposure Report

A tabulation on an annual basis of the number of station, utility, and other personnel (including contractors) receiving exposures > 100 mrem/yr and their associated man rem exposure according to work and job functions (e.g., reactor operations and surveillance, inservice inspection, routine maintenance, special maintenance, waste processing, and refueling). This tabulation supplements the requirements of 10 CFR 20.2206. The dose assignments to various duty functions may be estimated based on pocket dosimeter, thermoluminescent dosimeter (TLD), or film badge measurements. Small exposures totalling < 20% of the individual total dose need not be accounted for. In the aggregate, at least 80% of the total whole body dose received from external sources should be assigned to specific major work functions. The report shall be submitted on or before April 30 of each year.

5.6.2 Annual Radiological Environmental Operating Report

The Annual Radiological Environmental Operating Report covering the operation of the plant during the previous calendar year shall be submitted by May 15 of each year. The report shall include summaries, interpretations, and analyses of trends of the results of the radiological environmental monitoring activities for the reporting period. The material provided shall be consistent with the objectives outlined in the Offsite Dose Calculation Manual (ODCM), and in 10 CFR 50, Appendix I, Sections IV.B.2, IV.B.3, and IV.C.

The Annual Radiological Environmental Operating Report shall include the results of analyses of all radiological environmental samples and of all environmental radiation measurements taken during the period pursuant to the locations specified in the table and figures in the ODCM, as well as summarized and tabulated results of these analyses and measurements in the format of the table in the Radiological Assessment Branch Technical Position, Revision 1, November 1979. In the event that some individual results are not available for inclusion with the report, the report shall be submitted noting and explaining the reasons for the missing results. The missing data shall be submitted in a supplementary report as soon as possible.

5.6.3 Radioactive Effluent Release Report

The Radioactive Effluent Release Report covering the operation of the plant shall be submitted in accordance with 10 CFR 50.36a. The report shall include a summary of the quantities of radioactive liquid and gaseous effluents and solid waste released from the plant. The material provided shall be consistent with the objectives outlined in the ODCM and in conformance with 10 CFR 50.36a and 10 CFR 50, Appendix I, Section IV.B.1.

5.6.4 Monthly Operating Reports

Routine reports of operating statistics and shutdown experience, including documentation of all challenges to the pressurizer power operated relief valves or pressurizer safety valves, shall be submitted on a monthly basis no later than the 15th of each month following the calendar month covered by the report.

5.6.5 CORE OPERATING LIMITS REPORT (COLR)

The following administrative requirements apply to the COLR:

a. Core operating limits shall be established prior to each reload cycle, or prior to any remaining portion of a reload cycle, and shall be documented in the COLR for the following:

LCO 3.1.1, "SHUTDOWN MARGIN (SDM)";

LCO 3.1.3, "MODERATOR TEMPERATURE COEFFICIENT (MTC)";

LCO 3.1.5, "Shutdown Bank Insertion Limit";

LCO 3.1.6, "Control Bank Insertion Limits";

LCO 3.2.1, "Heat Flux Hot Channel Factor ($F_Q(Z)$)";

LCO 3.2.2, "Nuclear Enthalpy Rise Hot Channel Factor ($F^N_{\Delta H}$)";

LCO 3.2.3, "AXIAL FLUX DIFFERENCE (AFD)";

LCO 3.4.1, "RCS Pressure, Temperature, and Flow Departure from Nucleate Boiling (DNB) Limits"; and

LCO 3.9.1, "Boron Concentration."

b. The analytical methods used to determine the core operating limits shall be those previously reviewed and approved by the NRC, specifically those described in the following documents:

1. WCAP-9272-P-A, "Westinghouse Reload Safety Evaluation Methodology," July 1985.
(Methodology for LCO 3.1.1, LCO 3.1.3, LCO 3.1.5, LCO 3.1.6, LCO 3.2.1, LCO 3.2.2, LCO 3.2.3, and LCO 3.9.1.)

2. WCAP-13677-P-A, "10 CFR 50.46 Evaluation Model Report: WCOBRA/TRAC Two-Loop Upper Plenum Injection Model Updates to Support ZIRLO^{TM} Cladding Option," February 1994.
(Methodology for LCO 3.2.1.)

3. WCAP-8385, "Power Distribution Control and Load Following Procedures - Topical Report," September 1974.
(Methodology for LCO 3.2.3.)

4. WCAP-12610-P-A, "VANTAGE + Fuel Assembly Reference Core Report," April 1995.
(Methodology for LCO 3.2.1.)

5. WCAP 11397-P-A, "Revised Thermal Design Procedure," April 1989.
(Methodology for LCO 3.4.1 when using RTDP.)

6. WCAP-10054-P-A and WCAP-10081-A, "Westinghouse Small Break ECCS Evaluation Model Using the NOTRUMP Code," August 1985.
(Methodology for LCO 3.2.1.)

7. WCAP-10924-P-A, Volume 1, Revision 1, "Westinghouse Large-Break LOCA Best-Estimate Methodology, Volume 1: Model Description and Validation Responses to NRC Questions," and Addenda 1,2,3, December 1988.
(Methodology for LCO 3.2.1.)

8. WCAP-10924-P-A, Volume 2, Revision 2, "Westinghouse Large-Break LOCA Best-Estimate Methodology, Volume 2: Application to Two-Loop PWRs Equipped with Upper Plenum Injection," and Addendum 1, December 1988.
(Methodology for LCO 3.2.1.)

9. WCAP-10924-P-A, Volume 1, Revision 1, Addendum 4, "Westinghouse Large-Break LOCA Best-Estimate Methodology, Volume 1: Model Description and Validation, Addendum 4: Model Revisions," March 1991.
(Methodology for LCO 3.2.1.)

c. The core operating limits shall be determined such that all applicable limits (e.g., fuel thermal mechanical limits, core thermal hydraulic limits, Emergency Core Cooling Systems (ECCS) limits, nuclear limits such as SDM, transient analysis limits, and accident analysis limits) of the safety analysis are met.

d. The COLR, including any midcycle revisions or supplements, shall be provided upon issuance for each reload cycle to the NRC.

5.6.6 Reactor Coolant System (RCS) PRESSURE AND TEMPERATURE LIMITS REPORT (PTLR)

The following administrative requirements apply to the PTLR:

a. RCS pressure and temperature limits for heatup, cooldown, criticality, and hydrostatic testing as well as heatup and cooldown rates shall be established and documented in the PTLR for the following:

LCO 3.4.3, "RCS Pressure and Temperature (P/T) Limits"

b. The power operated relief valve lift settings required to support the Low Temperature Overpressure Protection (LTOP) System, and the LTOP enable temperature shall be established and documented in the PTLR for the following:

LCO 3.4.6, "RCS Loops - MODE 4";

LCO 3.4.7, "RCS Loops - MODE 5, Loops Filled";

LCO 3.4.10, "Pressurizer Safety Valves"; and

LCO 3.4.12, "LTOP System."

c. The analytical methods used to determine the RCS pressure and temperature and LTOP limits shall be those previously reviewed and approved by the NRC in NRC letter, "R.E. Ginna - Acceptance for Referencing of Pressure Temperature Limits Report, Revision 2 (TAC No. M96529)," dated November 28, 1997. Specifically, the methodology is described in the following documents:

1. Letter from R.C. Mecredy, Rochester Gas and Electric Corporation (RG&E), to Document Control Desk, NRC, Attention: Guy S. Vissing, "Application for Facility Operating License, Revision to Reactor Coolant System (RCS) Pressure and Temperature Limits Report (PTLR) Administrative Controls Requirements," Attachment VI,

September 29, 1997, as supplemented by letter from R.C. Mecredy, RG&E, to Guy S. Vissing, NRC, "Corrections to Proposed Low Temperature Overpressure Protection System Technical Specification," October 8, 1997.

2. WCAP-14040-NP-A, "Methodology used to Develop Cold Overpressure Mitigating System Setpoints and RCS Heatup and Cooldown Limit Curves," Sections 1 and 2, January, 1996.

d. The PTLR shall be provided to the NRC upon issuance for each reactor vessel fluence period and for revisions or supplement thereto.

5.0 ADMINISTRATIVE CONTROLS

5.7 High Radiation Area

5.7.1 Pursuant to 10 CFR 20, paragraph 20.1601(a), in lieu of the requirements of 10 CFR 20.1601(c), each high radiation area, as defined in 10 CFR 20, in which the intensity of radiation is > 100 mrem/hr but ≤ 1000 mrem/hr at a distance of 30 cm, shall be barricaded and conspicuously posted as a high radiation area and entrance thereto shall be controlled by requiring issuance of a Radiation Work Permit (RWP). Individuals qualified in radiation protection procedures (e.g., radiation protection technicians) or personnel continuously escorted by such individuals may be exempt from the RWP issuance requirement during the performance of their assigned duties in high radiation areas with exposure rates ≤ 1000 mrem/hr, provided they are otherwise following plant radiation protection procedures for entry into such high radiation areas.

Any individual or group of individuals permitted to enter such areas shall be provided with or accompanied by one or more of the following:

a. A radiation monitoring device that continuously indicates the radiation dose rate in the area.

b. A radiation monitoring device that continuously integrates the radiation dose rate in the area and alarms when a preset integrated dose is received. Entry into such areas with this monitoring device may be made after the dose rate levels in the area have been established and personnel are aware of them.

c. An individual qualified in radiation protection procedures with a radiation dose rate monitoring device, who is responsible for providing positive control over the activities within the area and shall perform periodic radiation surveillance at the frequency specified by the radiation protection technician in the RWP.

5.7.2 In addition to the requirements of Specification 5.7.1, areas with radiation levels > 1000 mrem/hr at a distance of 30 cm shall be provided with locked or continuously guarded doors to prevent unauthorized entry and the keys shall be maintained under the administrative control of the Shift Supervisor on duty or radiation protection supervision. Doors shall remain locked except during periods of access by personnel under an approved RWP that shall specify the dose rate levels in the immediate work areas and the maximum allowable stay times for individuals in those areas. In lieu of the stay time specification of the RWP, direct or remote (such as closed circuit TV cameras) continuous surveillance may be made by personnel qualified in radiation protection procedures to provide positive exposure control over the activities being performed within the area.

5.7.3 In addition to the requirements of Specification 5.7.1, for individual high radiation areas with radiation levels of > 1000 mrem/hr at a distance of 30 cm, accessible to personnel, that are located within large areas such as reactor containment, where no enclosure exists for purposes of locking, or that cannot be continuously guarded, and where no enclosure can be reasonably constructed around the individual area, that individual area shall be barricaded and conspicuously posted, and a flashing light shall be activated as a warning device.