

TABLE OF CONTENTS (Cont'd)

		<u>Page</u>
3.4 and 4.4	Standby Liquid Control System	93
	A. System Operation	93
	B. Boron Solution Requirements	95
	C.	96
	3.4 and 4.4 Bases	99
3.5 and 4.5	Core and Containment/Spray Cooling Systems	101
	A. ECCS Systems	101
	B. RHR Intertie Return Line Isolation Valves	103
	C. Containment Spray/Cooling System	104
	D. RCIC	105
	E. Cold Shutdown and Refueling Requirements	106
	F. Recirculation System	107
	3.5 and 4.5 Bases	110
3.6 and 4.6	Primary System Boundary	121
	A. Reactor Coolant Heatup and Cooldown	121
	B. Reactor Vessel Temperature and Pressure	122
	C. Coolant Chemistry	123
	D. Reactor Coolant System (RCS)	126
	E. Safety/Relief Valves	127
	F. Deleted	
	G. Jet Pumps	128
	H. Snubbers	129
	3.6 and 4.6 Bases	145
3.7 and 4.7	Containment Systems	156
	A. Primary Containment	156
	B. Standby Gas Treatment System	166
	C. Secondary Containment	169
	D. Primary Containment Isolation Valves	170
	E. Combustible Gas Control System	172
	3.7 Bases	175
	4.7 Bases	183

- Y. **Shutdown** - The reactor is in a shutdown condition when the reactor mode switch is in the shutdown mode position and no core alterations are being performed. In this condition, a reactor scram is initiated and a rod block is inserted directly from the mode switch. The scram can be reset after a short time delay.
 - 1. Hot Shutdown means conditions as above with reactor coolant temperature greater than 212°F.
 - 2. Cold Shutdown means conditions as above with reactor coolant temperature equal to or less than 212°F.
- Z. **Simulated Automatic Actuation** - Simulated automatic actuation means applying a simulated signal to the sensor to actuate the circuit in question.
- AA. **Transition Boiling** - Transition boiling means the boiling regime between nucleate and film boiling, also referred to as partial nucleate boiling. Transition boiling is the regime in which both nucleate and film boiling occur intermittently with neither type being completely stable.
- AB. **Pressure Boundary Leakage** - Pressure boundary leakage shall be leakage through a non-isolable fault in the reactor coolant system pressure boundary.
- AC. **Identified Leakage** - Identified leakage shall be:
 - 1. Leakage into the drywell, such as that from pump seals or valve packing leaks, that is captured and conducted to a sump or collecting tank, or
 - 2. Leakage into the drywell atmosphere from sources that are both specifically located and known either not to interfere with the operation of leakage detection systems or not to be Pressure Boundary Leakage.
- AD. **Unidentified Leakage** - All leakage into the drywell that is not Identified Leakage.
- AE. **Total Leakage** - Sum of the Identified and Unidentified Leakage.
- AF. through AH. (Deleted)
- AI. **Purging** - Purging is the controlled process of discharging air or gas from a confinement to maintain temperature, pressure, humidity, concentration, or other operating condition, in such a manner that replacement air or gas is required to purify the confinement.
- AJ. **Venting** - Venting is the controlled process of discharging air or gas from a confinement to maintain temperature, pressure, humidity, concentration, or other operating condition, in such a manner that replacement air or gas is not provided or required.

3.0 LIMITING CONDITIONS FOR OPERATION

D. Reactor Coolant System (RCS)

1. Operational Leakage

- a. Any time irradiated fuel is in the reactor vessel and coolant temperature is above 212°F, reactor coolant system (RCS) leakage, shall be limited to:
 - 1) ≤ 5 gpm Unidentified Leakage
 - 2) ≤ 2 gpm increase in Unidentified Leakage within the previous 24 hour period while in the run mode,
 - 3) ≤ 25 gpm Total Leakage averaged over the previous 24 hour period, and
 - 4) no pressure boundary leakage
- b. With reactor coolant system leakage greater than 3.6.D.1.a.1) or 3.6.D.1.a.3) above, reduce the leakage to within limits within four hours, or be in Hot Shutdown within the next 12 hours and in Cold Shutdown within the following 24 hours.
- c. With an increase in Unidentified Leakage in excess of the rate specified in 3.6.D.1.a.2) reduce leakage to within limits within four hours, or verify that the source of increased leakage is not service sensitive type 304 or type 316 austenitic stainless steel within four hours, or be in Hot Shutdown within the next 12 hours and in Cold Shutdown within the following 24 hours.

4.0 SURVEILLANCE REQUIREMENTS

D. Reactor Coolant System (RCS)

1. Operational Leakage

- Any time irradiated fuel is in the reactor vessel and coolant temperature is above 212°F, every 12 hours verify the following:
- a. Unidentified Leakage is within limits,
 - b. Unidentified Leakage increase is within limits, and
 - c. Total Leakage is within limits.

3.0 LIMITING CONDITIONS FOR OPERATION

- d. If any Pressure Boundary Leakage exists, be in Hot Shutdown within the next 12 hours and in Cold Shutdown within the following 24 hours.

2. RCS Leakage Detection Instrumentation

- a. Any time irradiated fuel is in the reactor vessel and reactor water temperature is above 212°F the Drywell Floor Drain Sump Monitoring System shall be operable.* If the Drywell Floor Drain Sump Monitoring System is not operable, then:

- 1) Restore the Drywell Floor Drain Sump Monitoring System to operable status within 30 days.
- 2) Otherwise, be in Hot Shutdown within the next 12 hours and in Cold Shutdown within the following 24 hours.

- b. Any time irradiated fuel is in the reactor vessel and reactor water temperature is above 212°F the drywell particulate radioactivity monitoring system shall be operable.* If the drywell particulate radioactivity monitoring system is not operable, then:

- 1) Analyze grab samples of the primary containment atmosphere once per 12 hours.

* A mode change is allowed when this system is inoperable.

4.0 SURVEILLANCE REQUIREMENTS

2. RCS Leakage Detection Instrumentation

RCS leakage detection instrumentation shall be demonstrated OPERABLE by:

- a. Primary containment atmosphere particulate monitoring system - perform a sensor check once per 12 hours, a channel functional test at least monthly and a channel calibration at least once per cycle.
- b. Required leakage detection instrumentation - perform a sensor check once per 12 hours, a channel functional test** (flow instruments only) at least monthly, and a channel calibration test at least once per cycle.

** A functional test of this instrument means injection of a simulated signal into the instrument (not primary sensor) to verify the proper instrument channel response alarm and/or initiating action.

3.0 LIMITING CONDITIONS FOR OPERATION

- 2) Otherwise, be in Hot Shutdown within the next 12 hours and in Cold Shutdown within the following 24 hours.
- c. Any time irradiated fuel is in the reactor vessel and reactor water temperature is above 212°F at least one channel of the required leakage detection instrumentation shall be operable. If all channels of both systems (Drywell Floor Drain Sump Monitoring System and drywell particulate radioactivity monitoring system) are inoperable, restore at least one channel of the required leakage detection instrumentation to operable status within 1 hour, or be in Hot Shutdown within the next 12 hours and in Cold Shutdown within the following 24 hours.

E. Safety/Relief Valves

1. During power operating conditions and whenever reactor coolant pressure is greater than 110 psig and temperature is greater than 345°F the safety valve function (self actuation) of seven safety/relief valves shall be operable (note: Low-Low Set and ADS requirements are located in Specification 3.2.H. and 3.5.A, respectively).

Valves shall be set as follows:

8 valves at ≤ 1120 psig

2. If Specification 3.6.E.1 is not met, initiate an orderly shutdown and have reactor coolant pressure and temperature reduced to 110 psig or less and 345°F or less within 24 hours.

4.0 SURVEILLANCE REQUIREMENTS

E. Safety/Relief Valves

1.
 - a. Safety/relief valves shall be tested or replaced each refueling outage in accordance with the Inservice Testing Program.
 - b. At least two of the safety/relief valves shall be disassembled and inspected each refueling outage.
 - c. The integrity of the safety/relief valve bellows shall be continuously monitored.
 - d. The operability of the bellows monitoring system shall be demonstrated each operating cycle.
2. Low-Low Set Logic surveillance shall be performed in accordance with Table 4.2.1.