ATTACHMENT 2

4.18 SAFETY RELATED SYSTEMS FLOWPATH

Applicability: Applies to the availability of the required flowpaths for the systems specified in Table 4.18-1.

Objective: To verify the availability of an operable flowpath for the systems specified in Table 4.18-1.

Specification: Monthly, perform a system walkdown, a specified in Table 4.18-1, to demonstrate the availability of required flowpaths by:

1. Verifying that each accessible valve (manual, power operated, or automatic) is in its correct position.
2. Verifying the availability of power to those components related to the operability of the designated flowpaths.

B4.18 BASES FOR SAFETY RELATED SYSTEM FLOWPATH VERIFICATION

This surveillance is designed to verify that flowpaths exist in order for the specified safety related systems to perform as required by Section 14 of the FSAR.

Verify that all readily accessible valves that are in the flowpath of the safety related systems listed below are in the proper positions to fulfill the described requirements of the systems. Also verify that power is being fed through the in-plant AC electrical distribution system from 4160-volt buses down to the 480-volt MCC's.

1. The high head safety injection system, in the event of a LOCA, provides borated water from the RWST, through the HHSI pumps, to the reactor core.

2. The low head safety injection system, in the event of a LOCA, provides borated water from the RWST though the RHR pumps, through the RHR heat exchangers, to the reactor core.

3. The containment spray system, in the event of a LOCA, ensures that containment pressure does not exceed design pressure by delivering borated water from the RWST, through the containment spray pumps, into the containment atmosphere.

4. The component cooling water system provides water from the component cooling water pumps, through the component cooling water heat exchangers, to all safety related equipment utilizing component cooling water as a heat sink, and back to the component cooling water pumps.

5. The intake cooling water system provides a supply of cooling water from the intake, through the intake cooling water pumps, through the component cooling water heat exchangers.

6. The auxiliary feedwater system, in the event of a loss of normal feedwater, provides a heat sink for the reactor coolant system. Steam from the main steam lines of Unit 3 and Unit 4 is supplied to the auxiliary feedwater pump turbines and auxiliary feedwater from the condensate storage tanks, through the auxiliary feedwater pumps, is then delivered to the main feedwater lines.

7. The emergency diesel generators are on-site sources of emergency power to safeguard equipment needed to control the maximum hypothetical accident on one unit and maintain the other unit at hot shutdown. The diesel generator fuel supply from the day tank to the skid tank and the air start system from the compressors to the starting motors are essential to the operation of the emergency diesel generators.

8. The boric acid system provides chemical neutron absorber (for chemical reactivity control) from the boric acid storage tanks through the charging pumps and/or VCT via the normal and/or emergency boration path, to the reactor core. (This does not include heat tracing)

9. The post-accident containment ventilation system, during accident conditions, facilitates controlled venting of the containment atmosphere from the containment penetration, through the filters, through the waste gas decay tanks, to the outside atmosphere.

10. The in-plant AC electrical distribution system provides sufficient normal and emergency auxiliary electrical power, from the 4160-volt buses to the 480-volt load centers to the 480-volt motor control centers, in order to assure the capability for a safe and orderly shutdown as well as continued maintenance of the units in a safe condition under all credible circumstances.

11. The fire protection water system provides water from the raw water storage tank, through the fire pumps, and through the fire water distribution system to extinguish any probable combination of simultaneous fires which might occur.

12. The post-accident sampling system provides a safe method for determining the isotopic activity in the reactor coolant system. Samples of the reactor coolant are delivered from the containment to the liquid and gas analyzing equipment where radioisotopic identification and concentration, dissolved hydrogen and oxygen concentration, boron concentration, chloride concentration, and pH measurements are made. The gas samples are then returned to the containment via R-11 and R-12 and liquid samples to the containment sump via instrument air bleed lines.

13. The post-accident hydrogen monitoring system, during accident conditions, provides samples of the containment atmosphere to the hydrogen analyzing equipment and back to the containment.

Verifying the existence of flowpaths will help prevent the possibility that one of the safety related systems is inadvertently rendered non-functional and incapable of performing the described safety function.

TABLE 4.18-1

MINIMUM FREQUENCIES FOR SAFETY RELATED SYSTEMS FLOWPATH VERIFICATIONS

	SYSTEM DESCRIPTION (Note 1)	FREQUENCY	APPLICABILITY MODE
1.	High Head Safety Injection	M,P	1,2
2.	Low Head Safety Injection	M,P	1,2
3.	Auxiliary Feedwater	M,P	1,2(Note 2)
4.	Containment Spray	M,P	1,2
5.	Emergency Diesel Generators	M	1,2(Note2)
6.	Component Cooling Water	M,P	1,2
7.	Intake Cooling Water	M,P	1,2
8.	Boric Acid Flowpath to the Core	M	1,2,3,4
9.	Post-accident Containment Ventilation	M,P	1,2,(Note 2)
10.	In-plant AC Electrical Distribution	M,P	1,2
11.	Post-accident Hydrogen Monitoring	M	1,2,3,4 (Note 2)
12.	Post-accident Sampling	M	1,2,3,4 (Note 2)
13.	Fire Suppression Water System	M	1,2,3,4 (Note 2)

Frequency:

M - Monthly
P - Within one surveillance Interval prior to criticality.

Operational modes as used for applicability:

	MODE	K_{eff}	% RATED THERMAL POWER	T_{avg}
1.	Power Operation	$\geq$0.99	>2%	$\geq$547°F
2.	Hot Shutdown	<0.99	0	>540°F
3.	Cold Shutdown	$\leq$0.99	0	<200°F
4.	Refueling Shutdown	$\leq$0.90	0	>160°F

NOTES:

1. Refer to Bases T.S. B4.18 for definitions of systems required flowpaths.
2. These are shared systems. For this reason, with either reactor being within the applicable modes of operation, the flowpath verification shall be performed for that unit at the designated frequency.